20 INTEGRATED ANNUAL REPORT COLBÚN









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## **COLBÚN IN NUMBERS 2016**

G4-4, G4-8, G4-9, G4-17, G4-EU1, G4-EU4

Colbún has consistently had a cleaner energy generation matrix than the electricity system: by 2016 our CO<sub>2</sub> emission factor was 15% lower than the average of the Central Interconnected System

/ PROPIEDAD

PROPIEDAD

18.33% AFPS

19.58% ANTARCHILE S.A.

21.13% OTHER

/ MAIN FIGURES

US\$ 601.<sup>8</sup> Millions OF EBITDA.

US\$

Millions of net income.

EBITDA Margin.

1,011

Workers in Chile.

Workers in Peru.

## / CHILE



## 2<sup>do</sup>LARGEST

Power plant of the SIC, system that covers 92% of the population of Chile.



# 21%

Of market share in the SIC (in GWh).



# 3,282 MW

Of installed capacity: **49%** hydraulic **51%** thermal.



## **916** KM

Of transmission lines.



# **11,179** GWh

Of power generation. 43% hydroelectric. 56% thermal.



## 2,764

Workers of contractors collaborating with Colbún.



## **18** CLIENTS

15 clients are distribution companies 3 are large free clients.

## / PERU



# **3,582** GWh

Of thermal generation had Fenix in 2016.



## 7%

Of market share in National Interconnected Electric System, SEIN (in GWh).



## **570** MW

Of installed capacity 100% thermal

By the end of 2015, Colbún acquired 51% of Fenix Power Perú, owner of a 570-MW combined cycle power plant. In 2016 the focus was to achieve a good integration process of Fenix into Colbún.



## **9** CUSTOMERS

6 customers are distribution companies 3 are non-regulated industrial customers.

## I FTTFR FROM THE CHAIRMAN

G4-1. G4-2

#### Dear shareholders,

In your hands is the Integrated Annual Report 2016 of Colbún S.A., a document through which the Company reports its operational, commercial, environmental and social management to its shareholders and different interest groups.

Delving in the decision we took in the 2015 edition, this is the second time that we integrate the financial and economic performance of the Company with social and environmental factors in a single report, with the conviction that modern companies must manage all of these aspects with equal attention in order to generate value in the long run. The information presented here has been built based on international standards, such as the Global Reporting Initiative and the Dow Jones Sustainability Index, and has been verified by an external consultant, following best practices in the matter.

During the 2016 tax year the Company's consolidated EBITDA reached US\$ 601. 8 million; a historical high for Colbún and in line with what had already been achieved in the 2015 tax year. The factors that contributed to this performance were an increase in the income of the clients under

contract, a decrease in the costs of thermoelectric generation and a higher contribution to the EBITDA from the operation of our subsidiary Fenix Power in Peru, henceforth "Fenix".

I would like to highlight that this good performance was achieved in spite of the fact that the hydrological year in progress in Chile, which started in April 2016, has been the driest in the last six years. This meant that hydroelectric generation decreased 26% in relation to last year.

This situation explains the evolution that the Company has had in recent years with the development of a balanced and diversified portfolio of generation assets, which better permits a confrontation of the risks associated with the different climate patterns. For an industry where generation projects require extensive periods of maturation, Colbún's evolution can be better appreciated from a long term perspective: in 2006 the Company had almost 500 workers and just under 2.400 MW installed in Chile. Currently, just over 1,000 peolpe work at Colbún, our installed capacity reaches almost

3.900 MW and our presence in the power generation business has

expanded to Peru, where since the end of 2015 we operate though the thermoelectric power plant Fenix.

In this space, I would like to acknowledge the work and dedication of the entire staff of Colbún, who with their commitment, dedication and enthusiasm have helped generate these good results and contributed to the significant growth we have had.

One of the focal points prioritized by the Company during its 2016 management was to advance Fenix to the standards and procedures of Colbún in an adequate integration process. Thus, together with the local administration, a series of measures were successfully put in place to optimize the operational, administrative and financial conditions of this subsidiary. At this point, I would like to highlight Fenix's results in 2016, whose EBITDA increased 15% with compared to 2015, a result of the lower cost of raw materials and consumables used, and from the revenues that remained in line with expectations.

In Chile, and as a part of our growth strategy, one of the relevant milestones of the year was the acquisition, in April 2016, of a portion of the assets that SunEdison had in our country.

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I would like to acknowledge the work and dedication of the entire staff of Colbún, who with their commitment, dedication and enthusiasm, have helped generate these good results and have contributed to the significant growth we have had.



This transaction involved the transfer of photovoltaic solar power projects, as well as the cession of long-term power supply contracts. This operation was complemented with the awarding of a 15-year contract for the purchase of power to the company Total and its subsidiary SunPower for 500 GWh/ year of photovoltaic solar power from the construction of a 164 MW plant. The decision was the result of a competitive bidding process in which more than 13 companies participated and it sought to add new sources of power, which will allow us to optimize our offer in the future and to improve our competitive position with respect to the market and/or clients.

#### **SOCIAL MANAGEMENT**

In 2016 Colbún continued to advance the management of the social aspects of its business. As we have stated on other occasions, together with the generation of assets and services and the creation of quality job positions, companies of Colbún's size and characteristics have an important public role, which is expressed not only in care for the environment, but also in an ability to get through to society and contribute to local development where it exists.

That was how last year the Company continued to advance in its reportability and public accounts program, where 14 of our plants gave an account of their management to neighbors, opinion leaders, and relevant authorities.

These meetings took place in 10 municipalities and brought together around 550 people. Beyond the numbers, I would like to underline here that meeting periodically with relevant interest groups to provide information about the performance of our plants and to receive comments, doubts or concerns stemming from the environment is of great significance for the company.

There also were advancements in the creation of communication channels with a particular emphasis, on digital media. In 2016 we implemented a corporate Twitter account (ColbunEnergia) that already has almost 8 thousand followers and we developed a channel for queries on our webpage with the explicit commitment to respond to questions Submitted within a period of no more than 15 working days.

Likewise, for the purpose of creating spaces of interaction with the environment, the visitors' program that Colbún has in some of its plants allowed for almost 23 thousand people, mostly school and university students, to get to know part of our facilities.

This sense of connection with our surroundings has had its most clear expression in the Hydroelectric plant Angostura, which in 2016 entered into its third year of operation. In addition to generating renewable and clean energy for the system, Angostura has become established as a model of local integration and

development. During last year different points of interest of the Angostura plant and Angostura Park received more than 120 thousand visitors, driving a tourist spot that has created efficient opportunities for the local community. This vision was acknowledged by the Chilean-American Chamber of Commerce, Amcham, which in November of last year awarded Angostura the Good Entrepreneurial Citizen award in the Associativism category.

Although the Angostura plant is probably the most visible expression, the Company seeks that, in every municipality and place where it operates, its presence impart a contribution to local progress though programs that center preferably in the areas of education, entrepreneurship and quality of life. When it comes to corporate governance, a channel for complaints was established in 2016, which allows any person, internal or external, to submit a complaint related to compliance with ethical conduct quidelines or conflicts of interest. Its implementation was also extended to our subsidiary Fenix. In addition, new training in free market competition was carried out and we made progress in the training processes of topics related to the Law of Criminal Responsibility of businesses at all levels of the Company. As for the policies of the Company, the Board of Directors approved updates to our Code of Ethics, People Management Policy, and to the Policy and Procedures of the Board of Directors, among other

matters

In turn, in 2016 there were advancements in sustainability management. With the idea that this is not a part of the business, but the business itself, at the beginning of 2016 we created the Sustainability Table, an agency that consists of members of all areas of the Company and whose goal is to identify and manage the sustainability gaps at Colbún in a cross-sectional manner. As a result of the progress that we have achieved in this process, I would like to highlight two important milestones. In January 2016 Colbún was honored with the Global Award for Corporate Sustainability, which is an important recognition awarded by Sofofa, Adolfo Ibañez University and Capital magazine measuring the performance of 140 variables.

Subsequently, in September 2016 we were selected to be part of the Chilean chapter of the Dow Jones Sustainability Index, which groups companies that stand out for their sustainability management.

As we have mentioned on other occasions, these recognitions impose the challenge of continued advancement towards a sustainable business management, in the understanding that, of more importance than the absence of difficulties or troubles that we might have in the road, which we certainly are always going to have-, is the manner in which we face said challenges.

Part of these challenges is what

we had to go though at the end of June of this year, when the main transformer of the gas turbine of the thermoelectric plant Nehuenco II was affected by a fire. Although the disaster was quickly controlled, there were no injuries nor did it have a material impact on our results, it was a significant incident that affected the availability of one of our main thermal power plants for approximately six months. Despite the negative impact of this event, the technical teams of Colbún had the capability to replace the damaged transformer in record time, which required the execution of one of the largest logistic operations recorded in Chile, shedding light on the ability of the professionals and technicians of the Company.

#### **SUPPLY BIDDING**

With regard to the commercial aspects, the results of the bidding process for Energy Supply to regulated customers for 12,430 GWh/year carried out by the National Energy Commission last year marked an inflection point that is worth examining in detail, due to the challenges that they present not only for the electrical system, but also for Colbún.

From the objective point of view laid out by the authority, the process was undoubtedly a success. 84 companies submitted their bids, a figure without precedence in these types of processes.

The price awarded averaged US\$ 47.6 per MW/h, which implies an important

decrease with respect to the current average prices and even greater with respect to the values offered in the previous bidding processes. with respect to the values offered in the previous bidding processes. Close to half (52%) of the energy committed in this process was backed up by new projects of non-conventional renewable energy, whose construction would start by the year 2020.

Although some analysts and experts have sounded a cautionary note with respect to the number of new NCRE projects that will finally be built under the auspices of this bidding, their results confirmed that variable renewable energies, such as solar and wind energies, have gathered an important momentum since a significant drop in their costs and the arrival of a great number of international developers.

For Colbún, the results of this process represent an important challenge. Although more than two thirds of the offers submitted where at a price level equal or higher than the average price offered by Colbún, the Company was not awarded blocks in this process. And even though 100% of the hydroelectric energy able to be contracted by the Company is in fact contracted until the year 2023, and 100% of efficient thermal energy is contracted until the year 2040, the results of the process force us to intensify our efforts to look for opportunities arising from the development of these new sources of energy, without forgetting that in the

energy industry there are not, until now, silver bullets nor a single technology that can completely solve the challenges of having competitive, reliable and sustainable energy.

It is worth mentioning here that Colbún's strategy in the NCRE field has had three components. First, we have developed our own projects, with two power plants covered by the NCRE Law(Chiburgo of 19.4 MW and San Clemente of 5.9 MW) and a third -La Mina (34 MW) which will start operating during the first half of 2017. Secondly, we have acquired projects from third parties, such as the two photovoltaic projects from SunEdison. A third pillar has been centered on the development of competitive bidding processes to acquire power from third parties with experience in solar or wind power and that allow the incorporation of said sources of power in our offer, just as it had happened in 2015 with the Punta Palmera Park of Acciona Energía and the agreement made in 2016 with Total SunPower.

Colbún's decision is to continue delving into this strategy, but always having as an aim that it must add value to the Company and its shareholders.

That having been said, at an industry level the emergence of sources of renewable wind and solar energy also poses challenges for the system, which will grow as their introduction increases, as has been clear in other parts of the world. In particular, as this is non-manageable energy and, therefore, has an intermittent

character, complementary sources are required that allow the reliable supply of power when the wind does not blow or the sun is not present.

With the technology available, currently the best complement is provided by hydroelectric power plants with regulation capabilities (reservoir), since they have the flexibility necessary to respond to variability quickly and safely.

All industry forecasts indicate that base or conventional energies will coexist for a long time with these new variable renewable energies. Therefore, a central characteristic of the future electricity system will be its capacity to adapt to face this new reality.

# REGULATORY FRAMEWORK

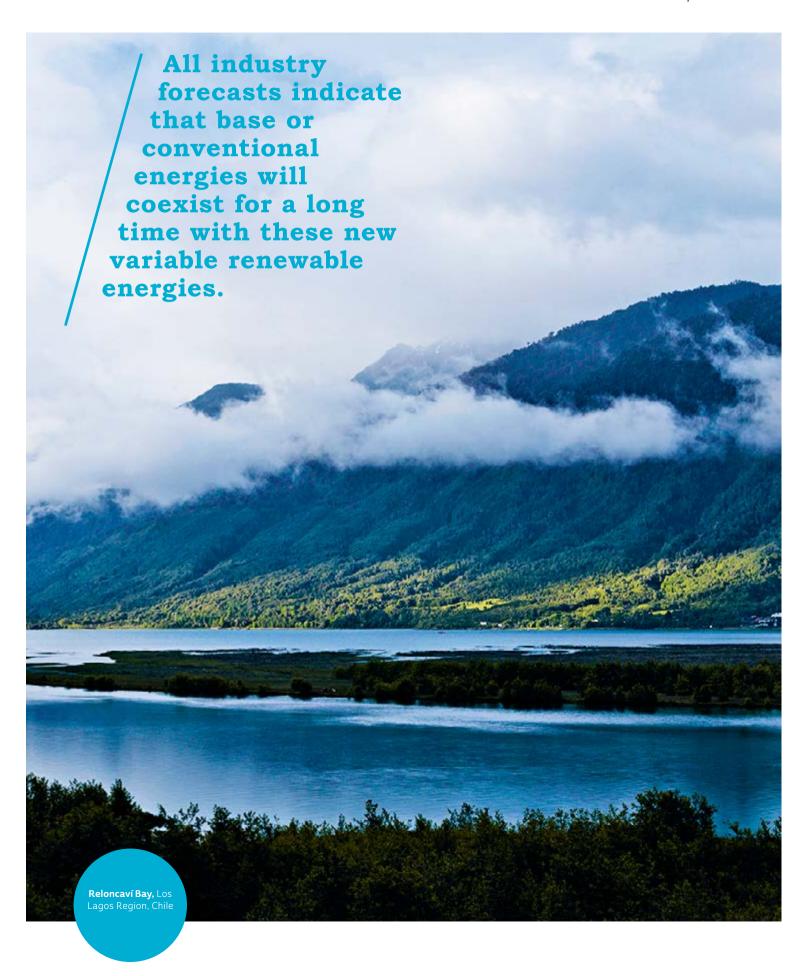
The outcome of the bidding process and the development of renewable energies also impose challenges from a regulatory point of view. Since as we have said in other fora, it is necessary to have remuneration schemes that allow to make all the costs associated with the greater flexibility required by the system to become transparent through the adoption of adequate pricing signals that create the right incentives so that market agents take decisions that allow the supply of clean, competitive and reliable energy In an industry where the development of projects is a long-term prospect, this is twice as important, because the decisions made today do not have an

immediate effect, but a long-term one. We hope that the authority, as they have declared publicly, will take care of this challenge in a timely manner through an adequate regulation of what has been called "supplementary services", which already exist in developed markets and have allowed for transmitting price signals and adequate incentives in the face of the greater adaptability required by the modern electricity industry.

The vision for the role of hydroelectricity in the future development of the electricity system has been corroborated by the Energy Policy 2050 published in 2015, which explicitly states that "counting on a greater level of hydroelectricity with regulation capabilities it is very important to set up a greater penetration of a variety of sources, adding flexibility to the system and minimizing emissions and economic costs."

However, while in said document this role is highlighted, we cannot ignore that in practice there is no environmental or construction evaluation in Chile for relevant hydroelectric projects with regulatory capacity.

Even more worrisome are the signals that come from the reform to the Water Code that is being promoted. At Colbún we believe that the access to water for human consumption is a basic and universal right. However, sometimes, hydroelectricity is wrongly portrayed as a threat to that right, which cannot be further from the truth: all the power plants that use the force of water to



generate electricity return it in its entirety to its course, without any kind of alteration, and therefore, the water remains fully available for other uses, including for human consumption or irrigation and in those processes where we do consume water, as is the case with the cooling system of the Nehuenco Complex, Colbún has been focused on Implementing technological innovations such as a reverse osmosis plant that will allow for a reduction of up to 50% in the consumption of water resources in the most critical periods.

In this perspective it is remarkable that some proposals in the reform to the Water Code do not accord adequately with the importance assigned to hydroelectricity in the Energy Policy 2050. It is important to remember that said reform introduces structural changes to the way in which water is regulated in Chile, among which stand out the temporary character of the rights, the expiry of them for different causes, a significant increase in the payment for permits for non-use and the determination of retroactive ecological courses for rights already granted. We believe that some of these changes do not take into consideration that hydroelectric projects often have long gestation and development times, which generally, are not manageable by the companies, which is why we hope the modifications in progress do not affect the development of hydroelectricity in Chile.

Lastly, I would like to end this review of the regulatory changes by highlighting two important reforms which realized last year.

One of them was the promulgation of The Pricing Equity Law. This initiative sought a reduction to the rates paid by regulated customers from remote and low population density areas and at the same time to establish an additional reduction for those consumers located in zones where there are also power generation plants.

To the extent that the initiatives of this kind do not cause artificial distortions or incentives that block a healthy and proper assignation of resources from the market, we think these are important improvements.

The second change, this time more structural, occurred with the promulgation of the Transmission Law and the Coordinator which introduced profound changes in the electricity sector with the main goal to rely on a robust and flexible Transmission system that allows for the development of generation. In addition, it generated a very important institutional change, whose most visible reform was the creation of the National Electricity Coordinator, to replace the Load Dispatch Economic Center, CDEC. Colbún had an active role through the competent entities, promoting that these regulatory changes would acknowledge the complexities of the electricity sector, maintaining the

proper signals for participation in the market.

We believe that reforms of this kind are a good opportunity to discuss the type of regulatory institutions that we want to promote in Chile. Without denying the evident technical merits that many of these Institutions currently already have, one has to ask oneself if in Industries where the long term perspective is a characteristic consubstantial to its development, it would not be necessary to install mechanisms that isolate these institutions from the natural changes of political and governmental cycles.

An area where this debates appears particularly relevant is in the institutionalism linked to the process of the environmental evaluation of investment projects. It doesn't add to the strength of said institutionalism that from time to time situations arise where the technical competencies of the environmental evaluation system appear exceeded by the political context when it comes to evaluating an investment project.

This debate is also necessary in relation to the CNE, taking into account that the new Transmission Law has expanded the powers of this organization considerably.

# GROWTH PERSPECTIVE

Considering the significant deceleration that investments have experienced, the poor performance that the Chilean economy

has accumulated for several years, is not surprising.

The year 2016 was not an exception in that sense, with a gross domestic product that grew only 1.6%. It is true that at the root of this phenomenon there are, in part, external factors that, as a country, we do not control; but at this point there is little doubt that there are internal factors that have had a very important influence on the stagnation in which we find ourselves. Several of the reforms promoted by the government - regardless of the fact that their objectives had been justified and well-meaning- have certainly caused higher degrees of uncertainty for investments.

As a result of this low economic growth, the electricity demand in the SIC had an expansion of only 1.8% in 2016, and for now, we do not see a different scenario for the year 2017.

Having said that, at a medium and long term perspective, we are optimist with respect to Chile. This is still a developing country, and therefore, there is still much ground to be won to insure a greater wellbeing for our population. Insofar as Chile resumes higher growth rates, and we hope that it happens sooner rather than later, so will the energy demand energética. The electricity consumption in our country is only a third of the average in the OCDE countries, which is why in a simple comparative perspective it is evident that the use of electricity should continue to increase. We firmly believe that a more

electrified society will be a society that provides a better quality of life to its members

With this background perspective, in Colbún we are constantly analyzing and advancing in the development of electricity generation projects

so as to be able to count on a diversified and updated portfolio of initiatives that, in their different stages of development allow us to gradually satisfy the increase in the demand when is required.

From this portfolio of projects, the one that is closest to begin operations is the La Mina hydroelectric power plant (34 MW, Maule region) which at the end of December 2016 accumulated 98.5% of progress. With a startup planned for the first half of 2017, La Mina will be Colbún's third NCRE power plant and the fifth accredited to issue credits to compensate emissions, which consolidates the position of the Company as the main issuer of carbon credits coming from hydroelectricity in Chile

In 2017, we will also initiate the preparation of the Environmental Impact Study of the Gualquivilo Melado hydroelectric power plant Project, a complex located in the Maule region and which includes a group of power plants with an approximate total capacity of 310 MW and whose main characteristic will be the contribution of important degrees of flexibility to the system though a regulation reservoir.

Another relevant initiative is the Los Cuatro hydroelectric project, which

is located in the Bío-Bío river and has an estimated installed capacity of approximately 90 MW and with respect of which baseline studies were started In 2016. These studies are necessary for the subsequent preparation of the Environmental Impact Study of the project.

In a long term perspective and just as indicated in the Energy Policy 2050, at Colbún we believe that hydroelectricity should play a relevant role in the energy supply of Chile. This conviction it is not only supported by the fact that it is our own renewable, clean energy, but also, just as we said, its development is a condition to achieve higher degrees of penetration of variable sources such as solar and wind energies. The promotion of hydroelectricity in a sustainable manner and well integrated to the environment, as demonstrated in the case of Angostura, is one of our great challenges as an industry and as a country.

With respect to the capacity of regasification that the Company was awarded at the end of 2015 as a part of the Open Season, which was carried out by GNL Chile for its Terminal located in Quintero, in 2016 progress continued according to the schedule established for the process, expecting a definition during the year 2017. The participation of the Company in the above-mentioned bid process could leave Colbún with a good position to insure a competitive and long term supply for its generation assets based on natural gas.

With respect to renewable solar and wind energies, just as we did in the year 2016, the Company will continue to explore growth and expansion options, under a strategy that adds value to the Company and its shareholders and allows us to optimize our energy offer in the face of our clients and the country.

With respect to Colbún's internationalization process, we will continue to study opportunities that may arise in other markets of the region as a way of diversifying sources of revenue and risks, as well as to search for new markets with opportunities for growth. Even though the challenge to materialize new steps in this area is still fully in force, we want to do it with a vision of responsibility and in the long term, under the premise that these types of operations must effectively add value to the Company.

At Colbún we know that the energy market in Chile and the region face relevant challenges. In the past, we had to advance towards a better integration with the environment and communities, a vision that currently continues fully in force.

But new challenges have been added,

such as the incorporation of variable renewable energies and the transition towards a more complex electricity system, where different sources of generation will coexist, not only with a greater technological diversity, but also with a higher degree of dispersion in terms of location and size.

While the exact path in which this industry will travel is still an object of analysis and debate, there are few doubts that the final direction will be towards a society with a more intense use of electric energy. At Colbún we want to take on these challenges and be part of its development.

I would not like to end this letter without first briefly mentioning the forest fires that affected the centersouth zone of the country during the first months of the year 2017. In the midst of the tragedy that this situation meant for hundreds of families, it seems relevant to me to highlight the collaborative work that arose from this catastrophe, and that jointly mobilized the public sector, private companies and civil society. In the case of Colbún, this translated into a joint work with Conaf and other companies and entrepreneurial groups to finance the contracting of a modern

helicopter to combat the fires, and into an alliance with TECHO Chile and Hogar de Cristo to rebuild and equip 34 houses in the Carrizal and Cañete zones, in the Maule region. This initiative counted on the outstanding participation of volunteers from Colbún. These kinds of alliances show us that the collaborative work of actors with diverse experiences, skills and visions can be of great value for the country when there are shared goals. Let us hope that these kinds of experiences allow us to generate other spaces of collaboration for the benefit of the development of the country.

#### Bernardo Larraín

Chairman of the Board of Directors, Colbún S.A







This chapter describes the evolution of the regulatory and general environmental framework in which the electricity sector operates.



## CHILEAN MARKET

#### **CONTEXT**

In 2016, for the third consecutive time. the economy presented a low level of activity, with a growth of only 1.6%. This behavior is explained by internal and external factors, among which we can highlight the sustained decline in the mining activity in Chile, a drop in the international prices of our mining exports and a weak performance of the domestic demand due to low levels of investment and consumption. The diminished economic activity was reflected in the energy market where the electricity demand grew at modest rates, with an expansion in the Central Interconnected System (SIC) of a mere 1.8% in 2016, a figure that compares to the 3.9% average recorded between 2010 and 2015.

During the year a series of legislative initiatives that were very relevant for the electric power sector were materialized. At the beginning of the year, Law 20.365 was enacted, which allows that the National Petroleum Company (ENAP) to take part in the electricity generation sector. Then, in May the Pricing Equity Law was accepted, which establishes mechanisms of reduction for those regulated customers who pay a higher

rate as a consequence of being in remote and low density areas, so that they can be equated to the rest of the regulated market clients' rates. The main regulatory milestone occurred in the second half of the year, when the new Transmission Law and the Coordinator were approved, which introduced a deep reform to the transmission system, its revenues and planning, in addition to creating a single National Electric Power System Coordinator. This system will emerge in the year 2018 after the interconnection of the SIC and SING.

During the year 2016 the procedures for reform to the Water Code continued, while the National Energy Commission and the Ministry of Energy implemented the working groups to promote a reform in the distribution segment and to generate the basis of a sustainable hydroelectricity policy, respectively.

Finally the bidding process to supply regulated customers that concluded in August 2016 translated into an important drop in the

prices that were presented and awarded, which reflected the greater competitive dynamic that there is in this market, the lower fuel prices and the impact that the emergence of new technologies is having with a significant reduction of the costs due to their massification.

As a result of this process, we anticipate an increasing incorporation of solar and wind renewable energies in the next year. This will imply a change in the composition of the generation mix and an important challenge for the system, whose operation must adapt to the intermittence that that these types of technologies entail. For this reason, backup power plants that are able to provide a greater flexibility and reliability to the system will be needed, such as reservoir power plants with regulation and, under certain conditions, power plants based on natural gas.

This entails a regulatory challenge through which it is necessary to give the correct signals to each of the market agents, thus achieving the development of a sustainable system over time that maintains the conditions of a safe and reliable supply.



# REGULATORY FRAMEWORK OF CHILE

The regulatory framework governing the Chilean electricity sector and Colbún's operations mainly comprises the General Law on Electric Power Services, the General Environmental Law and the Water Code.

There are six main entities oversee the application and compliance with the laws and regulations of the electric power sector:

- 1. Ministry of Energy
- 2. National Energy Commission (CNE)
- 3. Superintendence of Electricity and Fuel (SEC)
- 4. Coordinator of the National Electric System
- 5. Panel of Experts of the General Law of Electric Services
- 6. General Water Administration



1.6%

In 2016 the economy grew only 1.6%, reaching the third year with a low level of activity.



# REGULATORY CHANGES AND BILLS IN CHILE

Colbún-7.EC

# TRANSMISSION LAW AND COORDINATOR

This law, passed in July of 2016, introduced structural and profound changes in the electric power sector with the purpose of having a robust and flexible transmission system that allows for an adequate development of power generation. Among the changes to the transmission systems, the new law modifies the definition and characteristics of the different segments that make up transmission as well as the mechanisms for the setting of pricing and remuneration. The planning criteria were also

changed, introducing of long term planning, which will identify signposts for the development of renewable energies. In addition, the reform deepens a regime of total and open access of the grids and creates new provisions for complementary services, among them, a bidding process for the very short term.

At an institutional level, the regulation modifies the operator of the system, replacing the current Economic Dispatch Load Centers (CDEC) for a single National Electric Power Coordinator, with a new structure and function. This organization is already constituted and operating. In addition, it confers new faculties to the National Energy Commission and modifies and reduces some functions of the Panel of Experts Colbún was

an active participant in the discussion of these initiatives through the Association of Generators, where it laid out its vision of the project and made observations that allowed the enhancement of some topics. This participation currently continues through comments made to the drafts of the regulations mandated by the new law. The Company has proposed that the regulatory changes that might occur must recognize the complexities of the electric power sector, maintaining the appropriate signals for participation in the market and ensuring the technical and independent nature of the institutions involved. For this, there must be a necessary balance between the functions performed by the Ministry of Energy, the CNE, the SEC, new Coordinator and the Panel of Experts



so that it operates based on clear and transparent rules that consider the trust of all the agents of the sector and guarantee a sustainable operation in the long term.

#### **PRICING EQUITY LAW**

In the month of May the Pricing Equity Law was enacted with the goal to reduce differences in the electricity bills of regulated customers throughout Chile, whose rate will not able to vary more than10% of the national average. This modification particularly benefited regulated customers from rural zones with low population density, whose rates decreased at the end of the year 2016. In addition, this law meant an additional reduction to the rates of those regulated

customers that are in intense zones of generation, through a recognition of the local generation.

# INCURSION OF ENAP IN POWER GENERATION AND CHANGES TO CORPORATE GOVERNANCE

At the beginning of the year 2016 the reform was approved that allowed ENAP to participate in the power generation business, arguing the need to introduce more competition. Colbún pointed out in different instances that it did not deem it necessary that ENAP enter the power generation business. It is worth mentioning, that the bid for the supply to regulated customers that took place last August showed a strongly competitive dynamic.

In 2016 the procedures also started for the bill that seeks to modify the corporate governance of ENAP through a new composition of the board of directors. At Colbún we believe that any reform that implies to bring the management of public companies to standards set by the OECDE is a positive step.

#### **TECHNICAL GUIDELINES OF GAS**

In 2016 a working group was created aimed at having a concrete for the reality of this market, which would allow for a clear and efficient model for price restrictions and availability of LNG.

In this context, in 2016 the National Energy Commission developed a quideline that arose as a response to the challenges established in the Energy Agenda, with regards the promotion of the NLG industry. This quideline establishes measures on planning and programming the operation of the generation units, creating "moving windows of information" where the agents must communicate their LNG program, being able to change it in some exceptional cases. This guideline will start to be applied in the first quarter of 2017.

#### **DISTRIBUTION WORKING GROUPS**

During the year 2016 the Government formed these working groups for the preparation of a shared diagnostics for a new regulatory framework for the distribution of electrical power. Colbún values that the government delivers instances of participation and just as it participated in the regulatory diagnosis of the transmission sector, it is also participating in the diagnosis of distribution.

#### **WATER CODE**

The Water Code reform introduced by the Government introduces structural changes to the way waters are currently regulated in Chile. Among other things, it establishes a temporary quality to the granting of water rights, the termination of rights for several causes, mainly, for non-usage and the establishment of a retroactive environmental flow over rights already granted. It is important that these changes do not adversely affect the investments in the development of hydroelectric power in Chile and, as a consequence, the realization of the Energy Policy promoted by the government, which explicitly establishes that hydroelectricity with regulatory capacity is very important to create a greater penetration of variable

sources (solar and wind energy), adding flexibility and minimizing emissions and economic costs.

Hydroelectric projects require especially long developmental periods and have a long useful life, which is why any reform in this area should take this reality into account.

It is also important to emphasize that hydroelectricity uses water in a way that is not consumptive, that is to say, it does not consume the water but uses it and returns it to its natural flow to subsequently be used in other ways, namely, industrial, agricultural, tourism and human consumption among others. Through the Association of Power Generators Colbún has also noticed different aspects of the law that have a significant impact on water rights, as well as on the use of them.

#### COMPETENT ENTITIES IN THE POWER SECTOR OF CHILE Superinten-National Ministry Panel of **Directorate** dency of Electricity and Fuels (SEC) Energy Commission (CNE) of Energy Water · Water rights / Approval of projects. · Public and Sector's · Overseeing legal Rates · System operation · Conflict resolution policies. compliance. coordination. Regulatory Inspection. · Advises the · Economic dispatch. function. Government. · Measurement and control of the · Monitoring of Expansion plans. water resource · Long term competition. · Monitoring the operation of planning. The User Organizations of Waters.







# BETTER ENERGY, Better Jobs

47.6%

increase in the number of Colbún's **Contractor workers** in 2016 in Chile, mainly due to the construction of the hydroelectric power plant La Mina.



**67,140**Training hours that Colbún's worker received in Chile and Peru in 2016.



55%
Of Colbún's job
positions in Chile
were filled thanks to
direct promotions,
lateral moves and
internal contests.



73%
Positive satisfaction according to a work environment survey in 2016 in Chile

# 1.2 PERUVIAN MARKET



### **CONTEXT**

Peru had an economic growth of 3.8% in 2016, slightly higher than in 2015 (3.3%) but below expectations. Public and private investment, in general, showed modest dynamics falling 6%. Private investment decreased mainly due to a setback in the entrepreneurial confidence and public investment,

the latter a result of the new government's decision to reduce the fiscal deficit. Mining production contributed 1.5 percentage points of GDP growth, due to the expansion of megaprojects Cerro Verde and Las Bambas.

In fact, the mining production grew 21%. Domestic consumption and public spending continued with an expansion of around 3%.

However, the National Interconnected Electric System (SEIN), had a growth in demand of 8.5%, with a 46% rise in marginal costs due to a higher demand promoted significantly by the startup of the above-mentioned mining projects and to a relatively dry hydrology.

# REGULATORY FRAMEWORK OF PERU

The Peruvian electric power sector has a well-established regulatory framework in place since 1992. This has contributed to a noticeable increase in the generation of energy with a compound growth of 9.6% in installed capacity between the years 2006 and 2016.

The organization of the electric power sector allows its agents to participate in the regulation and promotion of it with the purpose of achieving the goals of the energy policy and of obtaining concerted agreements in order to promote synergy among the right of the electric power plants to carry out activities and business, the right of the final user to a great service and the protection of the environment.





8.5%

Growth in demand from the National Interconnected Electrical system (SEIN)

#### COMPETENT ENTITIES IN THE POWER SECTOR OF PERU

Ministry OF Energy and Mines (MINEN)

- · Sector's Policy.
- · Housing titles.
- · Regulation.

Supervisory agency for investment in Energy and Mining (OSINERGMIN)

- · Rates.
- · Regulatory Function Supervision.
- $\cdot$  Dispute resolutions.
- · Complaint services.

Environmental Assessment and Control Agency (OEFA)

- · Compliance with legislation.
- · Supervision.

Economic Operation Center of the National Interconnected System (COES)

- Transmission plan and SEIN's procedures.
- · Operation Coordination of the SEIN.
- · Economic dispatch.

National Institute for the Defense of Competition and Intelectual property (INDECOPI)

- · Free and fair competition.
- · Ex ante merger



# **OPERATIONAL MODEL** (CHILE AND PERÚ)

The operation of the sector is based on a marginal cost plan (cost which the system incurs to supply an additional unit of demand), which in turn includes the efficiency and safety criteria in the allocation of the resources. To achieve the "efficiency goal", the power companies coordinate their operations though the CDEC (CEN or National Electricity Coordinator from January 2017) in the case of Chile and through the COES (Center of Economic Operation of the National Interconnected System) in the case of Peru. The coordinator seeks to minimize the operational costs and failure of the electric system, in addition to ensuring the quality and safety of the service provided by the power and transmission companies. The main goal of the dispatch system is to ensure that the demand for electricity is served by the most efficient units available at every instant.

The corresponding coordinating entity dispatches the plants in ascending order of their respective variable declared production costs, starting with the plants of lowest declared cost. The variable declared cost of the most expensive unit in operation represent the marginal cost of the system and

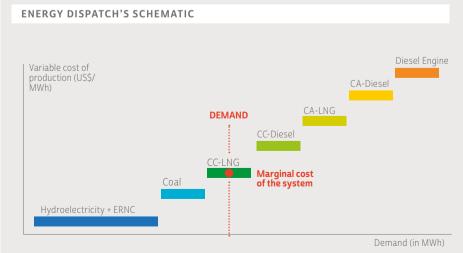




determines the price of the electricity in the spot market at the moment and is measured in US\$/ MWh. In Peru as of 2008 the marginal cost or spot price of electricity is determined considering that there is no production restriction for gas transportation nor electricity transmission. Said value is called the Idealized Marginal Cost, which cannot be higher than a value limit that is defined by the authority so that the difference between the variable costs that are higher than the idealized marginal costs is covered by the electricity companies and the demand of the system. En Chile, In Chile, the costs declared by each company that owns a plant are liable to audit, which are done weekly. In Peru the costs declared per thermal units that operate with liquid (oil) or solid (coal) fuels are audited monthly; the units that operate with natural gas, however, have the freedom to under declare their operational costs, with the upper limits being their real cost of operation, The sub declaration is made in June every year and it is valid for 12 months. The plants with variable costs that are lower than the spot price earn

a margin for the production delivered to the system. By contrast, the plant that is dispatched and has a variable cost equal to the spot price, will only be able to recover its variable production cost. At all times, the electricity companies satisfy their contractual obligations of sale with dispatched electricity, whether produced by themselves or purchased from other electricity companies through the spot market.

In order to achieve the goal of "safety and continuity of power supply", the metering model also takes into account a "capacity charge" which corresponds to an additional remuneration for electricity companies that maintain their plants available and that seeks to give incentives to have backup capacity in the system. Such remuneration is measured in US\$/KW-month.



# 1.4 COMMERCIALIZATION MODEL

The power generation companies in Chile and in Peru may choose between: (i) committing themselves to selling energy to clients through contracts (short /medium/long term); (ii) to selling its energy production to other power generation companies with deficits in the spot market; (iii)

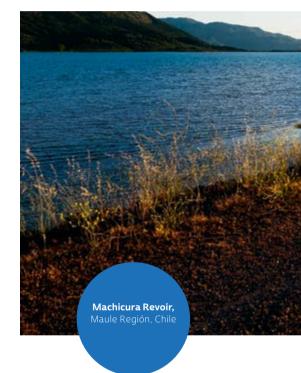
or opt for a combination of both. The power generation companies may sign contracts with three types of clients: regulated customers (distribution companies), free customers (industrial, mining companies, etc.) or another power generator.

#### TYPE OF CLIENTS AND CONTRACTS

	Regulated (Distribution companies)	Option to choose between Free or Regulated	Free
Chile	< 500 kW	Between 500 kW and 5.000 kW may choose the conditions as long as they remain for a minimum period of 4 years under that scheme.	>5,000 kW
Perú	< 200 kW	Between 200 kW and 2.500 kW may choose the condition	>2,500 kW

MARKET SHARE PER ENTREPREURIAL GROUP IN THE SIC TO DEC. 2016 (% INSTALLED CAPACITY) CHILE*		
Endesa	31.8%	
Colbún	19.7%	
Aes Gener	15.8%	
Otros	32.7%	
Total	100.0%	

\*Source: CDEC SIC



Market share in terms of installed capacity of Colbún in Chile.



In Chile, Colbún is the second largest generator in the SIC, which has a market share of 19.7% measured in terms of installed capacity. The electricity market is a competitive market where more than 150 companies participate. This competitive dynamics has increased in recent years due to the impact that the emergence of new technologies, such as solar and wind power is having. The cost of these technologies has dropped significantly due to its massification. This phenomenon was expressed in the bidding to regulated customers in August 2016, where around 85 bidders submitted their

offers, noting a significant drop in the price of the power awarded. Based on these results, the trend towards a greater presence of solar and wind renewable powers is undeniable, and with that the arrival of new players.

4.5%

Market share in

capacity of Colbún in Peru.

MARKET SHARE PER BUSINESS GROUP IN THE SEIN AS OF DEC. 2016

(% OF INSTALLED CAPACITY) PERU

Fenix Power	4.5%
Kallpa	16.8%
Enel Perú	12.9%
Engie	20.2%
Electroperú	8.0%









### 1985

The reservoir hydroelectric power plants Colbún and Machicura begin operations.

## 1986

The electricity company Colbún Machicura S.A., currently Colbún S.A., is created from the division agreement of Empresa Nacional de Electricidad S.A. (National Electricity Company), Endesa.

## 1996

San Ignacio hydroelectric power plant begins operations.

## 1997

CORFO ceases to control the Company by selling 37% of its share in Empresa Eléctrica Colbún Machicura S.A.

The subsidiary Empresa Eléctrica Industrial S.A. (Industrial Electricity Company) is created.

## 1998

The hydroelectric power plant Rucué begins providing services.

## 1999

The combined-cycle thermal power plant Nehuenco I begins commercial operations.

Through its subsidiary, Empresa Eléctrica Industrial S.A., Colbún acquires the run-of-the river hydroelectric plant Carena.

## 2001

CORFO sells the majority of its shares in the stock exchange and its corporate name changes to "Colbún S.A.", while it also expands its line of business.

## 2002

The commercial operations of the open-cycle thermal power plant Nehuenco III begin.

## 2004

The combined-cycle thermal Nehuenco II begins its services.

## 2005

The open-cycle thermal power plant Candelaria begins commercial operations.

Minera Valparaíso S.A., subsidiary of the Matte Group, becomes the majority shareholder of Colbún S.A. after the merger with Hidroeléctrica Cenelca S.A.

As a result of the merger the following run-of-the-river hydroelectric power plants are integrated: Chacabuquito, Los Quilos, Blanco, Juncal, Juncalito, in conjunction with the hydroelectric power plant Canutillar, and the thermoelectric power plant Antilhue.

All the corporate rights of Sociedad Hidroeléctrica Melocotón Ltda. are acquired.

## 2006

Tractebel sells all of its shares in Colbún. In this sale Antarchile S.A., a Company associated to the Angelini Group, acquires 9.53% of Colbún's ownership.

A partnership is created for the development of HidroAysén project, where Colbún contributes 49% of Centrales Hidroeléctricas de Aysén S.A. partnership and Endesa the remaining 51%.

## 2007

The run-of-the-river hydroelectric power plants Quilleco and Chiburgo begin their services. The latter is the first power plant of the Company built within a legal framework that promotes non-conventional renewable energies.

The dual operation (natural gas and diesel oil) of the power plant Nehuenco II stars production.

The hydroelectric power plant Chacabuquito (Valparaíso Region), is registered at the Clean Development Mechanism (CDM). This plant will allow an annual reduction of approximately 80 thousand tons of CO<sub>2</sub>e, which is equivalent to taking more than 20 thousand vehicles from circulation. It is the first hydroelectric power plant in the world to trade carbon credits



### 2007

In the first biddings of distribution companies, Colbún is awarded supply contracts for 10 to 15 year terms, with CGED, SAESA and Chilectra for 2,800 GWh/year, starting in 2010 and 2,500 GWh/year, starting in 2011.

### 2008

Star-up of Hornitos hydroelectric power plant.

The run-of-the-river hydroelectric power plants Hornitos (Valparaíso Region) and Quilleco (Biobío Region) are registered at the Clean Development Mechanism (CDM), which will allow an annual reduction of 118 thousand and 172 thousand tons of CO<sub>2</sub>e respectively.

### 2009

Beginning of the application of the International Financial Reporting Standards and adoption of the US dollar as functional currency.

The open-cycle thermoelectric power plant Los Pinos starts its operations.

### 2010

The mini hydroelectric power plant San Clemente starts operations.

The first bond is issued in the international financial market for US\$ 500 million, at 10 year term.

The Sustainability Strategy Colbún is defined (Mar2011-Jun2012).

### 2011

The run-of-the-river hydroelectric power plant San Clemente (VII Region) is registered at the Clean Development Mechanism (CDM), which will allow an approximate annual reduction of 17 thousand tons of CO<sub>2</sub>e, equivalent to take more than 4 thousand vehicles out of circulation.

### 2012

Unit 1 of the Santa María
Complex (Biobío Region),
the first coal-fueled thermal
power plant starts commercial
operations.
Publication of our first
Sustainability Report, which
compiles all the indicators that
measure our performance in
this matter according to the
methodology of the Global

Reporting Initiative (GRI).

Workers completed a Sustainability survey.

Creation of the subsidiary Colbún Transmisión S.A.

Merge of the subsidiaries Hidroeléctrica Guardia Vieja S.A., Hidroeléctrica Aconcagua S.A. and Obras y Desarrollo S.A. with Colbún.

### 2014

The hydroelectric power plant Angostura starts its commercial operation.

Opening of the Angostura Park, a tourism project associated to the same power plant.

Colbún issues a second bond in the international financial market for US\$500 million.

### 2015

Creation of the subsidiaries Colbún Perú S.A. and Inversiones Las Canteras S.A. in Peru.

Acquisition of 51% of the shares of Fenix Power Perú S.A., Peruvian company owner of a natural gas-fueled combined-cycle thermoelectric power located in Chilca, Peru.

### 2016

- Publication of the First Integrated report of the Company, which gathers the Annual Report and the Sustainability Report in a single document.
- Colbún acquires part SunEdison's assets in Chile, including supply contracts and two solar projects in development.
- Colbún debuts a new corporate image. The new logo gathers three central concepts: pride for the history of the Company; the evolution toward new technologies, and an invitation to take on the challenges that future brings.





### **January**

### COLBÚN RECEIVES THE "CORPORATE SUSTAINABILITY AWARD 2015"

The Corporate Sustainability Award - sponsored by SOFOFA, Adolfo Ibáñez University (UAI) and Capital Magazine, highlights the good business practices in matters of sustainability. In its 2015 version the participating companies were evaluated in 140 indicators of the categories Environment, Social and Economic Governance after which a company was recognized by area and Colbún with the Global Award.

Colbún's General Manager, Thomas Keller, emphasized that "this is a recognition of the efforts we are making to raise our standards, and to the conviction that, doing things well in all the areas of management we will have a better Company. This award is an incentive to continue to work hard, especially where we have gaps".



### **February**

### COLBÚN COMPENSATES EMISSIONS OF 24 TOURIST SERVICES IN PUERTO VARAS

A joint initiative between Colbún, Greenticket and Informatur allows to neutralize the emission of 946 tons of CO<sub>2</sub> through the issue of carbon credits. This project benefits 24 tourist establishments of the city, thus creating a carbon neutral route in Puerto Varas. The credits given come from the operation of the hydroelectric power plant Hornitos.



### March

### COLBÚN'S SUSTAINABILITY BOARD

Colbún's Sustainability working board is created, which is composed of representatives from different areas and divisions of the Company and whose goal is to integrate social, environmental and economic aspects in different areas of the business.

### COLBÚN COMPENSATES EMISSIONS OF ESTABLISHMENTS IN THE NEIGHBOURHOOD LASTARRIA -BELLAS ARTES

The carbon neutral route of Lastarria - Bellas Artes is launched, where a total of 22 establishments compensated their carbon footprint within the framework of an agreement with Corporación de Desarrollo de Santiago (Santiago Development Corporation).



### **April**

#### COLBÚN PUBLISHES ITS FIRST INTEGRATED AND VERIFIED REPORT

The report corresponding to the 2015 period gathers the Annual Report and the Sustainability Repots in a single document answering to the integral view that Colbún seeks to give about its management. The document was also verified by KPMG.

### COLBÚN RENEWS ITS BOARD OF DIRECTORS IN THE 2016 GENERAL MEETING OF SHAREHOLDERS

With a quorum higher than 88%, the General Meeting of Shareholders of Colbún was held, by the President of the Company, Bernardo Larraín.

The shareholders voted for the renewal of the Board of directors which ended up composed of Bernardo Larraín Matte as Chairman; Vivianne Blanlot as Vice Chairman and Luz Granier Bulnes, María Ignacia Benítez, Juan Eduardo Correa, Arturo Mackenna Iñiguez, Eduardo Navarro Beltrán, Jorge Matte Capdevila and Francisco Matte Izquierdo as directors.

### COLBÚN BUYS PART OF THE ASSETS OF SUNEDISON IN CHILE

Colbún reaches and agreement with the renewable energy development company SunEdison to acquire part of the assets that the American company has in Chile. The transaction involves the transfer of two photovoltaic solar energy projects, one of which the EIS has approved and the other in the process of approval, as well as a cession of long-term energy supply contracts.



### May

### COLBÚN AWARDS A SOLAR ENERGY CONTRACT FOR 15 YEARS TO TOTAL AND SUNPOWER

Colbún awards an energy purchase contract for a 15 year term to the company Total and it subsidiary SunPower (Nasdaq: SPWR) for 500 GWh of solar photovoltaic energy per year for a 15 year term, from the construction of a solar energy power plant of 164 MW. The decision was the result of a competitive bidding process, where more than 13 companies participated.

### SEMINAR VOICES WITH ENERGY

Within the framework of the presentation of the Integrated Report 2015, Colbún organizes the seminar "Voices with Energy, Dialoging with the Future", where the main speaker was Mark Hoben, from the Consensus Building Institute of Washington. There also participated Carola Venegas, Regional Ministerial Secretary of Energy of Biobío; Guillermo Scallan, from Avina Foundation and Thomas Keller, General Manager of Colbún.

### HORNITOS AND QUILLECO ARE RE-CERTIFIED TO CONTINUE ISSUING CARBON CREDITS

After a year of procedures, the power plants located in Valparaíso and Biobío regions, respectively, obtained their re-certifications through the Clean Development Mechanism (CDM) of the United Nations which will allow them to issue carbon credits for the next seven years



### June

### FAILURE OF NEHUENCO II MAIN TRANSFORMER

On June 28 a failure occurs in the main transformer of the natural gas turbine of the thermoelectric power plant Nehuenco II, provoking a fire in the facility. The prompt action of the firefighters and specialized personnel permitted a quick control of the accident, resulting in no injuries. The Company managed to replace the burnt transformer in record time, thus allowing the unit to resume operations in January 2017.

### DESALINISATION PROJECT OF FENIX IN PERU IS HIGHLIGHTED

The National Water Authority of Peru granted Fenix Power the National Award Water Culture for its desalinization and purification of sea water project. Thanks to an important investment, Colbún's power plant in Peru has the capacity of producing 2,000 m<sup>3</sup> of water daily, which are delivered to the municipality of Chilca, district where this facility is located



### **August**

### PUBLIC REPORT OF CANDELARIA POWER PLANT

Before an audience composed of authorities, neighborhood leaders and representatives of local organizations of Mostazal and Codegua, the Candelaria power plant carried out its first operational, social and environmental evaluation. The meeting allowed the generation of a dialogue around topics of interest to the community.

### COLBÚN COMPENSATES EMISSIONS OF 37 HOTEL SERVICES IN EASTER ISLAND

A joint initiative between Colbún, Greenticket and the Chamber of Tourism of Easter Island, which allows to neutralize the emission of more than 2,000 tons of  $\mathrm{CO}_2$  through the granting of carbon credits. This project benefits 37 establishments of the island.



### September

### ANGOSTURA POWER PLANT MAKES A PUBLIC REPORT

The second public report of this power plant had the attendance of more than 150 neighbors and authorities of the Santa Bárbara and Quilaco districts. A similar activity was completed in Los Angeles.



### October

### COLBÚN MAINTAINS THE VALIDITY OF THE PRO PYME (SME) SEAL

The sub-secretariat of Economy and Small and Medium Companies confirmed the accreditation of this certification for Colbún in 2016.

In 2011, Colbún undersigns the ProPyme seal. This initiative is promoted by the Government and aims at committing companies to pay to 100% of their Pyme suppliers in a maximum period of 30 days starting on the date of reception of the document.

### AMCHAM GIVES ANGOSTURA PARK A RECOGNITION

The positive integration of the neighboring communities of the Angostura power plant (Biobío Region) to the sustainable development of the project was the main attribute chosen to grant Colbún's Angostura Park the "Good Entrepreneurial Citizen" award in the "Associativity" category, organized every year by the Chilean- American Chamber of Commerce (AmCham Chile).



### **November**

### CHAIRMAN AND GENERAL MANAGER ARE ACKNOWLEDGED FOR THEIR SUSTAINABLE DEVELOPMENT PRACTISES

As an acknowledgement to the positive implementation and diffusion of the sustainable development practices of Colbún, Bernardo Larraín and Thomas Keller were distinguished with the first place of the "Director of a Sustainability Leader Company" category and the second place in the "General Manager of a Sustainability Leader Company" category, respectively in the framework of the award ceremony organized by the Sustainable Leader 2020 agenda, "ALAS20".

### **ANTONOV 225 LANDS IN CHILE**

In the middle of November the largest airplane in the world arrived to our country, proceeding from Guarulhos Airport in Sao Paulo. In its interior it brought the transformer for Nehuenco II, that was manufactured by the Swiss firm ABB in Brazil. This is the first time that the Antonov 225 - the only one of its kind in the world - landed in South América, and the second time it landes in the American continent. This was the larget air cargo transport operation in Chile, measured by weight of the transported cargo.

### PUBLIC REPORT OF THE CANUTILLAR POWER PLANT AND THE ACONCAGUA COMPLEX

Before an audience composed of the authorities, local leaders and representatives from local organizations of Cochamó, Canutillar power plant made its first operational, social and environmental balance.

This same month the Aconcagua hydroelectric complex made a public account in front of authorities, neighbors and social leaders of Los Andes, San Esteban and the International Route

#### **NEUTRAL ROUTE OF LASTARRIA - BELLAS ARTES IS REWARDED**

The Chilean British Chamber of Commerce (BRITCHAM) presented the recognition "Innovation in Carbon Management 2016" to the project "Neutral  ${\rm CO_2}$  Lastarria-Bellas Artes route", developed by Colbún together with the Greenticket consulting firm and the Corporation for the Development of Santiago.



### **December**

#### NEW CORPORATE IMAGE OF COLBÚN

The new logo has three central concepts: pride for the history of the Company; the evolution that this has had; and an invitation to take on the challenges that the future brings.

The new image maintains the traditional arcs, which represent energy and movement, but it presents a new range of colors, which is a reflex of the incorporation of new sources of energy to our generation matrix.

#### **NEW POLYCLINIC IN CHILCA**

At the end of the month the district municipality of Chilca granted an operating license to the new polyclinic, a project promoted by Fenix. The facilities, which were inaugurated at the beginning of January 2017, will make it their priority to cover the close to 1,000 residents of Las Salinas.



Colbún operates 23 power plants in the Central Interconnected System (SIC) in Chile, which runs from Taltal in the north until the Great Island of Chiloé in the south, supplying more than 90% of the population - and a power generation plant based on natural gas in Peru, acquired in December 2015.

In addition, the Company owns 28 substations, close to 916 km of transmission lines, and different concessions and patents, among which we can highlight geothermal, electric, transmission and water rights that would allow to develop projects for an estimated total capacity of 600 MW. All the facilities and water rights are property of Colbún and its subsidiaries, and are commercialized under the brand of Colbún.







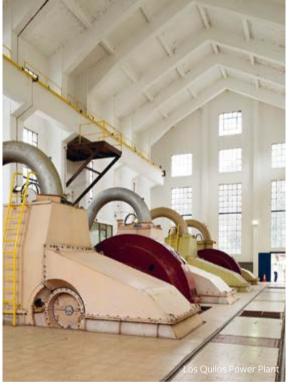
Power plants in the Central Interconnected System (SIC)



















### MAP OF COLBUN'S AND THIRD-PARTY SUPPLIERS' POWER PLANTS\*



### THERMOÉLECTRIC POWER PLANTS

- 1 FENIX POWER 570 MW / Gas Chilca, Lima, Department
- NEHUENCO COMPLEX
  874,7 MW / Diesel / Gas
  Quillota, Valparaíso Region.
  ·Nehuenco I (368.4 MW)
  ·Nehuenco II (398.3 MW)
  ·Nehuenco III (108.0 MW)

#### CANDEL ARIA

3 253,9 MW / Diesel / Gas Mostazal, Codegua O'Higgins Region

#### **LOS PINOS**

4 104,2 MW / Diesel Cabrero, Biobío Region

#### \*SANTA MARÍA

5 350 MW / Coal Coronel, Biobío Region

#### ANTILHUE

6 102,5 MW / Diesel Valdivia, Los Ríos Region

\* Corresponds to capacity delivered to the SIC



## 04

**NCRE**OWNED, ENERGY AND/
OR ATRIBUTES

PUNTA PALMERAS
(ACCIONA)

45 MW / Eolic Canela, Coquimbo Region

2 LAUTARO POWER PLANT (COMASA)

26 MW / Biomass Lautaro, Araucanía Region

3 SAN CLEMENTE POWER PLANT (COLBÚN S.A.) 5,9 MW / Hydro

5,9 MW / Hydro San Clemente, Maule Region

CHIBURGO
POWER PLANT
(COLBÚN S.A.)

(COLBÚN S.A.) 19,4 MW / Hydro Colbún, Maule Region



### 16

HYDROÉLECTRIC POWER PLANTS

- 1 ACONCAHUA BASSIN 210,3 MW / Run-of-theriver Los Andes, San Esteban, Valparaíso Region ·Los Quilos (39.9 MW) ·Chacabuquito (25.7 MW) ·Blanco (53 MW)
  - Juncal (29,2 MW) Juncalito (1,5 MW) ·Hornitos (61 MW)
- 2 CARENA POWER PLANT 10 MW / Run-of-the-river Curacaví, Metropolitan Region
- 3 MAULE BASSIN
  631,3MW / Run-of-theriver reservoirColbún, Yerbas Buenas
  San Clemente, Maule
  Region.
  ·Colbún (474MW)
  ·Machicura (95 MW)
  ·San Ignacio (37 MW)
- 4 LAJA BASSIN 249,2 MW / Run-of-theriver Antuco, Quilleco, Tucapel, Biobío Region •Rucué (178,4MW) •Quillero (70,8 MW)

- 5 ANGOSTURA 323,8 MW / Reservoir Santa Bárbara, Quilaco, Biobío Region.
- 6 CANUTILLAR 172 MW / Reservoir. (Chapo Lake), Cochamó, Los Lagos Region.

43%
Of the energy generated by Colbún in 2016 came from renewable sources. CHILE \* Note: Capacity reported to CDEC-SIC and current as of December 31 2016

# OWNERSHIP AND CORPORATE STRUCTURE

G4-7, G4-13



#### TWELVE MAJOR SHAREHOLDERS AS OF DECEMBER 31, 2016 (%) (G4-7)

Total Subscribed and Fully paid Shares	100
Other Shareholders	22.6
FONDO DE PENSIONES HABITAT B	1.3
FONDO DE PENSIONES CUPRUM A	1.4
BANCHILE CORREDORES DE BOLSA S.A.	1.4
FONDO DE PENSIONES HABITAT A	1.5
BANCO SANTANDER - JP MORGAN	1.5
FONDO DE PENSIONES HABITAT C	1.7
FONDO DE PENSIONES PROVIDA C	1.8
BANCO ITAU POR CUENTA DE INVERSIONISTAS	3.4
BANCO DE CHILE POR CUENTA DE TERCEROS CA	4.6
ANTARCHILE S.A.	9.6
FORESTAL COMINCO S.A.	14.0
MINERA VALPARAISO S.A.	35.2

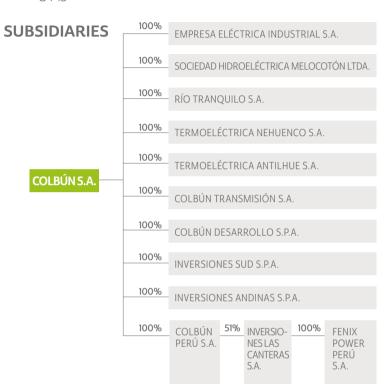
**NOTE:** As of December 31 2016, the social capital of the Company is constituted by 17,536,167,720 single series shares, undersigned and payed, without nominal value. The number of shareholders at closing date is 3.152.

As of December 31, 2016, the Matte Group directly and through other subsidiaries holds the control of the Company (49.96%) via single series stocks The Matte Group has investments in the electric, financial, forestry, real state, telecommunications and port sectors.

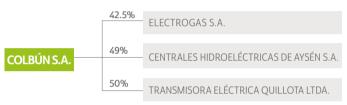
With regard to AntarChile S.A. (Tax Identification Number 96.556.310-5), it owns 9.58% of Colbún's property, which entitles it to designate a member of the Board of Directors. In addition, the AFPs (Pension Funds Administrators) collectively hold a stake of 18.33%.

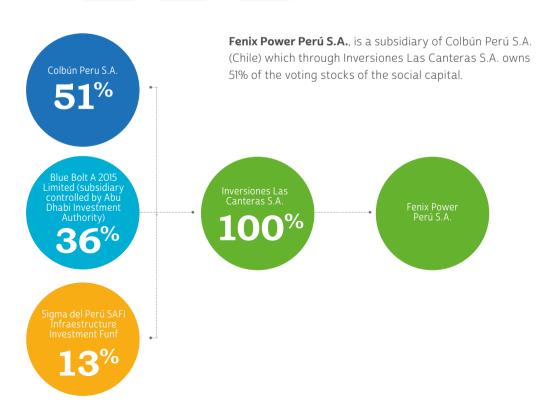
### **CORPORATE STRUCTURE**

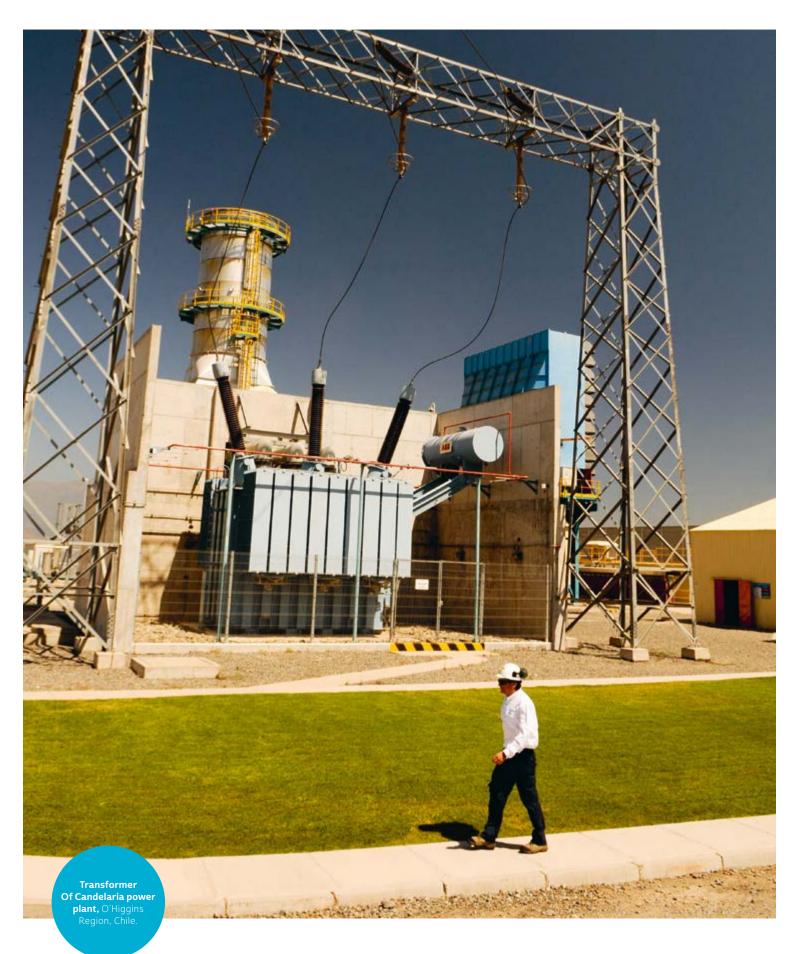
G4-13



### **JOINT VENTURES**

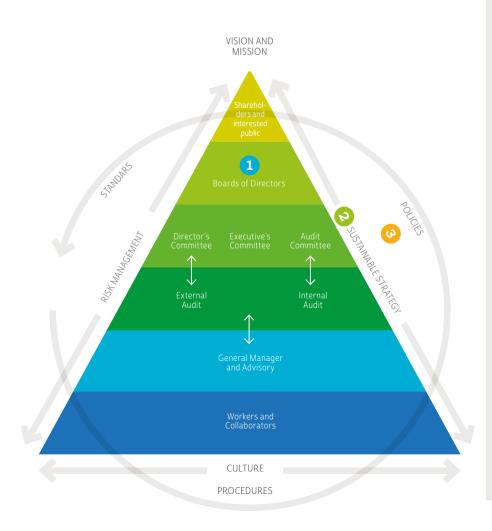








Corporate Governance refers to the group of principles, rules and mechanisms that regulate the operation of the bodies ruling the Company, with the purpose of creating sustainable value for its shareholders and interest groups.



### 1 CORPORATE GOVERNANCE STRUCTURE

The responsibility of ensuring Colbún's governability falls upon the Board of Directors, its advisory committees, thevy Management and the workers. At the top of the structure are the shareholders and other interest groups affected by the governability strategy.

### 2 CORPORATE GOVERNANCE STRATEGY

Group of principles, values, policies and procedures to propitiate a proper governability of the Company, its subsidiaries and operations in general.

### 3 CORPORATE GOVERNANCE

Internal (Policies and Procedures) and external (regulations) rules that govern the way in which the Corporate Governance of Colbún operates.

### **BOARD OF DIRECTORS**

G4-37, G4-38, G4-39, G4-40, G4-44, G4-49, G4-51, G4-52, G4-LA12, G4-53 AND G4-34

### Colbún's Board of Directors is the highest governing entity of the Corporate Governance.

Our Board of Directors consists of nine directors who do not hold executive positions, can be re-elected indefinitely (with the exception of the directors who represent AFPs) and they may or not be shareholders. The Board of Directors holds regular meetings once a month in order to address all relevant issues pertaining to the performance and operation of the Company; it has extraordinary meetings when it is necessary to discuss a specific or possible issues; and once a year holds the General Meeting of Shareholders, where all the shareholders may participate and exercise their right to vote and give their opinion. It also validates each year all the corporate goals for the Administration, which consider different aspects: financial results, social and environmental management, employment security, work environment and growth.

The Board of Directors' Policy and Procedures establish that the Directors visit the facilities of the Company once a year collective or individually, which constitutes a direct channel of communication with the workers of the Company.

Is this how in 2016, a delegation composed of some of the new directors of the Company toured the Santa María and Angostura power plants, thus getting to know the operation and environmental and social performance that they have recorded since their start-up in the years 2012 and 2014, respectively. Likewise, the Board of Directors collectively held the board's meeting corresponding to the month of November at the Colbún power plant and also visited the hydroelectric project La Mina, which should start operations within the first semester of 2017.

The Board of Directors delegates part of its authority in the administration of the Company through a document called Board of Director's Delegation of Authority Policy.

The executives who answer or report directly to the Board of Directors are the General Manager and the Internal Audit Manager. Notwithstanding the above-mentioned, the Business Manager, the Finance Manager and the Legal Affairs Manager, who also serves as Secretary of the Board, and other managers who report directly to the General Manager, also attend the Board of Directors' meetings regularly.

In the Board's meetings, the General Manager informs about the monthly management of the Company in its main social activity, presenting the most relevant indicators of the business

(General Manager Account). He also presents the situations, topics or especial or relevant transactions that are reported or approved every month by the Board of Directors, including also the main management made with interest groups (workers, community, etc.).

The General Manager and his team also report regularly to the Board on the topics of risk and sustainability.

### BOARD OF DIRECTORS' TRAINNING

During the 2016 period there were two training sessions for the board of directors, one addressed to the Reputation Risks Management and the other focused on an Updating in Corporate Governance Issues, which were led by external specialists. In addition, the directors have been sent a link with a summary of the recent jurisprudence concerning sanctions or declarations of the authorities, regarding the duties of care, discretion, loyalty, diligence and information applicable to the directors of Public Limited Companies.

All the afore-mentioned, in line with the Board of Directors' Training Policy. Additionally, the processes of induction of new directors have been carried out.

















### MEMBERS OF THE BOARD OF DIRECTORS



### 1. BERNARDO LARRAÍN MATTE

CHAIRMAN Commercial Engineer PUC

### 2. VIVIANNE BLANLOT SOZA

VICEPRESIDENT Economist PUC

### 3. JUAN EDUARDO CORREA GARCÍA

DIRECTOR Industrial Civil Engineer PUC

#### **4. LUZ GRANIER BULNES**

INDEPENDENT DIRECTOR Commercial Engineer U. de Chile

### 5. ARTURO MACKENNA ÍÑIGUEZ

DIRECTOR Industrial Civil Engineer U. de Chile

### 6. MARÍA IGNACIA BENÍTEZ

INDEPENDENT DIRECTOR Chemistry Civil Engineer U. de Chile

### 7. JORGE MATTE CAPDEVILA

DIRECTOR Commercial Engineer U. de los Andes

### 8. FRANCISCO MATTE IZQUIERDO

DIRECTOR Lawyer PUC

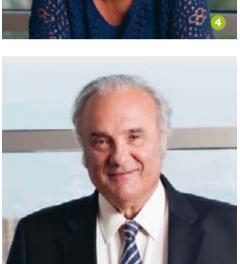
### 9. ANDRÉS LEHUEDÉ BROMLEY

DIRECTOR Commercial Engineer PUC





















# BETTER ENERGY, Better Local Development

US\$ 1,141,002

Colbún
destined to
entrepreneurial
development
in 2016



2,658
Persons benefited from some of Colbún's

**entrepreneurship** programs in 2016



96
Entrepreneurship projects received financial support from the Company



Entrepreneurship Centers operated by Colbún for **five years** in Coronel and Santa Bárbara

### REMUNERATIONS OF THE BOARD OF DIRECTORS

#### REMUNERATIONS OF THE BOARD OF DIRECTORS (G4-51)

Nombre	Cargo	January-December			
		2016		2015	
		Colbún's Board of Directors MUS\$	Committee of Directors MUS\$	Colbún's Board of Directors MUS\$	Committee of Directors MUS\$
Bernardo Larraín (1)	President	132	-	92	-
Vivianne Blanlot (1)	Vice-president	66	5	46	15
Juan Eduardo Correa (1)	Director	66	18	46	-
Luz Granier (1)	Director	66	22	34	11
Arturo Mackenna (1)	Director	66	-	46	-
Eduardo Navarro	Director	60	-	46	-
María Ignacia Benítez (1)	Director	54	18	-	-
Jorge Matte (1)	Director	54	-	-	-
Francisco Matte (1)	Director	54	-	-	-
Luis Felipe Gazitúa	Director	16	5	46	15
Eliodoro Matte	Director	16	-	46	-
Juan Hurtado	Director	16	-	46	-
Sergio Undurraga	Director	-	-	12	4
Andrés Lehuedé (1)	Director	6	-	-	-
TOTAL		672	68	460	45

Directors as of December 31, 2016.

#### NOTES:

- · At the General Meeting of Shareholders that took place on April 22, 2016 an annual variable remuneration, which is equal to 0.75% of the profits originated from the 2016 tax year was agreed. As of December 2016 MU\$875 were provided for this concept.
- · At the Extraordinary Meeting of the Board of Directors that took place on March 22, 2016, el Directorio acknowledged the resignation
- presented by Mrs. Vivianne Blanlot S., which became effective on that same date.
- · At the General Meeting of Shareholders that took place on April 22, 2016, the Board of Directors of the Company was renewed. The resulting elected members were María Ignacia Benitez Pereira, Vivianne Blanlot Soza, Juan Eduardo Correa García, Luz Granier Bulnes, Bernardo Larraín Matte, Arturo Mackenna Iñiguez, Andrés
- Lehuedé Bromley, Jorge Matte Capdevila and Francisco Matte Izquierdo. María Ignacia Benitez Pereira and Luz Granier Bulnes were elected as independent directors.
- · At the Meeting of the Board of Directors on November 30, 2016, the Board acknowledged the resignation presented by Eduardo Navarro B., which became effective as of December 1, 2016. Starting on December 20, Andrés Lehuedé Bromley assumes the position of

### Director.

· On May 5, 2016 the Board of Directors was paid a variable amount of MUS\$640 originated from the 2015 tax year, higher than the MUS\$611 that was paid on 2015 corresponding to the 2014 tax year.

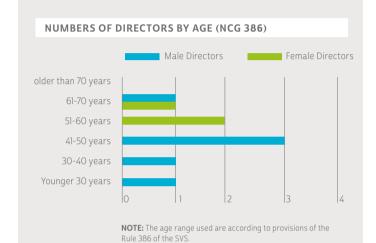
Colbún has one of the largest women representations in its Board of Directors among the publicly held companies in Chile.

## INDICATORS OF DIVERSITY OF THE BOARD OF DIRECTORS

NCG.386

The matters related to inclusion, diversity and non-discrimination are part of the "Code of Ethics" of the Company. Colbún has not implemented a procedure or policy that establishes diversity criteria for the nomination and election of directors because it deems that it is in the power of the shareholders to consider the above-mentioned criteria when proposing candidates that apply to be part of the Board of Directors.

At the beginning of 2016 María Ignacia Benítez was added as the third female member of the Board of Directors. As a result of this, Colbún has one of the largest women representation in its Board of Directors among the publicly held companies in Chile.



### NUMBER OF DIRECTORS BY SENIORITY (NCG 386)





Our Board of Directors has a selfevaluation performance procedure which was applied for the first time in the board session of December 2016. This procedure, which is led by the Chairman of the board of Directors, allows for the detection of opportunities to improve the management of the highest administration entity.

### ADVISORY COMMITTEES OF THE BOARD OF DIRECTORS

There are 3 advisory committees of the board of Directors: The Directors' Committee, the Executives Committee and the Audit Committee.

During the year 2016, the Directors' Committee met on seven occasions to analyze operations between related parties and examine those topics established by the law. With respect to these operations, the Committee verified that they adhere to the market's prevailing conditions for these types of operations. This was done in order to propose them to the Board of Directors.

The Audit Committee met during the year on four occasions, and, in general terms, took account of the internal audit plan, the complaint channel management and compliance with the crime prevention model, according to the requirements of the law 20,393.

A summary of the sessions of the Audit Committee is presented three times a year to the Board of Directors.

The information related to the Company's sustainability management is transmitted to the Board of Directors via the 3 advisory committees of the Board of Directors (The Audit Committee, the Directors' Committee and the Executive Committee).





BOARD OF DIRECTORS

### DIRECTORS' COMMITTEE

Reviews and issues opinions on financial statements and main transactions in which a director or main executive of the Company may be interested.

At the meeting of April 22, 2016, the Board of Directors designated as members of the Directors' Committee the independent directors Luz Granier, María Ignacia Benitez and Juan Eduardo Correa.

### EXECUTIVE COMMITTEE

Entity where the administration shares and informs the Committee of the progress or development of several topics relevant to the Company.

The members of the Committee are the Chairman and the Vicechairman of the Board.

### AUDIT COMMITTEE

Supervises the work of Internal Auditing, the management of the complains cannel and the status of compliance with the Law 20.393 Criminal Responsibility of Companies.

The members of the Audit Committee are the independent directors Luz Granier and María Ignacia Benitez in conjunction with Juan Eduardo Correa. The Internal Auditing Manager also participates as Secretary of the Committee.

## COLBÚN'S EXECUTIVES



Thomas Keller 5.495.282-1 GENERAL MANAGER Commercial Manager, Universidad Adolfo Ibáñez



Juan Eduardo Vásquez 7.868.160-8 BUSINESS AND ENERGY MANAGER Civil Electrical Engineer, Universidad de Chile



Eduardo Lauer 6.994.492-2 ENGINEERING AND PROJECT MANAGER Civil Mechanical Engineer, Fach Hochschule München (Germany)



Carlos Luna 25.046.079-1 GENERATION MANAGER Civil Engineer, Escuela Colombiana de Ingeniería



Sebastián Moraga 12.026.836-8 FINANCE AND ADMINISTRATION MANAGER Commercial Engineer, Universidad Adolfo Ibáñez



Juan Pablo Schaeffer 10.373.614-5 SUSTAINABLE DEVELOPMENT MANAGER Lawyer, Pontificia Universidad Católica de Chile



Sebastián Fernández 10.673.365-1 DEVELOPMENT MANAGER Commercial Engineer, Universidad de Los Andes



Rodrigo Pérez 10.313.675-K LEGAL AFFAIRS MANAGER Lawyer, Pontificia Universidad Católica de Chile



Paula Martínez 14.449.738-4 ORGANIZATION AND PEOPLE MANAGEMENT Psychologist, Universidad Diego Portales



Heraldo Álvarez 12.369.371-K GERENTE AUDITORÍA INTERNA Public Accountant and Bachelor of Accountancy, Universidad de Talca

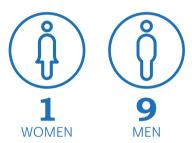
## INDICATORS OF DIVERSITY AT COLBÚN CHILE

NCG 386

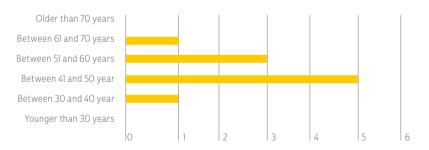
### MANAGERS BY NATIONALITY

Chile Colombia

### MANAGERS BY SEX

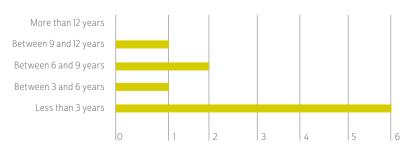


### MANAGERS BY AGE



 $\ensuremath{\text{NOTE:}}$  The age range used is in accordance with Standard 386 of the SVS.

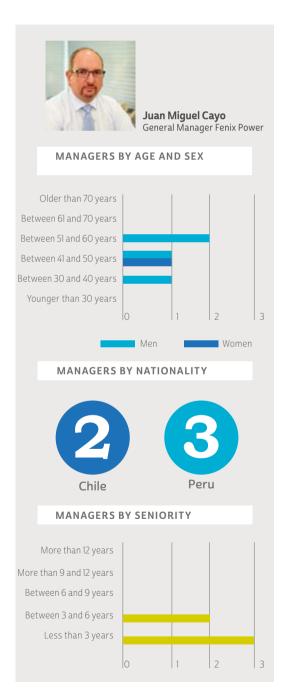
### MANAGERS BY SENIORITY



 $\textbf{NOTE:} \ \textbf{It corresponds to front-line managers}$ 

### INDICATORS OF DIVERSITY IN PERU

(NCG 386)



### MANAGEMENT SUPPORT COMMITTES



### **MANAGERS' COMMITTEE**

Entity where the main executives share and report the status of progress of the plans, actions and strategies of their respective areas. It meets once a week.



### RISKS AND SUSTAINABILITY COMMITTEE (\*)

Monitors the integral management of the main risks of the Company, including the environmental and management risks. It meets once a month.



### INFORMATION SECURITY COMMITTEE

Supervises the safety of the information process of the Company, ensuring the availability of appropriate resources and access for a continuous monitoring. It meets quarterly.



### PROJECTS COMMITTEE (\*)

Controls and supervises the development and execution of projects. It meets monthly.



### **REGULATORY COMMITTE (\*)**

Monitors the status of the legal and administrative processing of bills, regulations and decrees that have an impact on the development of the Company's activities. It meets monthly.



### **TAX COMMITTEE**

Oversees and reviews the tax issues of the Company. It meets at least once every four months.

# 2.6 OUR BUSINESS MODEL

G4-12, G4-14, G4-24, G4-25, G4-35, G4-36, G4-37, G4-43, G4-49, G4-50

In the development of our work, we have diverse financial, industrial, social, natural and human capital assets, to which we add value through our business model, with the aim of accomplishing strategic purposes of the organization.

As a result, we generate and commercialize reliable, competitive and sustainable energy for our clients; we operate power plants with high environmental standards; we

add value to our shareholders; we contribute to the local development in the communities where we insert ourselves, and contribute to the quality of life of our workers and contractors. In order to maintain business sustainability, we identify, evaluate and manage the risks that may have an impact on our results and our interest groups.



### **COLBÚN'S BUSINESS** MODEL

Colbún is a power generation company that owns electricity generating power plants and sells its production to distribution companies (regulated customers) and industrial clients (non-regulated customers) through contracts and selling that energy to other generation companies. It also participates in the electric power transmission business.

### **RESOURCES**

careful use of the resources of our business.

#### **FINANCIAL CAPITAL**

#### INDUSTRIAL CAPITAL

### HUMAN CAPITAL

#### SOCIAL CAPITAL

### NATURAL CAPITAL

- · Water · Natural gas

### **CONSTRUCTION**

We build projects in a minimizing the socio-





### **GENERATION**

We operate power plant's seeking supply reliability, at competitive prices and minimizing socioenvironmental impacts.







### **MATERIAL ASPECTS**

### **POTENCIAL IMPACTS**

#### **ECONOMIC AND GOVERNANCE:**

Financial Profitability / Growth / NCRE / Market competitiveness/ Regulations/ Ethics and corporate governance/Electricity supply availability/Integration with Fenix

Atmospheric emissions / Effluents and residues / Water consumption (thermoelectric stations) / Alteration of the river flow regime / Alteration of landscapes / Alteration of land and aquatic ecosystems/ Demographic increase

### **MAIN RISKS**

#### **ECONOMIC PERFORMANCE AND GOVERNANCE RISKS**

• Risks from the electric Power Generation Business:

Hydrological / Fuel prices /Fuel supply / Equipment and maintenance failure / Construction of projects / Non-compliance

• Financial Risks: Exchange rate / Interest rate / Credit /Liquidity.

• Ethic and Governance Risks:

### **TRANSMISSION**



### **PRODUCTS**



Commercialization of reliable. competitive and sustainable energy.

### **VALUE ADDED**



#### **CLIENTS**

(Distributors and industries)

- · Reliable, competitive and sustainable energy.
- · Long-term relationships.

FIGURES 2016

16,028 GWh sold energy\*



#### **SHAREHOLDERS**

· Pofitability and longterm value.

Client Value

### 601.8

US\$ millions of generated EBITDA



#### **EMPLOYEES**

- · Quality employment.
- · Career Development.



#### **CONTRACTORS**

- · Excellence in the value chain.
- · Contracting of local suppliers and contractors.



### COMUNITY

- · Local development.
- · Continuous dialogue.

942
Trained workers\*

306

US\$ million in purchases to suppliers and contractors

7,3\*\*
US\$ millions of social investment\*

23,714
People visited our power plants



#### **ENVIRONMENT**

Excellence in environmental management

Enviromen tal Value

Thousand tons of CO<sub>2</sub> reduced by the CDM power plants

37.1%

Water used in the hydroelectric power generation is reused in other power plants of Colbún

Occupational safety and health / Labor Relations/ Labor practices/Community Liaising and local development

### **ENVIRONMENTAL**

Water / Noise emission/ Biodiversity and Climate change

- \* Consolidated figures of Chile and Peru
- \*\* Consolidated community investment according oindicator Colbún-3.SO

### SOCIAL PERFORMANCE RISKS

#### • Labor risks:

Retention of Professionals / Strikes / Occupational accidents / Non-compliance

### Community risks:

Interruption of projects and/or operations / Occupational incidents

#### **ENVIRONMENTAL PERFORMANCE RISKS**

### • Environmental risks:

Climate change / Non-compliance / Environmental incidents



Our actions and what we seek as a Company are reflected in our vision, mission and values.

#### What do we want to be?

To be a benchmark company in the generation and commercialization of reliable, competitive and sustainable energy.

### Mission What do we do?

We generate long-term value by developing and managing energy infrastructure assets, integrating the economic, technical, environmental and social aspects with excellence.

Which ideals guide our actions?

Integrity / Excellence / Passion / Innovation / Collaboration



During the year 2016 Colbún had important advancements in the detailing of its Sustainability Strategy Policy. One of the relevant steps was the creation of the Sustainability Board of the Company, which assembles members from all of Colbún's areas. The aim of this component is to identify and manage the sustainability gaps within each area of Colbún, and also to make the entire Company aware about this subject. Every quarter, the board informs the General Manager about the progress status and the challenges we undertake, who, in turn, presents a periodic report of these issues to the Board of Directors of the Company.

As a part of the progress recorded, in 2016 we were selected to be part of the Chilean chapter of the Dow Jones Sustainability Index (composed of 21 companies). This index assembles companies that stand out for their sustainability management and evaluates, the economic, environmental and social aspects. In economic matters, some, of Colbún's the best evaluated areas were risks and crisis management, materiality and innovation. In the Environmental aspect they highlighted the management of the risks related to water and climate strategy. Finally, in the social aspect, the best evaluated subjects were health and occupational safety, stakeholders' involvement and talent attraction.

For Colbún, sustainability is not a part of the business, but the business itself. For this reason, working in conjunction with each of our interest groups is a basic premise when doing business. This can be seen in our Sustainability Turbine.

The Sustainable Development
Division promotes the application
of sustainability criteria in all the
activities of the Company and
is in charge of supporting the
dissemination and management of
sustainability within the organization.

For this purpose, for three years it has been gathering information on sustainability gaps in each area of the Company. The responsibility for managing such criteria falls upon each area of the Company, notwithstanding the methodological support provided by the sustainability area. Compliance with the Sustainability Policy and the risks that they face are a subject of a monthly discussion and analysis in the Risks and Sustainability Committee. The most relevant aspects identified during this process are presented by the General Manager in the ordinary sessions of the Board of Directors held monthly, and which include progress in social, environmental and safety performance of the Company, as well as the main socio-environmental contingencies, possible fines, sanctions or claims, and the main issue associated with the progress of projects and/or operations. With regard to the status of the internal environment control and the compliance with the Code of Ethics, these are regularly reported by the Audit Manager to the Audit Committee and quarterly to the Board of Directors.



In 2016 we were selected to be part of the Chilean chapter of the Dow Jones Sustainability Index (composed of 21 companies). This index assembles companies that stand out for their sustainability management and evaluates the economic. environmental and social aspects.

### **HUMAN RIGHTS**

G4-HR2

Our country, together with many others, is currently discussing the relationship between a Company and human rights, through a National Action Plan on Business and Human Rights, which is an instrument that guides the Chilean State in his labor to protect Human Rights, as well as the companies in their duty to respect them.

In that framework, in 2016 Colbún published a Declaration of Human Rights, which is in line with the principles, values and precepts established by the Code of Ethics, the Sustainability Policy and the Company's People Management Policy. This declaration is also concordant with the Principles of the Global Pact of the United Nations, an initiative that Colbún joined to in 2015, and through it with the Objectives of Sustainable Development, also to the UNO.

In addition, internally we are developing a due diligence process in order to define which are the improvements that the Company has in this area, and which allow to generate a work plan starting in 2017. As part of this action plan, by the end of 2016 two training sessions on Human Rights were conducted: one to the members of the Sustainability Board and a training program opened to all the workers of the corporate office.







In the energy industry, innovation in generation of electricity is advancing in giant leaps. The bid for supply of 2016 showed the impact that the irruption of new technologies, such as solar and wind energies is having, with a significant reduction of costs due to its massification.

For almost two years Colbún has created an area of renewable energies, with the purpose of evaluating the best manner to incorporate the new manners of generation to our portfolio. Due to this analysis, we have awarded wind energy purchases (Punta Palmera Park from Acciona) and sun energy (SunEdison and Total/ Sunpower), helping to make generation projects viable with these technologies.

Moreover, the Company is researching other sources of energy such as tidal energy, alternative fuels and nonconventional exploitation systems of residual heat. This is in addition to the role that the storage of electricity though batteries could have in the future.

While these innovations aim at energy generation, Colbún's strategy in terms de innovation has also focused on the one hand, on addressing our operational, social and environmental challenges, and on the other, on the search for initiatives and projects that add value to the Company, , improving its competitiveness and allowing the installation of new capabilities and practices in our organizational culture.

Below are described some of the innovations developed at Colbún.

### EFFICIENT USE OF WATER IN NEHUENCO

The decreased precipitation recorded in the last years in the center-south zone of Chile has had an important impact in different basins. One of the affected ones was the Aconcagua river basin in the Valparaíso region, where the Nehuenco thermoelectric complex operates, which uses water for its cooling processes operates.

Faced with this situation, which constituted a risk for the availability of the power plant in the summer, Colbún started to search for short, medium, and long-term solutions.

This is how first, we implemented a continuous online monitoring system that allowed to improve the management of the power plant wells; then, we developed a water purifying pilot plant (reverse osmosis plant), which reduced the consumption of water in the facilities in close to 40%. And in 2016 the construction of a definitive plant started, which should be operational in the first months of 2017, allowing additional water savings through a recyclable process, which we estimate will be a long-term solution for the power plant.

### FUEL OPTIMIZER OF SANTA MARÍA POWER PLANT

During 2016 and as a part of the major management of unit 1 of the thermoelectric complex Santa María of Coronel, different works were made, which allowed an improvement in the efficiency of the power plant. These included a combustion optimizer, which reduces coal consumption, thus decreasing the emissions and generation of ashes; an in line washing system for the air heaters; and other works that achieved the decrease of heat loss in different parts of the process. This was reflected in an increase in the efficiency of the power plant, which went from 35.7% in the year 2015 to 36.1% in 2016.

#### INNOVATION IN CLIMATE CHANGE

For more than 15 years, Colbún has been developing actions regarding climate change. Its power plant Chacabuquito, was the first in the world to be certified to issue carbon credits, which allows to compensate for the greenhouse effect gases emissions from third sources. At present, Colbún has four certified power plants, has neutralized its offices and corporate trips, has been acknowledged several times for

its carbon footprint and its one of the most active Chilean companies in this area. However, the challenge of raising awareness on a larger scale of an issue that affects everybody remained. With that goal in mind, in 2016 in conjunction with the consultant firm Greenticket and different regional actors, a program of neutral carbon routes was developed, where the carbon footprint of a group in a tourist establishment in an area (restaurants, hotels, etc.) is measured, and then Colbún compensates those emissions with its own bonus. At the same, time the Company is generating communication and educational actions that disseminate the benefit of favoring these establishments. This has given rise to neutral carbon routes in Puerto Varas. Lastarria-Bellas Artes and Easter Island, and for 2017 there are plans for new routes.

### METODOLOGY TO GENERATE AN INNOVATIVE CULTURE

One of the focuses of the Company's work has been to develop an innovation culture among its workers. With this goal in mind, at the end of 2015 Colbún was awarded a CORFO instrument called "Portfolio and Innovation Management", which was developed with the innovation consulting firm AUKAN. In addition to this, a "real options" methodology was developed in order to address

and clear up the uncertainty of the different initiatives, which constitute the Company's innovation portfolio.

During the year 2016 we worked under this approach in eight projects, which were submitted to different types of technical validations and prototyped, thus allowing us to quickly and economically pivot and adjust them. These ideas, which were brought up by the workers themselves during the year 2016 through the "Innovation Workshops and Days", covered areas such as optimization and better exploitation of hydric resources (5), fuels and alternative technologies for thermal power plants (2) and management of the availability of each of our facilities (1).

After the execution of the above-described process, two ideas advanced to their implementation stage, two were proposed to CORFO to advance in the next stages of prototyping and packing, two required further study, which is under development, and two were discarded.



### MASSIVE INNOVATION ACTIVITIES IN 2016

1 Open Innovation Challenges in Security

During the year 2016, five Open Innovation Challenges in Security were developed, in which workers from Colbún and contractor companies participated, all of them under the name "How to make Colbún the safest company to work?"

- \* Total participants: 205
- \* Total ideas received through the platform: 248
- \* Total ideas implemented as of 31/12/2016: 22 (9 in Angostura, 2 in Rucúe-Quilleco, 7 in Candelaria and 4 in Carena)

2 Open Innovation Challenge in Santiago

Continuing with the work done in our power plants in 2015, during the year 2016 the operators of our power plants were invited to participate in the "Innovation Days", where, in addition to training them in the main tools and practices that implies the innovation discipline, the initiatives that will be subject to the evaluation of the Innovation Panel for its eventual future implementation are raised.

- \* Total participants: 127
- \* Total opportunities for improvements identified: 37
- \* Total ideas received: 47
- \* Total ideas pre-selected for implementation: 19

3 Days of Innovation in Power Plants

Continuing with the work done in our power plants in 2015, during the year 2016 the operators of our power plants were invited to participate in the "Innovation Days", where, in addition to training them in the main tools and practices that implies the innovation discipline, the initiatives that will be subject to the evaluation of the Innovation Panel for its eventual future implementation are raised.

- \* Total participants: 62
- \* Total ideas raised: 356
- \* Total ideas developed in the workshop: 19
- \* Total ideas prototyped or in implementation: 7



We are part of an industry which is fundamental for the development of the country and the quality of life of its habitants. For this reason we seek to be in tune and to understand our interest groups, through different communication channels. As a part of our continuous improvement, we expanded the number of our power plants or complexes that perform public account or accountability to seven, which implies that 14 of our 24 power plants reported their management in their corresponding audiences in 2016.

G4-S011

We also created a Consultation Line, we launched a corporate account in Twitter (@ColbunEnergia, 7,775 followers), we started a periodical digital newsletter to our interest groups and incorporated the perception of the Company that our own workers have to our Corporate Reputation Index.

The following dialogue and communication channels are available continuously during the year. It is worth mentioning that these channels had a relevant role in bringing up the materiality issues addressed in this Integrated Report.



### **INVESTORS**

- Area dedicated to the Relation with Investors.
- Breakfasts, one-to-one meetings and national and international conferences.
- · Perception studies.



#### **ENVIRONMENT**

- Early and volunteer citizen participation.
- Participation as exhibitors in seminars and talks.
- Action Environmental Committee and Center of leaders for Climate Change.



#### **WORKERS**

- Meetings of middle management employees with the General Manager.
- Visits and meetings of the General Manager with power plants' unions and workers.
- Organization and People Management meetings collective workers agreements.
- Quarterly general meetings of the General Manager with all the middle management employees of the Company.
- Work environment surveys and climate focus group, bottom-up evaluations and internal services surveys.
- · Perception studies.



#### COMMUNITY AND SOCIETY

- Working groups / dialogue.
- Periodical meetings with authorities and neighbors.
- Participation in guilds and regional associations.
- Periodical meetings with the media.
- Visits to power plants.
- Public Accounts
- Twitter account:@ColbunEnergia
- Perception studies.
- Reception of letters and phone calls.
- Daily media ("+ Energía", TV, radio programs, web page, Facebook).



### CONTRACTORS AND SUPPLIERS

- Participation in entrepreneurial instances.
- Suppliers and bidders' website.
- Feedback meetings.
- Perception study.



### CLIENTS AND PROVIDERS

- Commercial team with specialized customers and suppliers service.
- Perception study.



#### **COMPLAINTS CHANNEL**

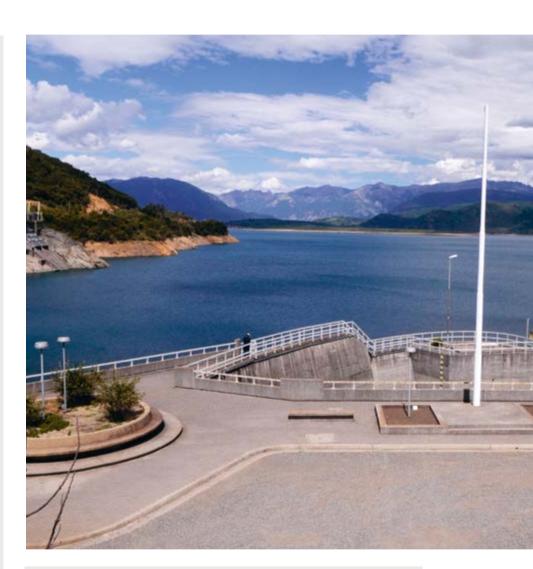
In Chile as in Peru, Colbún has a Complaint Channel that receives direct and anonymous complaints related to the compliance with its standards of ethical behavior, conflicts of interest and topics related to non-compliance, their financial statements and situations that may require attention from the administration of the Board of Directors as the case may be. These complaints may be done by email, telephone, regular mail or web form. This channel reports to the Ethics Committee, which reports to the Audit Committee, which in turn reports to the Board of Directors. We assure an independent, and confidential analysis without consequences to the complainants.



# **ENQUIRY LINE**

In 2016 we implemented a communication channel called Enquiry line in Colbún web site, which allows any interest group to generate commercial, operational, employment or socioenvironmental enquiries to the Company.

For that purpose, there is a form, which, when completed, generates a follow-up number. The maximum response time defined for this channel is 15 working days. In 2016 there were a total of 372 enquiries.



# COLBÚN'S ENQUIRY LINE: FIGURES 2016

Type of contact	Number	Recurring topics	% of the total
Consultation	319	Employment search	27%
Congratulations	2	Offer of Products and Services	22%
Complaint	10	Consultation to Suppliers	7%
Suggestion	41	Visits to Power Plants	5%
Total	372		





This chapter reviews the management associated with the material aspects related to the financial and industrial capital of the Company.

Managing resources in order to generate economic results aligned with the expectations of our shareholders allows us to continue operating over time and ensure the sustainability of the business.

MATERIAL ASPECTS	FINANCIAL PROFITABILITY	GROWTH	NCRE	MARKET COMPETITIVENESS
SCOPE	Share Price     EBITDA	National growth     Intent to grow internationally	<ul><li>Solar energy</li><li>Wind energy</li><li>Mini-hydro</li></ul>	<ul><li>Innovation</li><li>Historical lows in bidding prices</li><li>High competitiveness</li></ul>
ASSOCIATED	Variation in interest rates  Variation in exchange rates  Decrease in liquidity access  Decrease in the credit quality of the Company and of its clients  Fuel prices variations  Hydrological conditions variation	Variation in the electricity supply and demand  Electric energy prices  Socio-political pressure around new projects	Greater competitiveness  New bidders  Change in the operation regimen of our thermal power plants  Uncertain remuneration of complementary services	Low energy prices     Replacement of traditional sources of energy     Insolvencies in the market
MANAGEMENT AND REGULATORY	Commercial Policy Financing Policy Investment Policy Dividends Policy Risk Control and Management Policy Investor Relation Policy	Commercial Policy     Growth plan	Commercial Policy Growth Plan Uncertain regulation of complementary services	Commercial Policy     Growth Plan
SUSTAINABLE DEVELOPMENT GOALS (SDG)	No Poverty	B Decent work and economic growth	7	Industry, Innovation and Infrastructure

achieved in spite of the extremely dry rainfall and ice-melting conditions that were recorded in the hydrological year 2016, being the driest in the last



# **PROFITABILITY**

G4-EC1

In 2016, for the third consecutive year the Company achieved a record level in EBITDA results, reaching US\$ 601.8 million, compared to the US\$ 583.3 million in 2015. This result was

achieved in spite of the extremely dry rainfall and ice-melting conditions that were recorded in the hydrological year 2016, being the driest in the last

REGULATIONS	CORPORATE ETHICS AND GOVERNANCE	AVAILABILITY OF ELECTRIC SUPPLY / TRANSMISSION LINES	INTEGRATION OF FÉNIX
<ul><li>Water code</li><li>Electrical Transmission Law</li><li>Labor reform</li><li>Tax reform</li></ul>	<ul><li>Complaints</li><li>Corruption</li><li>Free Competition</li><li>Interlocking</li></ul>	Safe and sustainable supply     Energy-efficiency	Drought     Greenhouse effect gases
Regulatory changes that may affect the long-term stability required by power plants and electricity projects.	Reputational damage     Behaviors that are non-ethical or at odds with the laws	External threat to assets of the Company (ex: nature and fires)  Fuel supply Failure in processes and/or systems (ex: fires)  Prolonged drought Socio-environmental Incidents	Difficulty in the transfer of Colbún's standards
Risk Control and Management Policy	Manual for handling Information of Interest for the Market     General Standard Norm385/386     Ethic Code     Information Management Policy     Policy for Procurement of Goods and Services from Politically Exposed Persons     Board of Directors' Policy and Procedures     Policy of Delegation of Authority of the Board of Directors.	<ul> <li>Policy of Relation with Collaborating Companies and Suppliers</li> <li>Efficient administration of assets (efficient maintenance and operation)</li> <li>Risk Control and Management Policy</li> <li>Uncertain remuneration of complementary services</li> </ul>	Commercial Policy
17	8	7	







and clean



years, which resulted in a very low level of hydraulic generation. This contributed to the Company having a deficitary position in the spot market. These effects were partially offset by higher revenues from customers under contract, by a decrease in thermoelectric generation costs and by the contribution of EBITDA from the Fenix operation.

#### **OPERATION INCOME IN CHILE**

Operation income from ordinary activities in the year amounted to US \$1,219.5 million, decreasing 7% compared to 2015, mainly explained by: (1) lower energy and capacity sales in the spot market and (2) lower revenues recorded in the other income account, mainly explained because 2015 includes a non-recurring income of US \$21.5 million as a result of the insurance compensation for loss of profit associated with the failure at the Blanco power plant (60 MW), in January 2014.

Raw materials and consumables used in 2016 amounted to a total of US \$ 580.2 million, 9% lower compared with 2015 explained by lower fuel costs.

#### **OPERATION INCOME IN PERU**

Considering that Fenix was acquired in December 2015, the periods prior to Colbún's acquisition, corresponding to the year 2015, are presented in this section for comparative purposes only. Fenix's operating income from ordinary activities for the year 2016 totaled US \$ 216.7 million, which is in line with 2015. Raw materials and consumables were US \$ 144.3 million, down 5% compared to

the previous year, mainly due to lower associated operational costs. Given the above, EBITDA reached US \$ 56.0 million, 15% higher than in 2015.

#### **FINANCIAL INDICATORS**

Financial debt reached US \$1,710.0 million, decreasing by US \$ 525.6 million compared to 2015, mainly due to the prepayments of debt recorded in the year for a total amount of US \$ 490.8 million. The average maturity life of the long-term financial debt is 5.1 years and its average USD interest rate is 4.9% due to the debt prepayments, financial investments decreased by US \$ 413.8 million and the Company's net debt decreased by 10%. On its part, LTM TBITDA (last 12 months) increased by 3%.

The debt prepayment and higher EBITDA explain that as of December 31, 2016, the Net Debt / LTM EBITDA ratio decreased by 12% compared to December 2015, reaching a value of 1.7 times. At the end of 2016, a debt ratio (total liabilities over net equity) of 0.8 times and a coverage ratio (EBITDA over net financial expenses) of 6.44 times is also presented.

At the end of 2016 Colbún has national risk ratings of A+ by Fitch Ratings and AA- by Humphreys, both with stable outlooks. At an international level, the Company's rating is BBB by Fitch Ratings and BBB- by Standard & Poor's, both with stable outlooks.

reased the income from ordinary vities compared to

601.8<sup>US\$</sup>
million was the EBITDA for 2016.

525.6 US\$

million decreased financial debt compared to 2015.

# $\textbf{DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED} \ (G4-EC1, \ US\$ \ MILLIONS)$

	2015	2016
Income from operations	1,581.2	1,635.9
Financial income	13.4	18.3
Other incomes (1)	31.2	7.9
Total direct economic value generated (EVG)	1,625.8	1,662.2
Operational expenses	823.6	1,012.1
Employees' salaries and benefits	62.1	62.0
Payment to Capital suppliers (2) /Financing Activities (3)	146.7	212.7
Payments to te government (4)	13.9	60.6
Fixed assets investments	(102.1)	83.6
Community investments (5)	5.9	6.9(5)
Environmental investments	4.7	5.2
Total economic value distributed (EVD)	954.8	1.443.1
No. of the Control of		
Net effect of financing activities	(22.9)	(528.3)
RETAINED ECONOMIC VALUE (REV)	648.1	(309.2)

#### NOTES:

- 1) Income received from tax returns (PPPA: provisional payment for profit absorbed).
- 2) Expenses for dividends (shareholders) and interests (banks).
- 3) Net value between revenues and loan expenses (only capital, no interests).
- 4) Accrued taxes for MMUS\$ 99.6 and 66.9 for 2015 and 2016, respectively.
- The values mentioned in this table correspond to the Company's cash flows during the periods of 2015 and 2016, and for this reason do not match the amounts indicated in the Comprehensive Results.
- 5) In this amount of community investments the water production delivered by Fenix to the Chilca community (303,190 m3/year) is not included.

# FINANCIAL SITUATION CONSOLIDATED STATEMENTS (US\$ MILLION)

	2015	2016
Current assets	1,325.4	947.6
Non-current assets	5,831.8	5,875.0
Total Assets	7,157.2	6,822.6
Current liabilities	713.5	360.1
Non-current liabilities	2,778.2	2,672.7
Equity	3,665.4	3,789.8
TOTAL LIABILITY AND EQUITY	7,157.2	6,822.6



# STATEMENT OF INTEGRAL RESULTS BY NATURE (JANUARY- DECEMBER, US \$ MILLIONS)

	2015	2016
Income from ordinary activities	1,313.9	1,436.2
Raw materials and consumables used	(645.9)	(724.6)
Employee benefits expenses	(56.1)	(67.8)
Depreciation and amortization	(194.9)	(227.9)
Other expenses, by nature	(28.5)	(42.1)
Other profits (losses)	(1.2)	(17.6)
Profits from operating activities	387.2	356.3
Financial income	5.5	10.1
Financial Costs	(90.5)	(103.4)
Share of profit (losses) from subsidiaries and joint ventures counted using the equity method	6.6	5.4
Exchange rate differences	(11.2)	3.4
Results per unit of adjustment	2.4	(0.1)
Profits before taxes	300.0	271.7
Income tax expenses	(99.6)	(66.9)

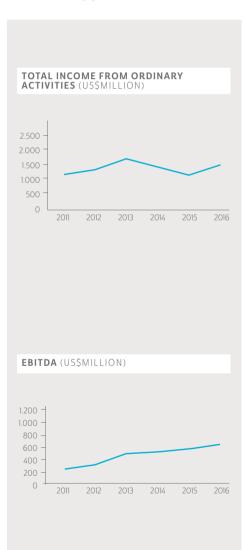


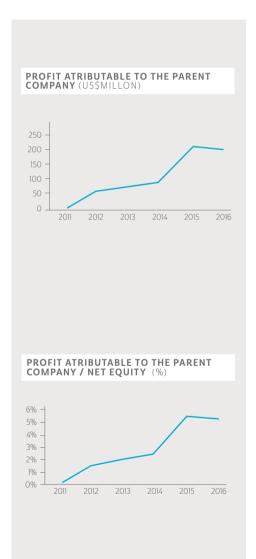


PROFIT FROM CONTINUED ACTIVITIES	200.4	204.7
PROFITS	200.4	204.7
Profit attributable to		
Profit attributable to the owners of the holding	203.8	201.4
Profit attributable to non-controlled interests	(3.4)	3.3

# EVOLUTION OF THE MAIN FINANCIAL METRICS OF COLBÚN

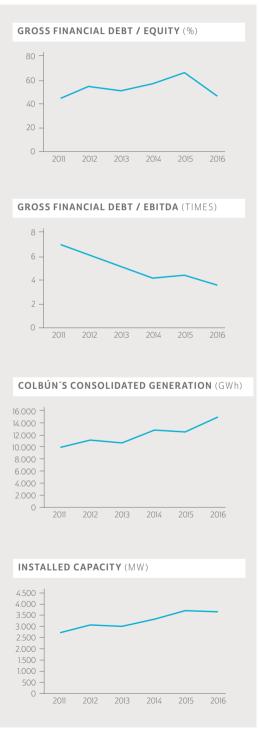
The following graphs correspond to consolidated amounts.













Colbún's policy is that all its investors and shareholders, regardless of their size, should be duly informed of the operations and progress of the Company.

This is how, through the Investor Relations area, communication has been strengthened with investors and industry analysts through visits to our power plants, breakfasts, periodic meetings in our offices and conferences of investors both local and international, giving a prompt response to their requests.

In addition, on the occasion of the quarterly publication of financial results, this area is in charge of preparing analysis reports, holding international telephone conferences with the participation of executives of the Company, and updating the presentation of results for investors. This material is available to anyone interested at the website of the Company, where it is updated periodically.

# FINANCIAL POLICIES APPROVED BY OUR SHAREHOLDERS



# DIVIDENDS' POLICY

30% of distributable net income of the year.

# INVESTMENT POLICY

Investment decisions need to consider the energy sale contract portfolio, the contribution of each project to the Company's mix, and medium/long-term profitability, among others. The total investments of the tax year will not exceed 100% of the Company's equity.

# FINANCING POLICY

Financing must provide the necessary funds for the proper operation of the existing assets and for the development of new investments. The level of debt should not compromise the "investment grade" credit rating of the issued debt instruments.



# Large customers are supplied by Colbún Chile.

# COMMERCIAL POLICY AND RELATIONSHIP WITH CUSTOMERS

G4-EU3

Colbún aims to provide safe, sustainable and competitive energy supply to our clients and the country. For these purposes, it has defined a Commercial Policy that considers the adequate contracting level of its generation capacity, the hydrological risk, the expectations of demand and supply in the system, and indexation mechanisms of contracts, among others. Regarding long-term energy contracting price, this has had a decreasing tendency in the last biddings for regulated customers, which reflects the greater competitive dynamics that exists in this market and the impact that the emergence of new technologies, mainly solar and wind, is having, with a significant cost reduction. In particular, the tender process concluded in August 2016 resulted in an average leveled awarded price of US \$ 47.6 / MWh, which meant a reduction of approximately 40% compared to the awarded price in 2015's bidding process. The total offer in August 2016 tender amounted to 107 TWh, leaving a volume of 8 TWh / year without awarding under 60 US \$ / MWh in 24 hours and 5 TWh /

year in the solar segment at lower prices.

This has resulted in many players looking for clients for their uncontracted energy. On the other hand, the market for clients between 0.5 and 5 MW that are currently regulated, but that may choose to become unregulated, has benefited from this since they are getting offers at lower prices than their current regulated prices. This migration of clients who can opt to be free customers will reduce the total purchase volume of the distribution companies, generating a decrease in the total volume of purchase in the tendered contracts in which the volume risk is on the side of the seller.

At Colbún Chile, we supply 18 large customers, among which are 15 regulated (distribution companies) and 3 are unregulated or industrial customers.

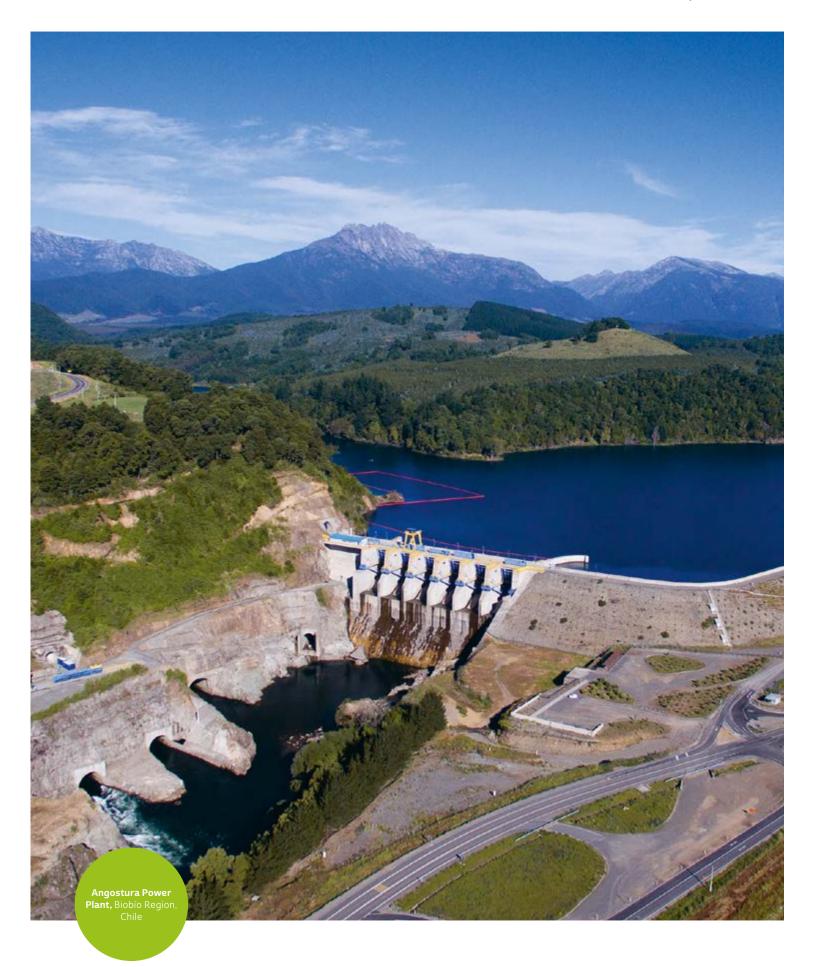
# NUMBER OF DISTRIBUTORS AND INDUSTRIAL CLIENTS IN CHILE

Types of Clients	2014	2015	2016
Distributor clients	16	15	15
Industrial clients	6	3	3
TOTAL	22	18	18

**NOTE:** As of December 31, 2016, 78% of the income comes from 3 clients. These clients are: CGE Distribution 31%, Corporación Nacional del Cobre Chile 28%, and Chilectra S.A. 19%. At Colbún Perú we provide electric power to 9 major clients, among which are 6 regulated (distribution companies) and 3 non-regulated or industrial customers.

#### NUMBER OF DISTRIBUTOR AND INDUSTRIAL CLIENTS IN PERU

Types of Clients	2016
Distributor clients	6
Industrial clients	3
TOTAL	9



We seek to maintain a direct and long-term relationship with each client. The Customer Strategy is based on the following guidelines:

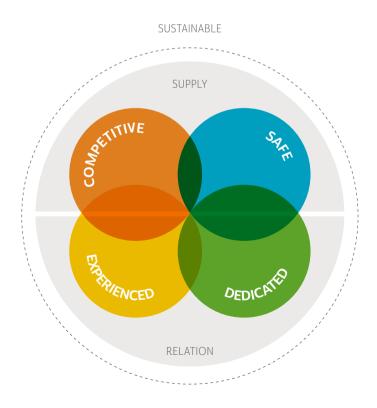


# **SUSTAINABLE SUPPLY**

We seek to design, build and operate generation projects with high technical, economic, social and environmental standards, in order to achieve a sustainable energy supply in the long term for the country and our customers. This sustainable supply, in turn, implies the fulfillment of two important conditions:

Safety: to provide a safe supply we have a mix of diversified generation that comprises an important base of renewable technologies (mainly hydroelectric, complemented by commercialization of energy or NCRE attributes of wind generation and biomass) and thermoelectric generation power plants with high environmental standards. In addition, in our operation we seek to ensure levels of excellence in operational management (through high

# **CLIENT MANAGEMENT MODEL**





availability of our plants) as well as in environmental and social management, integrating our power plants to the environment in an adequate manner.

**Competitivness:** A highly professional management in the purchase of fuels, operational efficiency in power plants and an adequate management of water resources, are the basis for being able to offer competitive prices. In addition, we are integrating new sources of energy, such as solar and wind, into our commercialization portfolio, so that we can take advantage of the drop in costs that has occurred in these technologies. That is how in 2016, after a tender where 13 Companies participated, Colbún awarded a contract for the purchase of energy to Total and its subsidiary SunPower for 500 GWh/year of photovoltaic solar energy, from the construction of a solar power plant of 164 MW. A similar

initiative was made previously with wind energy from the Punta Palmeras park of Acciona, making both projects viable.

#### SUSTAINABLE RELATIONSHIP

In a market where contracts last for several years, we aim to build long-term relationships with customers, based on mutual benefit, transparency and permanent dialogue. In order to meet these criteria, our relationship with clients is built on two relevant assets:

**Experience:** Colbún has 30 years of experience in the power generation business, with a team of professionals and technicians recognized in the industry. Between 2006 and 2016 we were the Company that added the most installed capacity to the Central Interconnected System.

**Dedication:** Colbún manages its contractual relationships in a personalized manner, providing fast, effective and customized solutions for each consumer. In addition, each year Colbún conducts a survey of the perception and satisfaction of our customers, in order to detect which elements are operating well and which are opportunities for improvement.



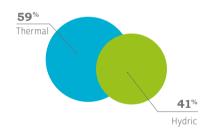
# ENERGY GENERATION AND COMMERCIALIZATION

G4-EU1, G4-EU2

#### **CONSOLIDATED FIGURES 2016**

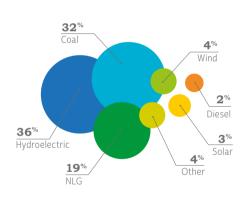
# Colbún:

# CONSOLIDATED INSTALLED CAPACITY (MW) (G 4- EU 1)

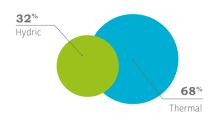


# PARTICIPATION OF EACH TYPE OF FUEL IN THE TOTAL GENER ATIÓN OF THE SIC

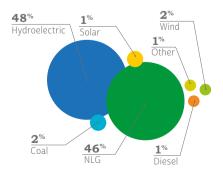
System:



# TOTAL GENERATION (GWh) (G4-EU2)



# PARTICIPATION OF EACH TYPE OF FUEL IN THE TOTAL GENERATION OF THE SEIN\*



<sup>\*</sup> Sistema Eléctrico Interconectado Nacional, del Perú.

# FREE COMPETITION

G4-S07

The Company has a Free Competition Policy approved by the Board of Directors. It establishes that all workers must fully comply with the rules of defense of free competition. Likewise, it defines the practices that are understood to be contrary to free competition, such as collusion or any agreement between Colbún and its competitors, involving prices, conditions of sale, division of markets and limitation of production, among others. Since 2011, the Company has been regularly providing training to the main executives, for the purpose of informing them about current issues in the subject of free competition.

Colbún has not had any lawsuits due to unfair competition, monopoly or practices against free competition.

# **GENERATION AND SALES OF COLBÚN CHILE**

# INSTALLED CAPACITY AT COLBÚN CHILE (MW) Type of Energy 2016 Hydric 1,596.6 Thermal 1,685.2 TOTAL 3,281.8

# 2016 ENERGY SALES BY CLIENT TYPE IN CHILE (GWH)

	Distributors	Industrial	CDEC	Total	
TOTAL AÑO	6,534	4,507	919	11,960	
	11,041		919	11,960	

Type of client	2015	2016
Distributors	1,007	963
Industrials	545	617
CDEC	147	40
TOTAL	1,699	1,620

In cumulative terms, physical sales to customers under contract reached 11,960 GWh in 2016, 4% lower compared to December 2015, mainly due to the end of the contract with Conafe at the end of April 2015 and to the lower allocation of regulated customers due to the entry into force of new contracts associated with the 2013 Supply Bid. Net sales to the spot market accumulated until December 2016 reached a total of 919 GWh, 37% less than the previous year mainly due to a drier hydrological condition and a low growth in demand.

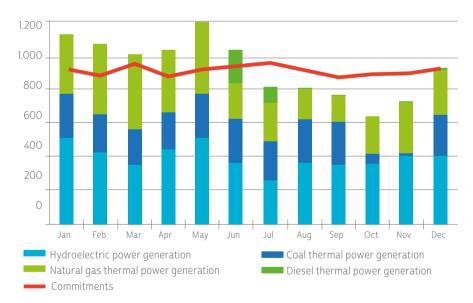
Colbún's total accumulated generation in 2016 in Chile decreased by 11% compared to the previous year, mainly due to lower hydroelectric generation (-26%). This decrease was partly offset by higher generation with natural gas (+5%), diesel (+25%) and coal (4%).

OWN PRODUCTION AND PURCHASES IN THE SPOT MARKET (GWH)							
	Own Pro	oduction				Purchases	TOTAL
	Hydric	Gas thermal	Diesel thermal	Coal thermal	Total	CDEC	Energy
TOTAL AÑO	4,766	3,603	305	2,505	11,179	906	12,086

The efficient base load generation (hydroelectric and coal) was able to cover 66% of the year's commitments, recording a decrease in comparison to 2015, which was 80%. The rest of the commitments were supplied with natural gas generation, which, considering the commercial conditions negotiated by Colbún, is currently also a cost-effective generation source.

The following graph shows that in the first months of the year there were contracts for LNG, used in Nehuenco 1 and 2, so Colbún had a surplus in that period. In June the LNG contribution decreased to one cycle and the dry hydrological situation led to the dispatch of diesel. In the following months, the poor hydrological situation continued and for that reason Colbún contracted LNG. However, demand had a low growth and diesel dispatch was not necessary, and consequently the Company remained with a shortfall in the spot market.

# 2016 GENERATION VERSUS COMMITMENTS IN CHILE (GWH)



# **GENERATION AND SALES IN PERU**

INSTALLED CAPACITY IN PERU (MW)		
Type of energy	2016	
Thermal	570	
TOTAL	570	

#### 2016 ENERGY SALES BY TYPE OF CLIENT IN PERU (GWH)

# **ENERGY SALES 2016**

Quarter	Distributors	Industrials	to SEIN	Generators	Total
Jan-Mar	527	80	-	328	934
Apr-June	490	227	84	175	976
July-Sept	485	21	287	153	947
Oct-Dec	479	51	510	172	1.211
TOTAL	1,981	378	881	828	4,068

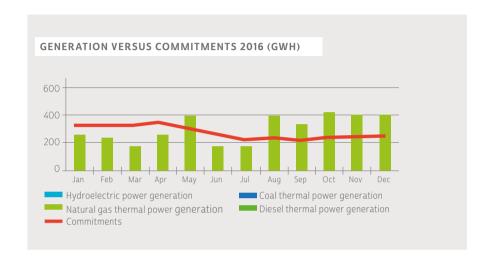
AVERAGE CAPACITY SALES IN PERU (MV	V)
Type of client	2016
Distributors	346
Industrials	8
SEIN	208
TOTAL	562

# OWN GENERATION AND PURCHASES IN THE SPORT MARKET (GWH)

				PURCHASES	TOTAL
QUARTER	Gas thermal	Diesel thermal	Total	SEIN	ENERGY
	GWh	GWh	GWh	GWh	GWh
January-March	662	1	663	270	934
April-June	796	4	800	175	976
July-September	907	0	907	40	947
October-December	1.211	0	1.211	0	1.211
TOTAL	3,576	5	3,582	486	4,068

It is worth mentioning that Fenix was acquired in December 2015, so the periods previous to Colbún's acquisition, corresponding to 2015, are presented for comparison purposes only.

Physical sales to customers under contract for the year 2016 reached 3,187 GWh, decreasing by 12% with respect to the previous year, mainly due to the expiry of short-term bilateral contracts during the year. On its part, total generation of Fenix reached 3,582 GWh, which is in line with last year's generation. The above implied that during the year, 100% of the commitments were supplied with Fenix's own generation and there were net sales in the spot market for 342 GWh.



AVAILABILITY BY HYDROELECTRICAL POWER PLANT	(%) (C / - EII 30)

Power Plant	2015	2016
Carena	94.32%	84.83%
Los Quilos	90.56%	96.43%
Chacabuquito	73.49%	61.13%
Juncal	95.16%	71.60%
Blanco	83.78%	71.02%
Hornitos	95.76%	95.79%
Colbún	94.70%	93.26%
Machicura	96.33%	95.25%
San Ignacio	97.69%	95.03%
Chiburgo	98.20%	93.80%
San Clemente	98.50%	89.92%
Angostura	90.38%	96.03%
Rucúe	99.96%	91.93%
Quilleco	98.49%	95.69%
Canutillar	94.52%	93.78%
Juncalito	74.88%	49.75%

# POWER PLANTS AVAILABILITY AND RELIABILITY

G4-EU6, G4-EU30

# MAINTENANCE MANAGEMENT

During 2016, the maintenance program was implemented, with emphasis on transversal improvement programs, such as reliability plans focusing on determination of risks and critical elements, control of losses, which includes an analysis of the root cause, redesign and improvement of the program, predictive maintenance, homogenization of operation and maintenance program.

# MAINTENANCE IN THERMOELECTRIC COMPLEXES

# Nehuenco I:

Due to the greater dispatch of the unit, the major maintenance programmed for Nehuenco I, was moved up to August. The main works corresponded to gas turbine inspection, revision and replacement of ceramic cells in the combustion chamber, inspection and replacement of joints in evaporator pipes, among others.

#### **Nehuenco II:**

In the second half of the year, a major programmed maintenance was carried out in the gas turbine, steam turbine, generators, boiler and auxiliary systems, in addition to the replacement of the control system.

An important improvement project was carried out in the combustion and gas route system, which translated into a significant improvement in the efficiency of the unit.

Fire in the main transformer: On Tuesday, 28 June 2016, with the combined cycle of the Nehuenco II being in base load, a fire occurred in the main transformer of the generating turbine.

The actions defined in the Nehuenco Thermoelectric Complex's Contingency Plan were immediately put into action and the event was controlled, but the unit was unavailable during the second half of the year.

At the end of December a new transformer was installed, which normalized the operation of this unit.

# Santa María:

Another very important work was the scheduled maintenance of the Santa María power plant.

The work carried out included several improvements, which led to achieve increased efficiency.

#### Fenix:

In 2016, a long-term maintenance contract was signed with General Electric for the gas turbines, steam turbines and generators of Fenix. This was done to obtain improvements in the reliability and availability of the power plant. During the year maintenance work was carried out on the transformers and inspection work on the generators.

# MAINTENANCE AND MODERNIZATIONS IN HYDROELECTRIC POWER PLANTS

#### **Aconcagua Complex:**

Optical fiber, which enables the complete connection of data for the whole Complex, was installed.

In addition, improvements, modernizations and renovations were made to different

components of the power plants
Juncalito, Juncal, Los Quilos, Blanco and
Chacabuquito for the purpose of
improving their efficiency, response times
and increasing the operational and safety
standards of these units in general.

## **Biobío Complex:**

Various construction works were completed to improve the security of the Angostura power plant, access control, closures, lighting and surveillance cameras. Rucúe components were also modernized.

# Colbún Complex:

There were inspections carried out by robots on the headrace tunnels of the Colbún and Chiburgo power plants, which verified the sound condition of the concrete. Control systems were replaced at the Colbún power plant and electromechanical components of Machicura and San Ignacio were replaced, in addition to other maintenance work carried out in Chiburgo and San Clemente.

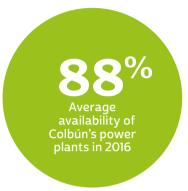
#### Carena:

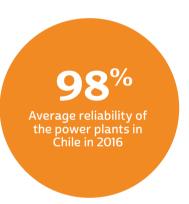
Between August and October, the medium and low voltage cells were replaced and modernization of auxiliary services in AC and DC was carried out. The program for the reinforcement of the Pataguilla tunnel continues until 2022.

# **AVAILABILITY AND LOAD FACTORS**

Management indicators recorded a load factor of 38.8% for our power plants in Chile, which is lower than the 2015 factor (43.6%). This is mainly due to the extremely dry hydrological conditions during the period.

The availability of power plants reached an average of 85.5%, a decrease in





comparison to the 91.5% in 2015, mainly due to the failure of the Nehuenco 2 transformer.

# Availability Hydroelectric power plants

The availability of hydroelectric power plants reached 92.5%, with a load factor of 34.0%.

Stands up the increase in the load factor of the Aconcagua Complex, with 52.6% compared to 35.8% in 2015.

# Availability of the Thermal power plants

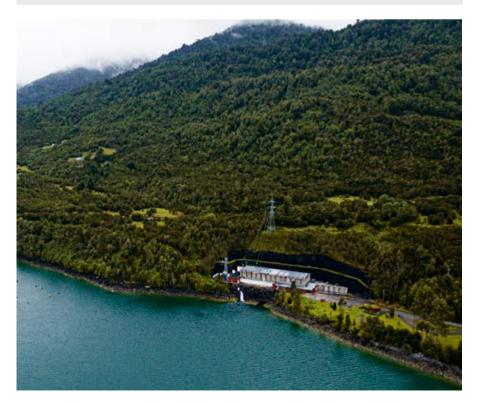
Of the gas-fueled power plants, the main one is the Nehuenco Complex, whose combined cycles registered an availability of 68.9%, due to the transformer failure of Nehuenco II. However, the complex had a load factor of 53.2%, which is a little higher than in 2015, which was 51.6%.

Single-cycle plants recorded a 99.0% availability and a load factor of 6.5%, which compares favorably with the load factor of 4.1% in 2015.

The Santa María plant had an availability of 83.2%, due to the major maintenance carried out in October and to an extension resulting from the implementation of improvements that were initially not programmed. The load factor of this plant reached 77.1%.

Lastly, Fenix had an 87.8% availability during 2016 and a load factor of 72.0%.

AVAILABILITY BY THERMAL PO	WER PLANT (%) (G 4 - EU3	0)
Power Plant	2015	2016
Nehuenco I	93.10%	90.92%
Nehuenco II	92.38%	48.48%
Nehuenco III	98.09%	99.15%
Candelaria I	91.46%	99.96%
Candelaria II	93.16%	99.86%
Antilhue I	97.37%	98.74%
Antilhue II	76.39%	98.72%
Los Pinos	91.27%	96.91%
Santa María	79.4%	83.19%
Fenix		87.8%



# RELEVANCE OF TRANSMISSION

G4-EU4, G4-EU12

Electrical transmission infrastructure is critical for the reliability and competitiveness of the electric supply and for the access to different sources of generation.

The specialized area in the management of transmission facilities, formed in 2015, has 43 people

and its objectives are:

- Defining and carrying out maintenance plans scheduled and in case of failures of the existing
- facilities, to improve efficiency and reliability indicators.
- Participating in the technical definition of new transmission facilities that may be developed, in order to comply with legal standards of reliability and safety.
- Commercially managing transmission facilities in order to obtain adequate remuneration in each segment in which it participates (national, zonal and dedicated).
- Collecting, completing and managing technical information on transmission facilities, in order to respond to the requirements of the authority.
- -In the long term, we intend to improve the trend in transmission losses (measured in percentage) and the trend of reliability of the lines.

Colbún has 916 km of transmission lines and a total of 28 substations. The Transmission team reports to the Division of Energy Business and Management.



TRANSMISSION LINES OWNED BY COLBÚN (G4-EU 4)			
Activos de Transmisión	2015	2016	
	Km	Km	
Colbún S.A.	652,2	652,2	
Subsidiaries (Colbún Transmision S.A.)	263,8	263,8	
TOTAL	916,0	916,0	

TRANSMISSION LOSS AS A PERCENTAGE OF TOTAL ENERGY (G4-EU12)		
	2015	2016
transmission loss	1,6%	1,1%

**NOTE:** The losses in our transmission lines are directly related to the coordinated operation of the entire Central Interconnected System (SIC), which is defined by the Economic Dispatch Load Center (CDEC-SIC), which is in charge of determining and coordinating the operation of the group of facilities of the electric system, including generating power plants, transmission lines, among others.

TRANSMISSION RELIABILITY	(2.7.2 DJSI)	
	2015	2016
Transmission reliability (time in %)	99,52%	99,56%

The data provided for transmission reliability correspond to the annual reliability of Colbún's transmission facilities which best reflects the evolution of reliability.

# 3.4 ETHICS AND CORPORATE GOVERNANCE

G4-41, G4-56, G4-57, G4-58, G4-SO3, G4-SO4, G4-SO5,

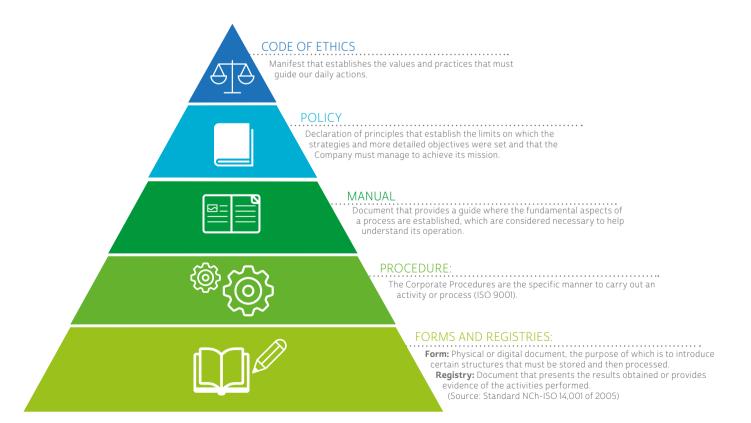
# CORPORATE GOVERNANCE FRAMEWORK

G4-42

Our Corporate Governance is ruled by a series of norms and policies that have been spread within the Company. The approvals and/or updates of the set of regulations and policies related to the economic, environmental and social issues of the organization are proposed by the top management of the Company, headed by its General Management, and submitted to the approval of the Board of Directors.

At Colbún we have made available for all of our workers the website of Corporate Policies and Procedures called Colbunpedia, which allows access to the following information:

- Corporate documents
- Process Map of the Company
- Catalog of Policies and Procedures by process



# **ETHICAL BASED CULTURE**

G4-42, G4-50, G4-56

Since 2013, at Colbún we have a Code of Ethics that brings together the mission, vision, values, ethical principles and practices that should guide the daily actions and decision-making of all our workers, contractors and suppliers. The Code of Ethics was updated in December 2015 and approved by the Board on that occasion.

The strategy of dissemination of

this document involved General Management sending an email to all members of the organization, who then had to register the opening of the document online. This constituted proof that it was received.

Regarding new workers, the induction process includes the disclosure of the principles of this Code and the obligation of new employees to acknowledge the existence of the code and of the main subjects that it contains.

In addition, infographics have been displayed on all murals of the Company's physical facilities with respect to this matter.

In the case of Fenix, as a new Code of Ethics based on the one of Colbún was approved in December 2016, there is a plan of providing training on that subject for the first quarter of 2017. There is also an Ethics Committee in the process of being set up.







# BETTER ENERGY, Better Industry

37.7%

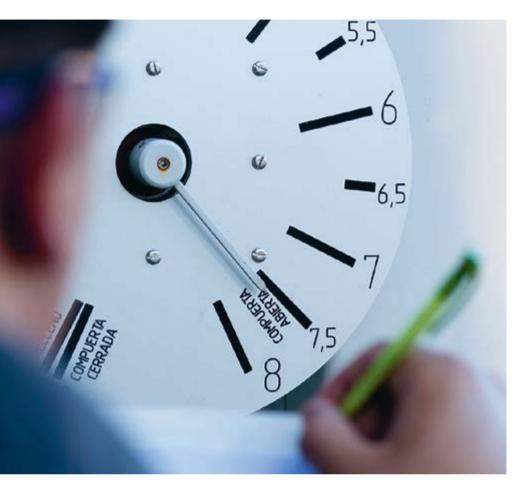
Of the energy sold by Colbún in Chile in 2016 went to unregulated customers, such as industries or mining



Industrial customers the Company had in Chile and Peru at the end of 2016



2% Increase in phisyca sales to free customers in chile in 2016



# MANAGEMENT OF COMPLAINTS

G4-57, G4-58

The Code of Ethics is published on our web page so that all our interest groups have access to it and can make inquiries or complaints if necessary. For these purposes, we have a communication channel available on the website called Línea Denuncia (Complaints line), which operates via telephone, electronic form, e-mail or regular post to receive direct or anonymous complaints related to compliance with the rules of ethical conduct, conflicts of interest and any issue related to possible non-compliance with these rules. This communication channel may be used by any interested party.

In addition, employees are informed of the reporting mechanisms through the intranet.

Complaints are channeled through the Ethics Committee, which is an entity consisting of the Internal Audit Management, Legal Affairs Management and Organization and People Management. During 2016, 21 communications were received through the Complaints Channel, all of which were addressed according to the established procedure.

The Ethics Committee is also the entity responsible for the investigation and operational analysis of complaints, independently, confidentially and without consequences for the complainants. The investigation performed is submitted to the Audit Committee of the Board of Directors, which is the final entity in charge of this communication channel.



# MANAGEMENT OF POTENTIAL CONFLICTS OF INTEREST

G4-41

For Colbún it is essential to act in a consistent and transparent manner, avoiding conflicts of interest that may arise, or managing them appropriately when necessary. Hence, in our Code of Ethics we define that a conflict of interest arises in any situation in which a worker uses their contacts or position in the Company, for the benefit of their own interests (or immediate family members), business or personal finances. Likewise, it is established that it is the responsibility of each worker to avoid them or to properly manage them and to notify any situation of potential conflict of interest, reporting the situation to their direct supervisor and to the Internal Audit Manager. In the event that a Director is faced with a possible conflict of interest situation, it must be reported to the Board of Directors. In turn, the reporting director must refrain from participating in the discussions related to the issue reported, as provided by the law.

# CRIME PREVENTION MODEL

G4-SO3, G4-SO4, G4-SO5

Our Company has a Crime Prevention Model, within the framework of Law No. 20.393 Criminal Liability of Law Firms, which seeks to prevent the risks of bribery, money laundering, terrorist financing and criminal use of stolen goods. The model has an internal and external regulatory framework, as well as a Crime Prevention Manager (Internal Audit Manager) appointed by the Board of Directors.

This model was certified in 2015 by the ICR risk classifier. During the year 2016, workers were informed through e-learning trainings on anti-corruption procedures about the Criminal Liability Act, including bribery. During the year there were no reports related to crimes described in the above-mentioned law. In addition, Colbún incorporates in its contracts with contractors and suppliers provisions to ensure that advisors and third parties linked to the Company comply with the law in this matter. During 2016, there were no risks analyses of corruption carried out in Fenix.



# **RISK MANAGEMENT**

G4-35, G4-42, G4-45, G4-46, G4-47

Colbún has a Risk Management Department and a Risk and Sustainability Committee, which monitors strategic risks faced by Colbún. Risk management is considered an essential part of the Company's business and is part of the matters that the General Manager reports to the Board of Directors for its discussion and analysis. The Risks and Sustainability Committee meets every month and is composed of the General Manager, the Chief Executives and their meetings are also attended by a representative of the Board of Directors. Other Directors may also attend. The General Manager reports on these issues to the Board on a monthly basis.

The Company's policies make it possible to identify and control risks and are available on the web. These include, among others, the policies on Sustainability, Community Relations, Financing, Investment Policy, Health and Occupational Safety, etc.



Main guidelines for managing risk:

- Safeguarding the sustainability of the business, by defining actions that reduce the impacts that could come from the adverse behavior of variables that influence the results or the trust capital of the company.
- Integrating the vision of risk in the corporate management of each business area.
- Generating an organizational structure and a management methodology to administrate the Company's risks.
- Minimizing the risks in a costefficient manner in order to respond to the changing environment in which the business develops.
- Supervising compliance with the mitigation plans agreed upon and the level of the resulting residual risks.

#### COMPANY'S MAIN RISKS:

Risks associated to Economic Development	Electrical Business Risks	Hydrological Fuel prices Fuel supply Equipment and maintenance failures Construction of projects Non-compliance Change in demand/supply/prices
Economic Development	Financial Risks  Fthic and Governance	Exchange rate Interest rate Credit Liquidity Regulatory Reputational damage
	Ethic and Governance Risks	Unethical behavior
Risks associated to Social Development	Labor Risks	Retention of professionals Strikes Occupational accidents Non-compliance
	Community Risks	Interruption of projects and/or operations Social incidents
Risks associated to Environmental Performance	Environmental Risks	Climate change Non-compliance Environmental incidents



# **PROJECTS**

Colbún-6.EC

At Colbún we seek to maximize the value of our Company by exploring and identifying growth opportunities through projects that allow us to satisfy the demand for electricity with competitive, safe and sustainable energy.

In order to achieve this goal, we have a diversified portfolio of projects at different stages of development, whose materialization is subject to the technical / financial evaluations of each initiative, the energy needs of the country and the development of a management that allows an adequate insertion of projects in their environment and in the communities that welcome them.

# **PROJECTS IN PROGRESS**

# La Mina Hydroelectric Project (34MW)

La Mina is a non-conventional renewable energy project (NCRE) located in San Clemente, approximately 110 km east of the city of Talca. This run-of-the-river power station has an installed capacity of 34 MW and an annual average generation of 191 GWh. The energy will be injected to the SIC at the 220 kV Loma Alta substation, through a 24 km 66 kV single circuit high-voltage line (HVL). The project uses the hydroelectric

potential of the Maule river and captures the water when it connects to the Puelche river, restoring the water to the same river 2 km downstream the catchment point. In December 2014, construction began on the project, whose progress rate at the end of 2016 accounts for 98.5%, which is according to plan.

The construction and commissioning of the HVL was successfully completed in 2016. The project is expected to enter into commercial operations during the first half of 2017. The amount to be invested, including transmission, is approximately US \$ 130 million, of which 90% has already been disbursed.

# PROJECTS UNDER DEVELOPMENT

# San Pedro Hydroelectric Project (170 MW)

The San Pedro Hydroelectric Project is located about 25 kilometers north-east of Los Lagos district, Los Ríos Region and considers using the water from the homonymous river through a power plant located between the drain channel of Lake Riñihue and the Malihue Bridge. Taking into account the adaptations considered in this project, it will have an installed capacity of approximately 170 MW for an annual generation of 953 GWh under normal hydrological conditions. The operation of the power plant will be such that the reservoir level will remain practically constant, which means that the flow downstream of the plant will not be altered by its operation.

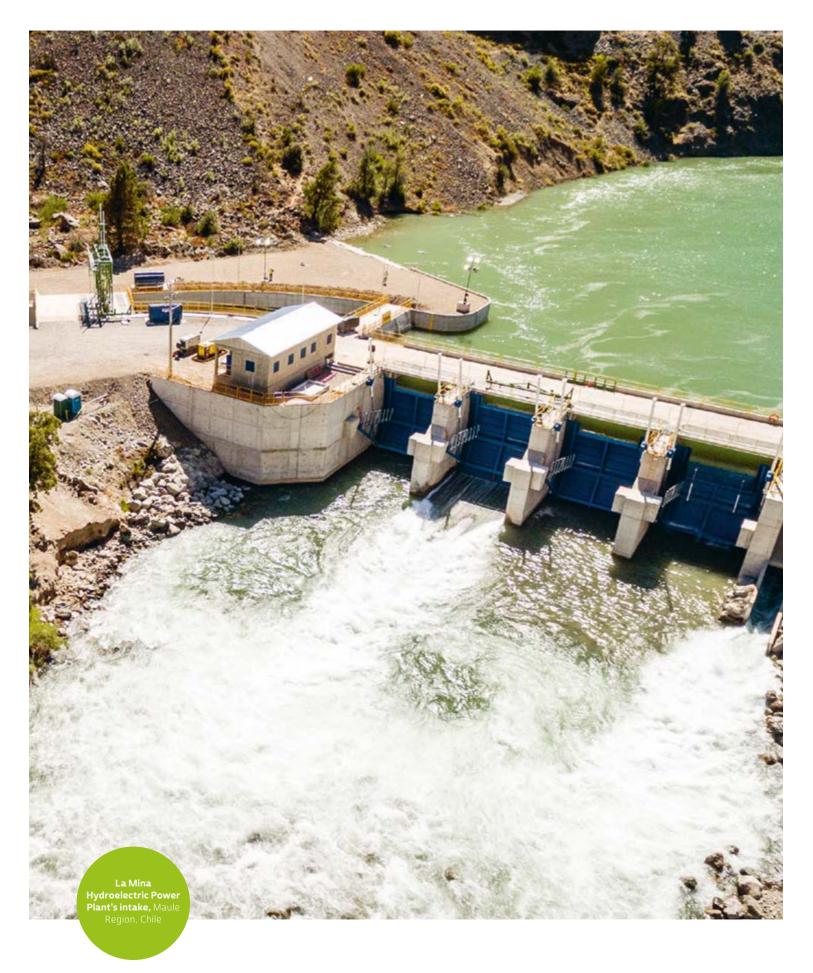
The San Pedro-Ciruelos transmission line project will allow the power from the San Pedro power plant to be discharged to the SIC through a 220-kV, 47-km line, to be connected in Ciruelos substation, located about 40 km north-east of Valdivia.

The main activities carried out to date are related to negotiations for the easements of the line.

Due to the authority's early termination of the EIA environmental review process of the project modifications in 2015 for lack of essential information, the Company is analyzing the observations of the public services in order to collect and prepare the background documents necessary to provide a timely and technically sound response to the request of information from the authority. At the same time, we are developing a plan of meetings for clarification and learning with municipalities, public services and regional authorities, as well as indigenous communities, among other interest groups, aimed at re-submitting the project at the right opportunity. This liaising plan is developed through working groups with local social organizations and seeks to define proposals jointly to enable the project to contribute to local and regional development and welfare.

#### Guaquivilo Melado Project (310 MW)

The Guaiquivilo Melado power plant project is a hydroelectric complex, located in the basins of the Guaiquivilo and Melado rivers, in the district of Colbún, province of Linares.





It has a total power of approximately 310 MW and an average annual generation of approximately 1,590 GWh.

Energy is injected into the SIC through a 220 kV High Voltage Line with a total extension of 95 kilometers from Guaiquivilo power plant to its connection point at Ancoa substation.

As of December 2016, the feasibility stage of the project has been completed and now the Environmental Impact Study is being prepared.

# Los Cuartos Project (90 MW)

Los Cuartos hydroelectric project is located on the Biobío river, next to the town of San Carlos de Purén, about 5 km above the intersection with the South Pan-American Highway.

This Hydroelectric Power Plant has water rights that allow reaching a power of approximately 90 MW, with an average annual generation of approximately 500

GWh. The project also involves an electric transmission line of about 8 km to connect to the Mulchén substation.

During 2016 the pre-feasibility study and revision of the designs of the main works were completed. The environmental baseline studies were initiated as well leading to the preparation of the Environmental Impact Study of the project. As of 2016 the project is in the feasibility stage.

# Project Unit II of the Santa María Complex (350 MW)

The project is located in the district of Coronel, Biobío Region and involves an installed capacity of 350 MW.

Colbún currently has the environmental permit approved to develop this second unit of the complex.

During the 2014-2015 period, its design was improved, incorporating new technology to meet the stringent emission standard in force since 1 January 2012. Although the

social, economic and commercial aspects of this project have been analyzed, the conditions to carry out the project are not currently met.

#### LNG

In the framework of the Open Season process where GNL Chile tendered part of the regasification capacity associated with the expansion of the regasification terminal located

in Quintero, Colbún obtained a capacity reserve in the tender, which was confirmed in December 2015, for the volume equivalent to the operation of a combined cycle. The Company's participation in this process gives Colbún the option to have regasification capabilities, which is part of its long-term strategy to use its natural gas-based electric generation installed capacity and contribute to a competitive, safe and sustainable supply of energy.

# HidroAysén

Notwithstanding the natural uncertainty about deadlines and resolutions of legal entities to which HidroAysén has appealed and of government processes on long-term energy policies for that region, Colbún S.A. has confirmed that the development of the hydroelectric potential of the Aysén region has benefits for the growth of the country and that the option to participate in it represents a potential source of long-term value generation for the company.

Hydroelectricity is the most flexible technology to support greater penetration of solar and wind energy that, due to their variability, require support. At Colbún we have different hydroelectric projects at various stages of development.







In 2016 Colbún commercialized 95 GWh coming from the Punta Palmeras wind power plant, property of Acciona.



Electricity regulations require that part of the contracted energy comes from non-conventional renewable energy sources, setting a target of 20% to be supplied by 2025 by this type of technology. The results of the tender for the supply of regulated customers, which were published in August 2016, confirm that the target established in the electricity regulations will be implemented several years in advance.





# CONSTRUCTION AND OPERATION OF OUR OWN NCRE POWER PLANTS:

Currently Colbún owns two mini hydro NCRE plants in operation: Chiburgo (2007, 19.4 MW) and San Clemente (2010, 5.9 MW), both located in the Maule Region. La Mina hydroelectric power plant, currently under construction (34 MW, also in the Maule Region), will be the third of Colbún's plant that generates NCRE attributes. La Mina is the first power plant in Chile that measures its carbon footprint throughout its entire construction phase. The commercial start-up of this project is scheduled during the first half of 2017. In addition, Colbún operates six other mini-hydro of less than 40 MW run-of-the-river power plants, which were built before the NCRE law.



# BIDDINGS THAT ALLOW THE PURCHASE OF NCRE ENERGY FROM THIRD PARTIES:

This mechanism makes it possible to select competitive solar or wind energy projects, signing long-term purchase contracts of power at stabilized prices with their developers, thus enabling these NCRE power plants to be constructed and to incorporate them into our supply of this type of energy. The Punta Palmeras wind park of Acciona (95 GWh in 2016) and the agreement signed in May 2016 with Total SunPower for 500 GWh /year solar photovoltaic energy are within this framework.





## PURCHASE OF ASSETS FROM THIRD PARTIES:

In March 2016 Colbún bought part of SunEdison's assets in Chile. The agreement involved, among other assets, the option to develop two projects of development of solar photovoltaic parks in the SIC.

The Company will continue to explore investment opportunities in these types of technology as long as they generate value.

In this way, Colbún's own NCRE power plants in addition to the solar and wind energy supply agreements, amount to more than 300 MW. At Colbún we believe that variable renewable energies such as solar and wind energy bring along different benefits, such as the fact of having no emissions and being modular. But as their presence grow in our matrix. the challenges associated with the intermittency of these energies are also growing, as has been seen in other energy markets. This means that, in the future, there will be an ever-increasing need for power plants and technology to complement the intermittence of variable energies

and to provide reliability and flexibility to the system. In the current state of development, the best response today is hydroelectric power with regulatory capacity, which is renewable energy, and, under certain conditions, gasfueled power plants. In fact, the 2050 Energy Policy prepared by the government acknowledges the importance of promoting hydroelectric power. However, currently there are no environmental or construction projects with those characteristics pending approval, which undoubtedly is a call for attention regarding how Chile will make progress in this matter.

# 3.7 INTERNATIONALIZATION

Some time ago the Company began to search for growth opportunities in Latin America.

This process acquired more depth in the year 2015, with the creation of a Development Management. This management is especially dedicated to systematize the efforts of the Company in that direction.

In the first stage the search for opportunities has focused on Peru and Colombia, countries that have an attractive economic environment and their electricity sectors have a well-established regulatory framework. Participating in markets such as these can improve the diversification of the Company in terms of hydrological conditions, generation technologies, access to fuels and regulatory frameworks.

The search has focused mainly on existing assets that are in operation, the acquisition of which does not compromise our Investment Grade credit risk rating, that match the Investment Policy approved in the General Meeting of Shareholders and where we identify spaces that allow us to apply excellent management criteria in financial, environmental, technical terms and in terms of relation with our interest groups. Within the framework of these

initiatives, the first purchase was realized with the acquisition of Fenix Power Peru on December 18, 2015. This company has a combined cycle power plant of 570 MW and was acquired through a consortium between Colbún, Blue Bolt A 2015 Limited (an ADIA partnership) and the Infrastructure Investment Fund managed by Sigma of Peru.

In 2016 Colbún completed a year of operations since the purchase of the Fenix power plant, where the focus was placed on integration with the Company, which has been developing successfully and according to the established plan. This will allow us to increase the reliability and availability of the plant.

Throughout the year, we continued working on the international growth plan, evaluating various investment alternatives at a regional level, in order to consolidate an important position in the Latin American electricity generation industry and to diversify sources of income.

Today Colbún continues to explore different growth options in Latin America, which will be studied in their own right and always under the criterion of adding value to the Company.

December
18<sup>th</sup>
2015, Colbún
purchases Fenix
Power

#### INTEGRATION OF FENIX

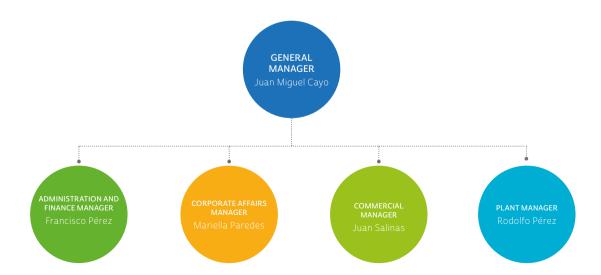
The focus of the year 2016 was on the successfully integrating Fenix into the Company. In conjunction with the Fenix administration, a series of measures were carried out, which improved both its operating conditions and its administrative and financial conditions.

On the side of the operation and maintenance of the plant, one of the most important milestones was the re-negotiation of the maintenance contract with General Electric (GE), which substantially increased the scope of the contract and incorporated presence In GE's personnel site, in order to reduce the unavailability of the plant due to maintenance or failure. In addition, different procedures and tools have been incorporated throughout the year, such as root cause analysis, risk analysis and scheduled maintenance programs, which aim to increase the reliability and availability of the plant.

From the administrative and management point of view, SAP was implemented as a single integrated platform, so as to take management control and increase efficiency.

In February 2016, Fenix's bank debt was refinanced at the time of its acquisition for US \$ 365.7 million, under very competitive conditions. The debt is without recourse to Colbún.

#### FENIX'S ORGANIZATION CHART







This chapter gives an account of the way Colbún manages those material aspects linked to the human capital (workers, contractors, suppliers) and the social capital (community and society in general).

MATERIAL ISSUES	OCCUPATIONAL HEALTH AND SAFETY	LABOR RELATIONS	LABOR PRACTICES
SCOPE	• Safety • Health	<ul><li>Internal Relations</li><li>Liaising with Unions</li><li>Complaint channel</li><li>Pride</li></ul>	<ul> <li>Family-work balance</li> <li>Salaries and compensations</li> <li>Speed and efficiency in all the processes with suppliers</li> <li>Training</li> </ul>
ASSOCIATED RISKS	Serious accident or death of a worker or employee of the Company  Accidents of third parties in facilities of the Company  Occupational diseases	Trade union disputes     Stop operations	Loss of key professionals by work environment, lack of training, loss of competitiveness and / or organizational rigidity
MANAGEMENT AND NORMATIVE FRAMEWORK	<ul> <li>Healthy Living Program</li> <li>Prevention of occupational diseases</li> <li>Zero Fatality Protocol</li> <li>Zero Fatality Standards</li> <li>Operational excellence</li> <li>Competitive Company Program with Mutual Security</li> <li>Safety, Occupational Health, Environment and Quality Policy</li> <li>Code of ethics</li> <li>Declaration of Human Rights</li> </ul>	<ul> <li>Meetings with union leaders</li> <li>Training workshops</li> <li>People Management Policy</li> <li>Code of ethics</li> <li>Declaration of Human Rights</li> </ul>	<ul> <li>Training plans</li> <li>Development plan and succession table</li> <li>Plan of work with unions and groups of workers</li> <li>Benefits program</li> <li>Activities that incorporate families</li> <li>Declaration of Human Rights</li> </ul>
SUSTAINABLE DEVELOPMENT GOALS (SDG)	Good Health and Well-being	Reduced Inequalities	Decent work and economic growth

#### **COMMUNITY LIAISING**

#### LOCAL DEVELOPMENT

- · Community dialogue
- Public Accounts
- Working groups

- Local entrepreneurship / Tourism / Sport / Culture / Education / MOL / Loca security
- · Sabotage of a plant or project
- Presentation of legal remedies against a project or power plan
- Conflicts with local authorities
- Expectations regarding project benefits or at the local level
- Expectations of local labor
- Sustainability Policy
- Community Relations Policy
- Community Relations Strategy
- Donations Policy
- Declaration of Human Rights











Good health



Quality Education



Industry, innovation and infrastructure



Reduced inequality



Sustainable cities and



Partnerships



The following section describes the main indicators and policies which guide the relation that Colbún has with its workers. Our main commitment is to give them quality employment and a safe work environment that promotes their personal and professional development.

## WORKERS' MANAGEMENT MODEL We are Energy









1. Workers: At Colbún we are one energy and we seek to be the most attractive company at which to work in the electric power sector. For that purpose we take care of our workers, managing labor relations from the start, seeking that people feel valued and are able to develop their capabilities, in addition to relying on the necessary conditions to develop a safe work. All of this characterized by Colbún's own seal.

2. Occupational Safety and Health: At

Colbún we commit to protect the safety and health of all of our workers and of the ones from collaborating companies. We seek to provide programs and policies that allow a safe work that safeguards the wellbeing of our people, and that is consistent with a good quality of life.

3. Management and Development of

**People:** We seek to be an organization that attracts the best professionals, where a positive organizational climate is fostered and people feel valued and are able to grow according to their

competence. For that purpose we have programs that potentiate the capabilities of our people.

**4. Labor Relations Management:** We take care of building good labor relations with our workers and their representatives, through continuous liaising with a transparent and fluid communication.

**5. The Colbún Seal:** Working with the identity that characterizes us as an organization, with our values and principles that make us unique, is a fundamental core in the strategy of the Company.

#### **EMPLOYEES**

In 2016, the number of employees of the Company in Chile increased 5% in comparison to 2015. This is mainly explained by the addition of a group of fixed-term maintenance area workers to the Santa María power plant (Biobío region). It is worth mentioning that concerning the topic of job openings by gender, female staff in Chile increased by 9% in comparison to the previous year, while the male staff only increased by 4%.

Meanwhile in Peru, the subsidiary Fenix registered a total of 91 workers, increasing 6% in comparison to 2015, all of them located in the power plant and in corporate offices, in the districts of Chilca and Surco, Department of Lima.

EMPLOYEES COLBÚ	N CHILE					
	20	15		20	16	
Region	Women	Men	Total	Women	Men	Total
Metropolitan Region	125	281	406	133	290	423
V Region	19	169	188	19	172	191
VI Region	1	23	24	1	23	24
VII Region	6	99	105	6	107	113
VIII Region	16	182	198	22	194	216
X Region	2	17	19	2	19	21
XIV Region	3	19	22	4	19	23

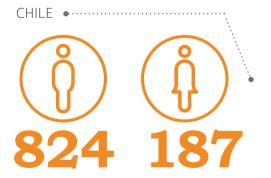
GLOBAL ALLOCATION OF WORKERS COLBON PERO, ACCORDING	TO GEOGRAPH	ICAL LOCATION	(04-10)
Davis	20	16	
Region	Women	Men	Total
Department of Lima (TOTAL)	18	73	91

962

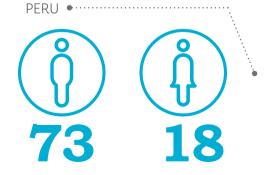
187

824

790



TOTAL



The following tables report the diversity of the workers according to sex, age and location

#### EMPLOYEES OF COLBÚN CHILE, ACCORDING TO POSITION AND AGE, UP TO DECEMBER 31, 2016 (G 4 - L A12)

Decition Cotonom	<30 years old								
Position Category	Women			Women			Women		
Executives	0	0	0	8	33	41	1	27	28
Professionals	21	27	48	80	215	295	6	73	79
Administrative staff	7	6	13	35	15	50	19	21	40
Other positions	4	52	56	6	267	273	0	88	88
Total	32	85	117	129	530	659	26	209	235

#### EMPLOYEES OF COLBÚN PERU, ACCORDING TO POSITION AND AGE, UP TO DECEMBER 31, 2016 (G 4 - L A12)

Docition Cotonom	<30 years old								
Position Category	Women			Women			Women		
Executives	0	0	0	1	4	5	0	2	2
Professionals	2	0	2	6	35	41	1	0	1
Administrative staff	4	0	4	3	4	7	1	1	2
Other positions	0	3	3	0	24	24	0	0	0
Total	6	3	9	10	67	77	2	3	5

#### **COMPETITIVE WAGES**

(G4-LA13)

To insure that our wages are competitive, we compare our salaries with industry salaries annually and systematically. In this way we seek to compensate each worker based on their capabilities and experience, with a sense

of internal and external equity.
The following tables show the relation between men's and women's salaries for each position category. For comparison purposes, only those positions with more than four female workers working with equivalent responsibilities were considered.

With respect to the chief executives, the policies and the structures of the fixed and variable components of their wages are reviewed and validated by the Director's Committee for its subsequent ratification by the Board of directors. Similarly, the amounts equivalent to the bonuses for performance are also submitted to the board of directors for their consideration.

The Company has agreed to a variable loyalty bonus with some of their senior executives, the objective of which is to reward the bond of the worker with the Company.

-3% salary gap of women compared to men in 2016 in Chile.

#### RELATION BETWEEN THE BASE SALARY OF WOMEN COMPARED TO MEN, BROKEN DOWN BY PROFESIONAL CATEGORY (G4-LA13).

Positions evaluated	Salary gap (average gross salary) - CHILE	Salary gap (average gross salary) - PERU
Assistant Managers	-5%	-
Professionals and management	-3%	5%
Technicians	3%	-
Administrative staff	9%	21%
General average gap	-3%	9%

**NOTE:** The salary gap could only be analyzed with a reasonable degree of confidence, using the GRI methodology, in those cases where there are comparable positions in terms of roles, seniority and age.

#### SPENDING ON MAJOR EXECUTIVE REMUNERATION

Type of Demuneration				
Type of Remuneration	2014	2015		
Remunerations of main executives	4.638.483	3.541.736	4.365.725	1.015.946
Fixed	2.765.411	2.682.023	3.053.407	778.086
Variable	1.873.071	859.713	1.312.318	237.860
Compensations of main executives	213.415	157.731	0	0
Fixed	213.415	157.731	0	0
Variable	0	0	0	0

#### NOTE:

- -The bonds (variable remuneration) are paid at the beginning of the following year. As an example, the bonus paid in 2013 corresponds to the year 2012, and so on.
- -Compensations are fixed and are agreed beforehand in employment contracts.
- -The year 2016 was calculated to dollar \$ 669.47 and the year 2015 was calculated to dollar \$ 710.16
- -The increase in the variable remuneration in 2016 is explained by the incorporation of new executives during the year 2015.

## TRAINING AND DEVELOPMENT

Colbún-8 TR, G4-LA9, G4-LA10, 3.3.5 DJSI

For Colbún is very important to foster internal training and promotions as a mechanism for people management.

From 168 vacancies generated in Chile, 55% were filled through direct promotions, lateral mobility and internal competition. In the case of Fenix, there was no internal movement during 2016.

During the year 2016, Colbún provided 64,511 hours of training in Chile, with a total of 887 attendants and an average of 72 hours per worker. In Peru, the average training hours per worker reached almost 47.8.

We also provide education scholarships and language training, soft skills and technical training.

Every semester we provide around 50 undergraduate scholarships to workers who apply and meet all the preestablished requirements.



64,511
hours of training in Chile
with a total of 887
attendants.

#### VACANCIES FILLED BY INTERNAL COMPETITIONS IN CHILE (G 4 - L A 9)

	Wom	en	Me	2n		Total	
Area advertising vacancies	Amount of vacancies filled through direct promotion	Amount of vacancies filled through internal competition	Amount of vacancies filled through direct promotion	Amount of vacancies filled through internal competition	Total of vacancies through direct promotion	Total of vacancies through direct promotion	Total of vacancies filled internally
Sustainable Development Division	1	0	1	0	2	0	2
Finances and Administration Division	5	0	10	0	15	0	15
Generation Division	2	1	11	17	13	18	31
Engineering and Projects Division	6	0	15	2	21	2	23
Business and Energy Management Division	3	0	11	6	14	6	20
Internal Audit Management	1	0	0	0	1	0	1
TOTAL	18	1	48	25	66	26	92

NOTE: The information on direct promotions, includes the number of lateral mobility and vertical promotions.

#### TOTAL EMPLOYEES TRAINED IN CHILE (G 4 - L A 9)

		Women					
Position	N° of workers	Total training hours	Average training hours per worker	N° of workers	Total training hours	Average training hours per worker	
Executives	7	510	72.8	53	1,839	34.7	
Profesionals	118	11,074	93.8	485	34,269	70.6	
Administrative staff	35	2,689	76.8	18	309	17.1	
Other positions	4	271	67.7	167	13,550	8.1	
TOTAL	164	14,544	88.7	723	49,967	69.1	
Average total training hours per worker			7	<sup>7</sup> 2.7			
Total invested in training by gender (US\$)	209,804				643,678		
Average outlay for training per worker			Ğ	962			

#### TOTAL EMPLOYEES TRAINED IN PERU (G 4 - L A 9)

(US\$)

	Women						
Category by Position	N° of workers	Total training hours	Average training hours per worker	N° of workers	Total training hours	Average training hours per worker	
Executives	1	4	4.0	3	663	82.8	
Professionals	7	265	16.6	10	620	13.5	
Administrative staff	6	299	42.7	22	566	25.7	
Other positions	0	0	0,0	6	212	35,3	
TOTAL	14	568	63.3	41	2,061	157.4	
Average total training hours per worker			4	7,8			

Total invested in training by gender (US\$)	8,672	61,733
Average outlay for training per worker (US\$)	1.	280

## PERFORMANCE EVALUATION

G4-LA11

We have a performance evaluation system for the personnel with indefinite contract, which measures in a systematic and standardized manner the achievements of corporate, division, individual and qualitative factor objectives.

In 2016, 967 workers were evaluated in Chile (equivalent to 96% of the total personnel), maintaining a proportion with respect to the previous year. In addition, in the performance evaluation, the objectives of the sustainability goals of the Company, those associated with socio-environmental management, safety management, financial results and the availability of the power plants, among others, were also included.

In the case of Peru in 2016, 89 workers were evaluated (equivalent to 98% of the total staff).



## LABOR RELATIONS AND HUMAN RIGHTS

G4-11, Colbún-9.TR, G4-LA4, G4-HR4

One of the goals that we seek at Colbún is the continuous improvement in the labor relations that we establish with our workers. The mutual respect and the permanent dialogue between the administration and union representatives is a very important aspect to achieve those objectives.

With respect to the freedom of association and the right to collective bargains, we do not see risks in that sense, nor is there a disposition of the Company that threatens this freedom. In Colbún there are 10 associations that negotiate collectively, which protects 436 workers (43% of the total staff). From those 10, four are unions, which protect 324 workers (32% of the total personnel). This figure is higher than the average in our country, which is close to 14%. The rest are negotiating groups.

We maintain constant communication with the union representatives by mutually generating different gathering occasions, such as meetings with the General Manager and area managers, in addition to meetings with the Organization and People Management.

At Fenix, which started operations in 2015, we do not have unionized workers.

In terms of specific Human Rights' matters, we do not see child labor or forced labor risks and, in fact, it is an explicit policy of the Company to reject both concepts. The recruiting and selection processes include strict criteria that along with confirming that the technical competencies are met, also ensure compliance with the legal requirements, one of them being the appropriate age for work. With respect to forced labor, the Company complies with the legislation in force in the sense of respecting the resting time of the workers and compliance with the working days agreed. In the cases when, out of necessity, or due to circumstances that are out of our control, the workers would need to work on days that are resting days for the average worker, these will be paid with a surcharge that is higher than the one prescribed by the labor legislation.

On the other hand, our average vacation balance as a company is 15 working days, which indicates that the majority of our workers have used their vacations.





## COMUNICATION CHANNELS WITH WORKERS

The Company has different internal means of communication:

Intranet Portal: During 2016 a new internal web portal was launched with the purpose of increasing the amount of information available for workers, as well as its attractiveness and ease of reading. Fenix also launched an intranet portal for its workers in 2016.

Monthly bulletin display board: This means of communication is sent to each of the power plants and corporate offices and contains a selection of the most relevant news of Colbún. There is also a monthly bulletin display board prepared for Fenix.

"+Energy with Family" Magazine: It corresponds to two publications a year with a strong emphasis in the promotion of the values and culture of the Company, as well as in integrating our worker's families. In 2017 Fenix started an internal monthly publication called Fenix Connection.

**Emailing:** Internal electronic mail with information about organizational changes, relevant news, births and deaths, etc. It is worth mentioning that most of our workers have access to computers.





## ORGANIZATIONAL ENVIRONMENT

Colbún-10.TR, G4-LA2, Colbún-11.TR

At Colbún we periodically measure the Organizational Environment, which allow us to recognize our main strengths and opportunities to improve as a Company.

Based on this measurement, we focus work plans especially on those teams that obtain low levels of satisfaction.

## RESULTS OF WORK ENVIRONMENT FOR COLBÚN CHILE

In 2016 we had to be measured by the consultant firm Praxis. This process was carried out in October 2016. With 90% of representation, 857 workers responded the Organizational Climate Survey, which resulted in 73% satisfaction.

The results highlighted the pride of working at Colbún, with 86% positive answers. With respect to the question "Is Colbún a great place to work?" the answer was 87% positive.

In general terms, we achieved a very representative participation in all the divisions and management that make up the Company. The main aspects addressed in this study are: Work environment, compensations and benefits, communication, working

conditions, development, family and workload, image of the boss, justice-integrity-ethics and sense of work. The challenges for 2017 are focused on our main opportunities for improvement. All areas that show low levels of satisfaction must develop and implement a Work Plan.



**73% Satisfaction** resulted from the Organizational Climate Survey.



## RESULTS OF WORK ENVIRONMENT FOR FENIX IN PERU

At Fenix, the Great Place to Work Environment Assessment (GPTW) was implemented to find out the workers' perceptions regarding the Company's work environment and to carry out actions to manage the results. In the last survey, a general acceptance index was obtained (which measures satisfaction). For 2017 the main challenges will be focused on working on internal communication, the sense of belonging, as well as optimizing people management skills for managers and area managers. Likewise, a joint work will be done with Corporate Communication, HSE, Social Responsibility and Internal Audit; A work of reinforcement and sensitization of the mission, vision and values of Colbún aligning the collaborators with the objectives of the Organization. With this same aim, in 2016 the Fenix logo was modified, aligning it with the visual line of Colbún, and incorporated in the same the phrase "Operated by Colbún".

In 2016 Colbún received the "Wellness Revolution" seal. This award recognizes the companies and institutions that foster permanent practices for the comprehensive wellness of its workers.

Index of general acceptance (satisfaction) at Fenix in 2016 according to the GPTW.



## **COLBÚN'S QUALITY OF LIFE PROGRAM**

Colbún's Quality of Life program for workers and their families contemplates 4 work axes.

## **Family**

At Colbún we are convinced that the actions that help find a balance between work and family positively affect the integral development of our workers. That is why we look for different occasions where workers can integrate their families, such as the Bring your Child to Work Day and the Christmas Party in Santiago and all our power plants; the quarterly magazine, + Energy with Family, and the benefits that contribute to balance, such as Personal Days, part-time work on Fridays at the headquarters, long weekends, and the Flexible Schedule in Santiago offices.

### LIFE Healthy

We encourage sports and healthy living in our workers and their families. During the year we allocate funds to sponsor different disciplines managed by the workers themselves, we organize trekking activities and family walks in different areas of the country and sporting and healthy eating lectures.

## **Culture**

At Colbún we believe culture and knowledge of our history are an essential part of people's development. That is why since 2010 we have offered cycles of Cultural Talks in Santiago and the regions for workers and their families. Starting in 2016, we also offer cultural City Tours to invite our workers to learn about the urban and cultural heritage of cities such as Santiago and Valparaíso.

## **Education**

We recognize the value of effort and we reward perseverance and self-improvement. Once a year we host ceremonies of Academic Excellence in Santiago and regions, where we recognize good school academic performance of the children of our workers at school and university.



G4-SO9, G4-SO10

We seek to ensure a timely supply by ensuring that each stage of the supply chain is part of a traceable and auditable process, which guarantees transparency, generating a reliable

framework that provides optimal competitive conditions, achieving honest, ethical and fair agreements, within a context of respect with long-term relations and creating shared values.

#### SUPPLIERS AND CONTRACTORS' MANAGEMENT MODEL











Achievement of results with a sense of quality and responsibility

- · Contract management model
- · Register of suppliers (Achilles)
- · Segmentation of suppliers
- · Bidding processes
- · Quotes and bids platform
- · Standardized Materials
- · Risk Management
- · ProPyme seal
- · Fulfillment of our commitments



# **02**COLLABORATIVE WORK

Search for alliances that allow mutual benefit

- · Local supplier development
- · Health and Safety
- · Labor relations
- · Portal of suppliers
- · Local employment incentive
- · Environment
- · Communities
- · Human Rights
- · Local meetings with suppliers
- Training



# 03 INNOVATION MANAGEMENT

Creative solutions to address risks and opportunities

- · Strategic alignment
- · Improvement programs
- ·Training
- · Programs of local critical suppliers
- · Evaluation and acknowledgement
- · Supplier's Day
- · Annual survey to suppliers
- · Emission reduction

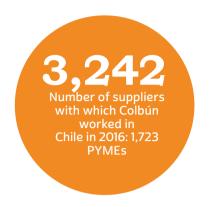
## NUMBER OF INDEPENDANT CONTRACTOR WORKERS

With respect to the contractors, in 2016 in Chile we observed an increase of 47% in the number of job vacancies (892 people), which can be explained mainly by the increase in the number of workers of the La Mina (34 MW) power plant project. This non-conventional renewable energy (NCRE) power plant is under construction in the Maule Region.

## NUMBER AND DISTRIBUTION OF SUPPLIERS

G4-EC9

The number of supplier companies with which Colbún worked in Chile in 2016 reached 3,242, which represents an increase in comparison to the 3,128 suppliers in 2015. The amount of purchases reached US\$ 302 million, 16% higher than in 2015.



TOTAL AVERAGE CONTRACTOR WORKERS IN CHILE							
Contractors and subcontractors	2014	2015	2016				
Generation	1,105	1,259	1,334				
Projects	466	613	1.431				
TOTAL	1,571	1,872	2,764				

GEOGRAPHICAL DIST	RIBUTION OF PURCHASES I	N PERU (G4-EC9)
	201	6
	N° Supply Companies	Amount MUS\$
National	441	83,129
International	52	21,496
TOTAL	493	104,624

#### GEOGRAPHICAL DISTRIBUTION OF PURCHASES IN CHILE (G4-EC9)

	20	14	20	15	20	16
Location	Amount MUS \$	Nº of supply companies	Amount MUS \$	Nº of supply companies	Amount MUS \$	Nº of supply companies
Internacional	84,537	161	36,431	183	75,523	197
V - Valparaíso	14,602	272	18,584	243	15,839	269
RM - Metropolitan	182,055	1,430	157,255	1,479	154,025	1,624
VI – Lib. Bdo. O´Higgins	692	53	1,080	49	1,174	60
VII - Maule	5,988	148	5,582	164	8,148	157
VIII – Bíobío	34,097	599	32,797	792	40,439	722
XIV – Los Ríos	2,043	66	1,662	83	1,806	93
X - Los Lagos	2,263	64	1,501	86	1,838	71
Otras Regiones	2,708	29	4,734	49	4,034	49
TOTAL	328,986	2,822	259,625	3,128	302,825	3,242

**NOTE:** The location of the suppliers is related to the taxpayer number with which they pay their rights, taxes and commercial patents. Purchases of energy, power, tolls and generation fuels are excluded.

NOTE: As a reference, within the latter, two suppliers individually concentrate at least 10% of purchases. These suppliers are: Empresa Nacional de Gas Natural 12% and Transeler S A 11%

## **EXCHANGE OF BEST PRACTICES**

G4-LA14. G4-LA15

At Colbún we are committed to the exchange of best practices with our contractors and suppliers, seeking to promote high safety, quality, environmental and social standards, supporting them in their growth and development. This seeks to achieve excellence throughout our value chain.

In all our bidding processes and adjudication with collaborating companies, we have incorporated

environmental principles together with other labor and safety issues.
That guidelines can be seen in the Special Regulations of Contractors and Subcontractors (REECS for its acronym in Spanish) and the Integrated Management System (SIGECS for it acronym in Spanish), among other initiatives.

At Colbún we review 100% of the compliance with the requirements indicated in the Environmental Rating Resolution (RCA for its acronym in Spanish) of the service being hired.

In all our tender and award processes with collaborating companies, we have incorporated environmental principles together with other labor and safety issues.



(1) Equivalent to 10% of the suppliers that work with Colbún.

## NUMBER OF NEW PROVIDERS / CONTRACTORS SUPPLIERS THAT WORK WITH COLBÚN EXAMINED IN RELATION TO THE FOLLOWING PRACTICES (G 4 - L A14)

Criteria	N° of suppliers	% of supplier in relation to total
Employment Practices	254	88.5%
Health and safety practices(1)	205	71.48%
Labor relations	254	88.5%

In cases where faults are detected, Colbún contacts the contractors, requests an explanation and due regularization, which could imply the anticipated termination of the contract or service.

Nota: All registered in the Achilles system, and with whom we had a purchase or service relation in 2016. (1) Affiliated to an insurance company (Mutual insurance Company).





#### NEGATIVE, REAL AND POTENTIAL IMPACT OF LABOR PRACTICES IN THE SUPPLY CHAIN (G 4 - L A15 )

	Real Impacts	Potential Impacts
Significant negative impacts in the supply chain related to its labor practices	Non-compliance with labor laws. Non - compliance with the Occupational Safety and Health practices.	Salary payment, forced labor, poor working conditions, accidents.

#### NUMBER OF SUPPLIERS AND/OR CONTRACTORS AND IMPACT EVALUATIONS OF LABOR PRACTICES 2016

	N°	%
Contractors whose labor practices have been evaluated (1)	254	8%
Contractors that have significant negative, real and potential labor practices impacts (2)	7	0.2%

<sup>(1):</sup> Suppliers registered in Achilles system with which a purchase or service relation was established in 2016. (2): Suppliers with provisional infractions + accidents.

In cases where faults are detected, Colbún contacts the contractors, requests an explanation and due regularization, which could imply the anticipated termination of the contract or service

## CONTRACTORS, SUPPLIERS AND HUMAN RIGHTS

G4-HR1, G4-HR3, G4-HR5, G4-HR6, G4-HR7, G4-HR9, G4-HR10, G4-HR11, G4-HR12, G4-SO9, G4-SO10

In Chile and Peru there are no operations in which there are risks of contractors developing child labor or forced labor. Colbún complies with labor legislation, has a Code of Ethics and adheres to the principles of the Global Compact, which contain human rights issues.

All personnel of contracting companies who work in one of our facilities must present their work contract, as well as the modalities of work and shifts, complying with the internal regulations of contracting companies and Colbún Code of Ethics.

In addition, the Special Regulations of Contractors and Subcontractors and the Integrated Management System of Colbún establish Human Rights principles to which suppliers must be directed to provide services to the Company. Finally, the Company has a platform called Repro Achilles, where we can access the history of contractors in terms of human rights indicators and where, for example, the accident rate or the Labor Inspection claims are evaluated.

## SUPPLIERS EXAMINED IN TOPICS OF HUMAN RIGHTS IN CHILE

G4-HR1, G4-HR10

It should be noted that at Fenix, although we do not literally introduce explicit clauses referring to Human Rights issues, we do include clauses specifying that the companies that provide us services comply with current labor regulations (which is created in accordance with the pacts and international human rights treaties).

In addition, all our suppliers are provided with the Code of Ethics as part of procurement procedures and general services, where our commitments and ethical values are established.

## SECURITY CONTRACTORS AND HUMAN RIGHTS

The inspecting authority in Chile, the OS-10 Police Department, requires that private security guards and security guards attend security courses that incorporate issues related to Human Rights.

As of December 2016, Colbún had 113 security guards and 21 private guards in Chile who had received training courses that included human rights issues. In the case of Fenix, 100% of the security personnel (11) had received training related to the organization's Code of Ethics, which contains human rights issues.

CONTR ACTS WITH CLAUSES RELATED TO HUMAN RIGHTS IN 2016				
	Chile	Fenix		
N° of Significant Contracts	225	76		
N° of Significant Contracts with Human Right Clauses	225	-		
% of Significant Contracts with Human Rights Clauses	100	-		

	SUPPLIERS AND HUMAN RIGHTS (G4-HR10)					
	N° of new suppliers	N° of suppliers analyzed with regards to Human Rights	% of suppliers analyzed with regards to Human Rights			
Suppliers	254*	254*	100%			
	Total N° of suppliers (Ref: G4-EC9)	N° of suppliers analyzed with regards to Human Rights	%. of suppliers analyzed with regards to Human Rights			

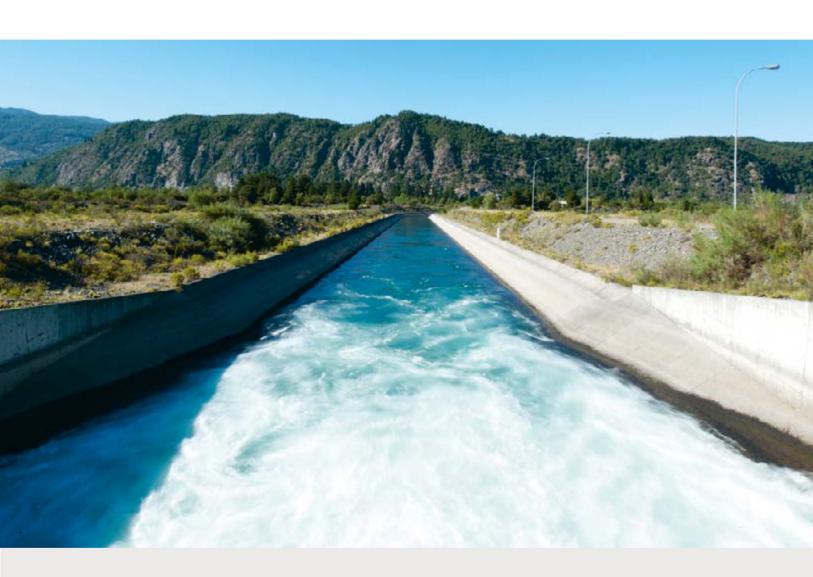
<sup>\*</sup> According to Repro Achilles platform



113 security guards of Colbún in Chile received training which included Human Rights topics



of Colbún's private guards received training that included Human Rights topics



#### SECURITY AND SURVEILLANCE STAFF TRAINED IN HUMAN RIGHTS (G 4 - HR 7)

	Total security staff	% of participation in training
Security Guards in Chile	113	100%
Watchmen in Chile	21	100%
Security staff in Peru	11	100%

**Note:** In the case of Chile, the authority requires training courses, which include human rights issues. In the case of Peru, training on the Organization's Code of Ethics contains human rights issues.

# OCCUPATIONAL HEALTH AND SAFETY

The generation of energy involves working in plants where there are potential risk conditions for the safety and health of people. It is therefore of prime importance to have these factors evaluated and controlled to protect the integrity of those who work and live near the facilities.

In general terms, our objective as a Company is that our workers and their families enjoy good health. In specific terms, one of Colbún's strategic objectives is the search and management of "Zero accidents" and to maintain a healthy and fit working population. Likewise, we want our communities to feel secure in the face of the operation of our plants, and in this regard we have made progress in disseminating our emergency response mechanisms, making our neighbors part of these plans.

Colbún's vision on security issues: "To develop a culture of security that will transform the Company into a benchmark, with each worker and contractor being a passionate security leader in their daily performance."









# BETTER ENERGY, Better Education

**YEARS** 

Since Colbún's FORCOM program offers training courses to secondary technical school's students



14 districts have benefited from **FORCOM since its** creation in 2008.



155

Study scholarships have been awarded by **Pesca** Futuro (Catch the future) in Coronel in two years.



benefited from some of Colbun's educational program in 2016.



#### **SAFETY MANAGEMENT**

(G4-LA6)

At Colbún we have a Safety, Occupational Health, Environment and Quality Policy, which is actively promoted among our workers and collaborators.

The basic principles of this policy aim to comply with the requirements established in the Legislation in force, voluntarily acquired commitments and our standards in the areas of safety, occupational health, environmental aspects and quality. Likewise, it is established that no production or operational emergency targets justify exposure to uncontrolled risks.

During 2016, we hired DuPont, an international company with an extensive international experience in risk Prevention, who carried out a work oriented towards knowing the current state of the security performance of Colbún and to support in the development of a strategy that helps to further improve performance in security. The result of this work allowed us to define a new challenge in this area:

That Colbún develops a culture in

security that transforms the Company into a referent, each worker and contractor being a passionate leader in security in their daily performance.

An Occupational Safety and Health plan was designed where all the activities to be developed will be concentrated, involving the different levels of the organization.

In relation to the safety results for 2016, we suffered one (1) accident with a slight loss of time for a worker from Colbún, and twelve (12) accidents with lost time, of different consideration, of workers of our contractors. With respect to the workers of Colbún who were injured in an accident that occurred in Central Chacabuquito on October 16, 2015, both recovered and returned to their usual

jobs during 2016.

#### **PERU**

In the case of our subsidiary Fenix, in accordance with the safety culture diagnosis recommendations also made by Dupont in 2015, it was decided to update the corporate security objective. For this purpose, a performance indicator, also called a process indicator (PAHSE Advance), was established as described in the table below

## CORPORATE SAFETY OBJECTIVE

Corporate objective	Indicator	Goal
PAHSF*	FI ( Frequency index) + PAHSE 's progress [50%]	O LTI Y PAHSE = 90%
ranje.	SI (Severity index) [50%] (Days of medical rest)	25



The HSE Annual Program (PAHSE) was developed by area managers. with which areas internalized that the safety work is the responsibility of each management and not of HSE professionals.

Despite having a 94% PHASE compliance, unfortunately one of our collaborators suffered a work accident with 7 days of lost time.

#### INDICATORS OF ACCIDENT PROPENSITY IN CHILE 2016 (COLBÚN AND CONTRACTORS) (G 4 - L A 6)

	Colbún	Contractor	Total
Accident rate (1)	0.30	6.87	5.13
Accident propensity rate(2)	0.1	0.47	0.37
Frequency Index (3)	0.43	2.83	2.02
Severity Index (4)	1.28	41.2	27.67
N° Average workers	990	2,753	3,742
Man hours	2,351,448	4,586,840	6,938,288
Accidents with time loss	1	13	14
Days lost	3	189	192
Serious and/or fatal accidents	0	0	0
Accidents without time loss	6	22	28
Vehicle accidents	11	3	14

- (1) Days lost per 100, divided by the average number of workers in the period.
- (2) N° of accidents per 100, divided by average number of workers in the period.
- (3) N° of accidents per 1,000,000, divided by the total man hours of the period.
- (4) Days lost per 1,000,000, divided by the total man hours of the period.

#### INDICATORS OF ACCIDENT PROPENSITY IN PERU 2016 (FENIX AND CONTRACTORS) (G 4 - L A 6)

Stadistics			
Accident rate <sup>3</sup>	7.74	-	3,91
Accident propensity rate 4	1.11	-	0.56
Frequency rate 5	1.12	-	0.57
Severity rate 6	7.87	-	3.96
N° Average worker	90	88	179
Man-hours	177,970	175,655	353,625
Accidents with time loss	1	-	1
Days lost	7	-	7
Serious and/or fatal accidents	-	-	-
Accidents without time loss	-	-	-
Vehicular Accidents	-	-	-

- (1) EE.CC.: Business Contractors.
- (2) Total: Fenix More Companies Contractors.
- (3) Claims Rate: # Days lost \* 100 / # of Workers.
- (4) Accident Rate: # of days lost accidents \* 100 / # of Workers
- (5) Frequency Rate: # of accidents with days lost \* 200 000 / # of Man Hours. (6) Frequency Rate: # of Accidents with days lost \* 200,000 / # of Man Hours.



## OCCUPACIONAL HEALTH AND HEALTHY LIFE

G4-LA6, G4-LA7, Colbún-12.TR

The objective of the Occupational Health policy in Colbún is that workers should not be exposed to risks that compromise their health, and that may relate to substances that they manipulate, to the equipment, machinery and tools that they use or to the conditions of the environment in which they carry out their activities.



**87.5%** was able to recover or improve the health of the workers, which got a degree of alteration in their first examination.

#### **OCCUPATIONAL HEALTH IN PERU**

In 2016 no occupational diseases were generated in Fenix. Even so, a medical examination was carried out to 100% of the collaborators, allowing to have information to establishment of actions for the plan of occupational health surveillance to be carried out in 2017. At the training level, a course of Behavioral Audits was carried out for the O & M, General Services and HSE personnel and another of Safety Management in the processes by personnel of the plant management.

Other safety milestones in Peru in 2016

- Change of meeting point for Tsunami evacuation by a more accessible one
- Participation in the National Quake Simulacrum at the Surco office
- Drafting of technical safety notes for critical hazards: explosive atmospheres, work at height, gas measurement, confined space, electrical risk, blocking and labeling.
- The Diagnosis of the Management systems

was performed under ISO 14001: 2015 and OHSAS 18001: 2007 standards.

- The diagnosis of firefighting systems of the plant was carried out by a certified professional in Fire Protection in Generation Plants.
- The Risk Study and Contingency Plan was updated.



#### **EPIDEMIOLOGIC SURVEILLANCE**

We monitor the exposure of workers at their workplace, identifying agents of risk, doses, concentrations and exposure times, which allow quantifying their magnitude to propose control measures. Likewise, health conditions are checked against specific agents of risk by measuring biological indicators and conducting tests that could detect damage in key systems such as cardiovascular diseases and specific organs.



### OCCUPATIONAL HEALTH PROTOCOLS

Health protocols are focused on minimizing workers' risks and allow monitoring individual health statuses.

Noise is the main health risk identified at Colbún's power plants. Although a series of health protocols have been applied, these are a systematic sequence of actions for their fulfillment such as:

Occupational Exposure to Noise Program, Plan for the Eradication of Silicosis by 2030, upper extremity musculoskeletal disorders, Manual Handling of Loads, Psychosocial Disorders, Asbestos, Non-Ionizing Radiations, within the framework of hygiene plan that includes, among others, qualitative evaluations and previous studies in all the power plants.



### PUBLIC HEALTH SURVEILLANCE

From the point of view of Public Health, the Framingham coronary risk factors measure indicator was implemented in the organization, through the "Colbún battery", with tests that aim at detecting cardiovascular alterations, fundamentally for being the primary cause of death in the country. The result of all this work, which began at the end of 2013, is that 85.8% of workers are considered in the "low risk" range. This is the percentage of the population that has a low probability of having a cardiovascular event in the next 10 years.



#### OCCUPATIONAL DISEASES

In order to ensure that workers have the physical fitness necessary to perform their work, their health is systematically assessed through a set of occupational tests, incorporating a program that monitors workers whose health assessment results present some degree of alteration. This encourages the worker to consult through his health insurance and get the appropriate medical treatment. This in turn is reported to the health commission, which is composed of 3 members of the Organization and People Management and 3 of the Occupational Safety and Health Management, headed by their respective managers. The focus of Colbún has been to have no occupational patients and in 2016 we reached the goal of "O occupational patients" again.

### Safety innovation platform

This year we continued to invite our workers and contractors to give ideas through a web platform, with the aim of making our plants the safest in Chile. This work began at Central Santa Maria in 2014, continuing with four plants / complexes in 2015, to finish with the remaining five in 2016.

Throughout this process, 560 workers from Colbún and contractors have participated, 536 ideas for improvements have been raised, 189 have been committed for implementation, and 89 of them are already fully implemented.

Through this transversal space of participation, the Company has been able to generate value for the Company in such an important issue as the safety culture, in addition to working on the value of collaboration. Through initiatives such as this, the practice of co-construction of solutions is strengthened (regardless of charges or geographic distance), collective intelligence is used within the organization and the conventional top-down paradigm is replaced by a bottom-up.

Challenges of safety innovation: 536 ideas for improvements have been raised, 189 have been committed for implementation, and 89 of the AS are already fully implemented.



# MANAGEMENT OF PUBLIC SAFETY TOPICS IN OUR COMMUNITIES

Colbún-5.SO, G4-EU21

All of Colbún's plants have an emergency plan for fires, earthquakes and natural disasters. Drills are held annually, in which entities such as firefighters, municipal or government emergency offices, police, and / or the Mutual de Seguridad (mutual insurance organization) participate. The safety of our facilities is considered a priority issue in various consultations with the communities where we are present. In 2016 we made progress in this matter:

Colbún power plant: In 2016 a protocol of "Delivery of Information and Communication of Alert Statements on Overflows and Other Measures for the Reservoir Law No. 20,304" was signed. In this agreement participated the DGA (General Water Authority for its acronym in Spanish), the Meteorological Office, Onemi, Colbún and others companies

of the sector, and through this protocol preventive measures were agreed aimed at avoiding or mitigating risks to life and the impact on public and private property that may occur during overflows of the Colbún reservoir due to climate reasons

Regarding the Colbún power plant's tailrace channel, in 2016, a series of actions were carried out to prevent accidents: the perimeter closures, gates and warning signs were reinforced; an advertising campaign was carried out, which included graphic material and a video, and a theatre play was performed in different points of the district to raise awareness about the importance of self-protection.

Angostura power plant: In this power plant there is a protocol of communication to the authorities, police, firefighters and other stakeholders to give a warning when the floodgates are going to be opened, although due to the operational characteristics of Angostura that opening does not alter the natural flow of the river.

There was also an advertising campaign in winter (leaflets and radio mottos) before possible climate-related river's overflows.

Regarding summer in the Angostura Park, there was an advertising campaign (brochure and radio mottos) promoting self-care when using the beaches and reservoir. During the summer season there are permanent safety measures in that places, such as lifeguards, guards and information signs.

Aconcagua Complex: Continuing with the work done in 2015, during 2016, there was an advertising campaign (brochures) on self-care for those who use the Colorado River during the summer. In this area as well as in the Chacabuquito sector, Colbún has permanently placed signs and sirens indicating the occurrence of increases in flow due to sudden discharges.



# 4.4 COMMUNITY LIAISING

We know that energy generation projects generate impacts, and that is why one of our objectives is to look for designs that avoid them, mitigate them or compensate them. Therefore, the starting point to build a long-term, and trusting, relationship with the community is to have a very good operational performance.

Without ever losing focus on operational performance, Colbún's Community Liaising Policy is built on the following basic principles:

• Building good relations with the community based on transparent and collaborative dialogue, developing communication opportunities and strengthening the leadership of members of the community in order to create relationships of trust.

- Generating opportunities in the localities of which we are a part promoting the development of the local economy by investing in our plants, boosting local employment and supporting local suppliers to join our value chain.
- Creating an improvement in the quality of life with the community, promoting collaboratively the development of innovative and sustainable projects with social impact, preferably linked to productive development, education and healthy life.

Below are the objectives and focuses of our liaising strategies with communities and authorities from the 20 districts of Chile and one of Peru, where we have a presence.

The starting point to build a long-term, and trust, relationship with the community is to have a very good operational performance.





#### **COMMUNITY LIAISING**

The objectives and goals of our community and authorities liaising strategy of the 20 communities where we are present are shown below.

#### **FINAL GOAL**

Being and positioning itself as a company that generates sustainable shared value with its neighboring communities.

### **GENERATING TRUST**

 Build and maintain partnerships and collaboration with the community

### ENERGY FOR PARTICIPATION

- Mapping of relevant players
- Raise community priorities
- Meetings with authorities and neighbors
- Working groups and dialogue
- Visits to plants. House of Energy and Visitor Center
- Participation in community activities
- Alliances with trade associations
- · Work with local media
- More Energy Daily

### GENERATING OPPORTUNITIES

 Maximizing the positive impact of the Colbún business in the community, promoting the development of the local economy

### ENERGY FOR LOCAL DEVELOPMENT

- Employability and occupation survey
- · Training for local labor
- Definition of minimum percentage of hiring of local labor

### • GENERATING FUTURE

 Collaborative development of the community through sustainable projects and social impact

### ENERGY FOR EDUCATION

- Energy and
- Technical training in trades and leadership
- Infrastructure
   and equipment in
   advection

### ENERGY FOR LEADERSHIP

- Training for neighborhood leaders
- Support in public resource management

### ENERGY FOR LOCAL SUPPLIERS

- Raising employability and occupation
- Training of local suppliers in Colbún standard
- Hiring local suppliers
- Early payment policies
- Financial support

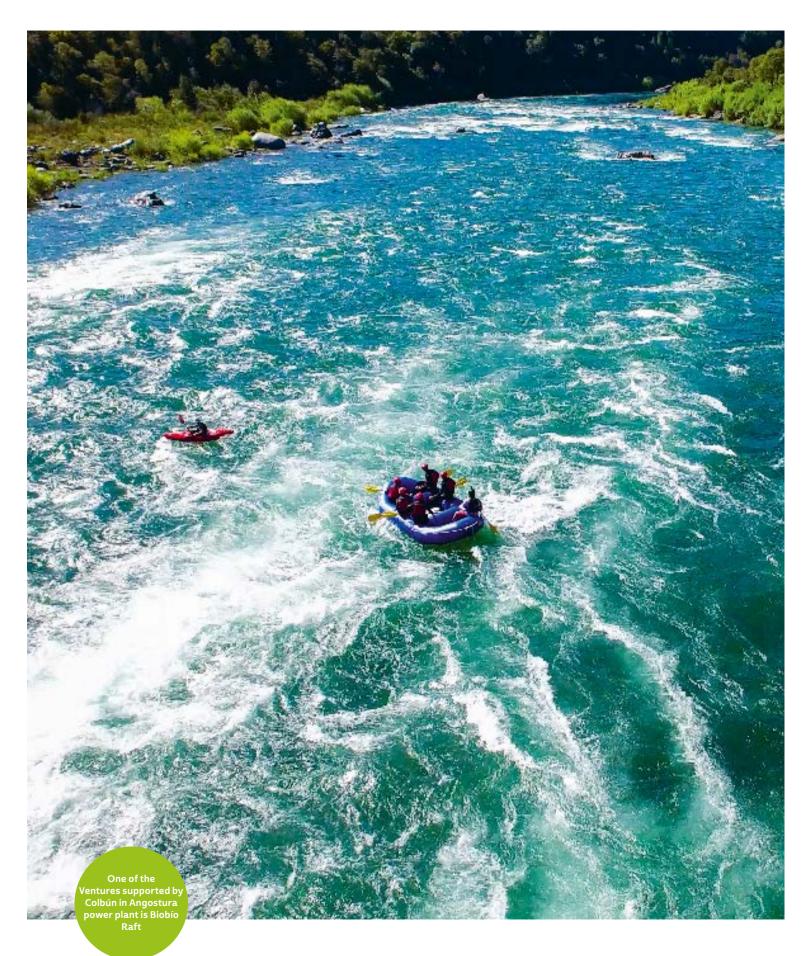
### ENERGY FOR ENTREPRENEURS

- Production chair
- Training in entrepreneurship
- Qualification for entrepreneurship
- Entrepreneurship funds

### ENERGY FOR LIFE QUALITY

- Sports program
- Infrastructure and sports equipment
- Public spaces and green areas
- Promotion of tourism

In all of Colbún's power plants and projects, initiatives in these areas have been implemented with the community.



# GENERATING TRUST: DIALOGUE WITH THE COMMUNITY AND WITH SOCIETY

G4-SO1, G4-SO2, EU19

At Colbún we believe that along with operational excellence, ongoing dialogue and communication with neighboring communities are the basis for making the construction and operation of a plant have a positive impact on the communities that host our facilities.

In the projects area, the Public Affairs Department integrates early in the Engineering and Projects Division and the Environmental Management, in order to inform the communities and local authorities of the activity to be developed and, at the same time, listen to their priorities and interests. This process is carried out prior to the presentation of the environmental impact study or statement, so as to be able to collect local opinions in the project design and facilitate the integration of the same in the territory. This internal integration approach is then maintained during the operation of the plant, where it works together with the Generation Division. The same philosophy applies to Fenix, where the person responsible for community relations is based on the same center in Chilca.

#### POTENTIAL NEGATIVE IMPACTS (G 4 -SO2) · Alteration of terrestrial · Hazardous and non-hazardous · Landscape alteration and aquatic ecosystems · Resettlement of communities · Atmospheric emissions and · Changes in the river (in some cases) discharges regime · Dust lifting · Noise · Demographic increase · Water consumption · Alteration of ecosystems \* Alteration of the landscape

POTENTIAL POSITIVE IMPACTS

	Generation		
Local labor generation Demand for local and regional goods and services Strengthening of union activity Disruption of terrestrial and aquatic ecosystems Archeological findings	Demand for local and regional goods and services     Tariff reductions for communities with generation power plants     Social investment in the community     Strengthening of union activity     Recreational activities	Demand for local and regional goods and services     Tariff reductions for communities with generation power plants     Social investment in the community     Strengthening of union activity	





### COMMUNICATION CHANNELS

G4-SO1, G4-SO2, G4-EU19

Colbún has been systematically increasing channels of communication and dialogue with communities near the Company's facilities, work that responds to the pillar of Generation of Trust of its Community Liaising Strategy. In addition to everyday mechanisms of relationships, such as personal or telephone contact, meetings and working groups, letters or e-mails with staff in the Public Affairs area of each power plant; we have the following tools of dialogue and communication.

Webpage: In 2015 a confidential and anonymous Report Line was implemented on Colbún's website in order to receive complaints related to Colbún's compliance with ethical conduct standards. In 2016 this same channel, under the name of Línea Ética, Was implemented for the case of Fenix through its website.

In 2016 the Consultation Line was implemented, which allows anyone to make comments or consultations of any kind to the Company. Each question is assigned a tracking number and the maximum response time is 15 working days. In 2016 a total of 372 queries were generated.

Bulletin + Energy: Colbún has a community magazine called +Energy in most of the districts where it operates, which is published three or four times a year according to the area. Until the year 2015 this bulletin was published in the districts of Colbún, Santa Bárbara, Quilaco and Coronel. In 2016 we started distributing issues in Quillota and Los Andes. Fenix also has the community newsletter, called "Good Neighbor," which is published twice a month. There is also a blog with the same name associated to this publication.

Digital media: At the end of 2015, Colbún created the @ColbunEnergia Twitter account, in order to implement a new communication channel. By the end of 2016, the number of followers reached 7.775.

Corporate Reputation Index and

Community Thermometer: We annually conduct a mass perception survey of neighbors and relevant stakeholders, which allows us to identify the main concerns and issues of interest of the communities where we are inserted. In the last two years (2015 and 2016) we expanded the Corporate Reputation Index, adding to the survey suppliers

and contractors, workers, investors, customers and suppliers.

#### Community management system (CMS):

In order to be able to monitor the commitments we have made to the communities, all the community relations actions are registered in the CMS.

Visits to our facilities: Another of the channels that was reinforced are the visits to our power plants, a program that seeks to open our plants to the community with the purpose of letting people know how they operate, provide education in terms of energy and environmental matters and receive queries and clarify doubts.

At present, three plants and a project of the Company have established circuits.

•Colbún Hydroelectric Power Plant (Maule

Region): This plant opened the Energy House five years ago within its facilities, which is an educational center that is part of the Energy Tour, in which a visit to the reservoir and dam of the plant is included. This Center was remodeled in 2015 with a new interactive exhibition and during 2016 a total of 4,552 people made the Energy Tour.



- Santa María Thermoelectric Complex (Biobío Region): The visit program was implemented in 2015, and during 2016 it was strengthened, reaching 2,878 people. The program includes the presentation of audiovisual material that explains the power plant and its performance in different areas, and then a tour of the facilities.
- Angostura Hydroelectric Power Plant (Biobío Region): The visits began with the start-up of the plant in 2014. The program allows visitors to get to know the machinery cavern (the largest in the country), and the Visitor Center (an interactive presentation that shows the process of energy, local flora and fauna, and history of the area). In 2016 a total of 15,663 people took this guided tour.
- San Pedro Hydroelectric Project (Los Ríos Region): The program is part of the project's community relationship plan, and includes audio-visual material with the characteristics of this plant and a tour of the project site. In 2016 it received the visit of 621 people.

The rest of Colbún power plants, both in Chile and Peru, also receive visits, but occasionally and not through a systematic program as in the cases mentioned above.

PUBLIC REPORTS AND REPORTABILITY BY DISTRICT AND POWER PLANT					
District Power Plant Date					
Coronel	Santa María Complex	January 7 <sup>th</sup> , 2016			
Codegua	Candelaria Power Plant	August 31 <sup>st</sup> , 2016			
Mostazal	Candelaria Power Plant	August 31 <sup>st</sup> , 2016			
Santa Bárbara y Quilaco	Angostura Power Plant	September 13 <sup>th</sup> ,2016			
Los Ángeles	Angostura Power Plant	September 14 <sup>th</sup> , 2016			
Cochamó	Canutillar Power Plant	November 22 <sup>th</sup> , 2016			
San Esteban	Aconcagua Complex	November 30 <sup>th</sup> , 2016			
Los Andes	Aconcagua Complex	November 30 <sup>th</sup> , 2016			
Curacaví	Carena Power Plant	January 9 <sup>th</sup> , 2017			
Quillota	Nehuenco Complex	January 26 <sup>th</sup> , 2017			



The information to coordinate a visit to the power plants or the San Pedro project is available in the web page of Colbún.

### Public reports and reportability of the power plants

In 2013 Colbún organized in Coronel the first public report of one of its plants. Since then, the Company has been extending this program, and in 2016 a total of 10 districts hosted at least one reportable event: San Esteban (Aconcagua Complex), Los Andes (Aconcagua Complex), Coronel (Santa Maria Complex), Concepción (Santa Maria Complex), Codegua (Central Candelaria), Mostazal (Central Candelaria), Santa Bárbara and Quilaco (Central Angostura), Los Angeles (Central Angostura) and Cochamó (Central Canutillar). They were joined in January 2017 by Curacaví (Central Carena) and Quillota (Complex Nehuenco), totaling about 550 attendees.

The public reports and reportability meetings were created in order to show the operation of the Company and its plants in the areas of operational, environmental and social management.

These meetings have become an instance where the community and local actors often present their doubts and concerns regarding the operation of the plant. In 2016 we collected a little more than 100 comments and questions, which in addition to being answered in each event, served as input for the materiality analysis of this Integrated Memory. Although the number and type of assistants varies according to the district, they usually involve the mayor, regional authorities, municipal officials, leaders of neighborhood councils and functional organizations, neighbors, suppliers and the workers themselves. All presentations are on Colbún's website. (https://www.colbun.cl/ documents-of-interest /).

# CITIZEN PARTICIPATION AND EARLY CONSULTATION

G4-EU19

#### **SAN PEDRO PROJECT**

As part of the work prior to the submission of the Environmental Impact Study (EIA) for modifications to San Pedro Hydroelectric Power Project, in 2016 Colbún held a total of 224 meetings or meetings with different groups and organizations of the Los Ríos Region as part of its Early community relationship plan.

Of this total of meetings, about half (111) were carried out with one of the 12 indigenous communities located in the area of influence of the project while the remaining projects have been carried out with civil society organizations, neighborhood associations, guilds and local authorities.

The community work of San Pedro includes four areas: visits to the project site; workshops for specific sectors, either with indigenous communities, or working groups related to tourism; presentations of the project to different stakeholders, such

as guilds or neighborhood meetings, and conversations with grassroots organizations for the purpose of collecting and systematize the main consultations of the communities.

All these meetings allow informing the community about the project, clarifying doubts and collecting points of view and local visions with the objective to improve the project and its contribution to local and regional development. This process is carried out in parallel with the various studies carried out by Colbún to support the observations made in 2015 by the public services to the Environmental Impact Assessment (EIA).

### PARTICIPATORY MONITORING IN FENIX PERU

Fenix promoted in the year 2012, prior to the start-up of its gas-fueled thermal power plant a Participatory Socio-Environmental Monitoring Program (PSEMP) aimed at involving the nearby population in the measurement of the main environmental variables of the plant. That was how that year a Participatory Monitoring Committee was formed, which was the starting point for a task that has been carried out without interruption every month during the

construction and operation of the plant.

Field monitors receive prior training on the task to be monitored, the objective of the task and the safety considerations to be taken into account. During the monitoring, community representatives can make consultations related to the activity, the same that are answered through the specialist in charge of the monitoring.

In addition, in 2016 some strategic stakeholders, not part of the Committee, but are relevant community organizations, such as fishermen's associations and other trade unions have been incorporated.

The monitoring complies with the national and World Bank regulations, which are supervised by the competent authorities (OEFA). In addition, the results of the Monitoring Program are disseminated through Fenix's community newsletter, "Good Neighbor" and some direct information actions have also been carried out on this topic in particular with some organizations.



### GENERATION OF OPPORTUNITIES: LOCAL SUPPLIERS AND EMPLOYMENT

G4-EC9

At Colbún we promote the purchase of goods and services to local suppliers, as long as they comply with the technical and commercial conditions that are required for a reliable commercial operation.

#### PURCHASES IN DISTRICTS WITH COLBÚN'S INFLUENCE - CHILE (G4-EC9)

Region	District		
RM - Metropolitana	Curacaví	13	182
V - Valparaíso	Los Andes Quillota San Esteban	55 24 2	4,934 733 4
VI - Lib. Bdo O'Higgins	Codegua Mostazal	4 6	109 107
VII - Maule	Colbún San Clemente Yerbas Buenas		1,898 280 5
VIII - Biobío  Antuco Cabrero Coronel Lota Quilaco Quilleco Santa Bárbara		4 18 54 7 36 5	3 1,376 1,264 317 182 579 1,388
XIV - Los Rios Los Lagos Panguipulli Valdivia		16 19 52	181 480 1,099
X - Los Lagos	Cochamó	7	93
Total		528	15,215

**Nota:** (1) Dentro del ítem Salud se incluyen los dos proyectos que explican la mayor inversión comunitaria en Perú: Agua para Chilca y Policlínico Las Salinas.

 $(2) \ "Otros": Este \ item \ incluye \ gastos \ administrativos \ y \ donaciones \ a \ organizaciones \ comunitarias.$ 

#### PURCHASES IN DISTRICTS WITH COLBÚN'S INFLUENCE - PERU (G4-EC9)

Region / Distrito	N⁰ prov.	Monto (Miles de US\$)
Lima and Callao	441	83,129

**Nota:** There is a supplier of Ucayali and another one of La Libertad, which were included along with those of Lima and Callao, in order to not specifying the amounts in each case.

Colbún also seeks to generate opportunities focused on maximizing the hiring of local labor. These are some examples:

#### $La\,Mina\,(Maule\,Region)\,Power\,Plant$

**Project:** In the construction of this power plants the percentage of unskilled local labor has reached 43% by December 2016.

Nehuenco Complex: 91% of the 70 own workers of the power plant live in Valparaíso Region, where the facilities are located.

**Aconcagua Complex:** 90% of the 120 workers come from the Province of Los Andes.

**Canutillar Power Plant:** 76% of the workers in this plant come from Los Lagos Region.

**Central Carena:** 62% of the 34 own workers of the power plant live in the Curacaví district.

**Central Candelaria:** 94% of Candelaria's 16 workers come from the Libertador Bernardo O'Higgins Region.

#### GENERATING FUTURE: COMMUNITY DEVELOPMENT PROGRAMS

Colbún-3.SO, G4-SO6

Colbún develops its community investments under the following principles, established in the Community Relations Manual:

- **1.** The activities are developed from a well-defined strategy (objectives, criteria, guiding principles).
- 2. Align strategic business issues with development priorities of local communities, civil society and government to create "shared value".
- 3. Position the Company as an ally that

involves all stakeholders and not as the main player in the promotion of local development.

- 4. Try to avoid dependency and instead encourage autonomy and creation of long-term benefits that will last in time, once the support of the Company is finished.
- **5.** Monitor changes in community perceptions to obtain real-time feedback on performance.
- **6.** Proactively communicate the value generated by Community Investment (CI) to internal and external audiences.

Colbún community investment focuses on three areas, with which the Company

seeks to Generate Future. These lines

**Energy for Education:** Programs that are aimed at providing educational support to educational establishments and young people in the districts where Colbún operates.

**Energy for Entrepreneurship:** Initiatives that aim to strengthen the capacities of our neighbors in areas of productive development and employability.

**Energy for Quality of Life:** Focus on improving the living conditions of communities.

SOCIAL INITIATIVE BY TYPE IN CHILE (COLBÚN-3.SO)				
Pillar	Subcategory	US\$	N° of Beneficiaries	
Generating Trust	Leadership	3,879	50	
denerating must	Participation	1,841,339	123,458	
	Quality of Life	2,472,275	198,853	
Generating Future	Education	561,029	8,807	
	Entrepreneurship	1,142,256	2,658	
Others*		425,848	150	
GENERAL TOTAL		6,446,626	333,976	

#### Nota:

Trainings provided to local suppliers during 2016 that are part of Generating Opportunities are excluded.

\* "Other" refers primarily to administrative expenses and donations to charities.

It should be noted that, in accordance with the law, Colbún does not make political contributions (indicator G4-SO6).



#### **SOCIAL PROGRAMS IN CHILE**

Some of the outstanding programs and initiatives of the year 2016 in Chile were the following:

Entrepreneurship Centers: Colbún operates two entrepreneurship centers in partnership with the NGO Acción Emprendedora. Located in the districts of Coronel and Santa Bárbara (Biobío region), they focus on training, support to start or formalize a business, and business incubation.

The Entrepreneurship Center of Santa Bárbara and Quilaco has been operating since 2012 and focuses its work on these districts and those of Antuco, Quilleco and Cabrero. In 2016, it provided training, advice and related services to 2,714 people, convoked 688 attendees to its seminars and talks, carried out 86 consultancies and financially supported 72 ventures.

In Coronel, in 2016, 268 people were trained, 73 entrepreneurs were advised and the fifth version of the "Yo Emprendo en Coronel" seed capital program was carried out. This program is organized jointly with Cidere Biobío, the Municipality of Coronel and the own Action Entrepreneur. The projects benefited added 24.

Newén Maqui: The Newen Maqui project was born in 2014, product of an alliance between the consultant GECO and Colbún. This social enterprise, based on the development of a drink based on maqui and the creation of a national and international market for this wild fruit aims to generate employment opportunities for the communities of southern Chile

The project benefits collectors in the areas of Mulchén, Santa Bárbara and Quilaco (Biobío region), who together with receiving training and a fair payment for the fruit harvested, annually receive 20% of the profits of the project. In 2016 a total of 188 people from the mentioned districts received profits for this concept. Newén Maqui was recognized in 2016 with the first place in the Latin American Green Awards (Human Development category, Social Inclusion and Reduction of Inequality) initiative where they postulated more than 1,400 projects of Latin America.

#### Complementary Training (FORCOM):

The Complementary Training program of Colbún completed in 2016 nine years of existence. In alliance with Inacap - and more recently also with the Vertical Foundation - and Santo Tomas University, this initiative seeks to provide technical tools that improve the training and employability of students, through





courses such as Computing, electricity, accounting and leadership, among others. In addition, the best students of each course are awarded a scholarship to cover part of their higher education expenses.

In 2016 this program benefited 214 students and provided scholarships to 12 students. FORCOM accumulates to date about 1,200 beneficiaries in the 14 districts where it has been implemented.

Social Development Funds: This fund, which was born in 2009 as a result of the work of the "Working group for the Development of the South Sector" - integrated by Colbún and 12 neighborhood councils - has two lines: one that benefits neighborhood associations with projects of improvement of public spaces and Construction or remodeling of community headquarters, and another that benefits through competitive funds, to functional organizations such as sports and cultural clubs, among others. The first line allowed to boost in 2016 the remodeling of Corcovado 2, which benefited the more than 250 families in the sector, and the construction of a Potable Water Project in Calabozo Alto, benefiting 22 families. In the second line, 36 projects were awarded to functional organizations in 2016. In a complementary axis, this program



# Community Programs under Development Projects

#### INITIATIVES UNDER THE WING OF SAN PEDRO PROJECT

As part of San Pedro Hydroelectric Power Project, Colbún and more than a dozen grassroots organizations from Los Lagos and Panguipulli districts (neighborhood associations, sports clubs, and indigenous organizations, among others) promoted the formation of work tables that would allow, through a participatory process, to define improvement works of tourist infrastructure in both districts. Working lines were divided into two stages: summer season 2016 - 2017 and summer season 2017 - 2018.

Thus, at the end of 2016 five improvement works for the district of Los Lagos were started – two lookout points, two picnic areas and a stairway for kayaks to the San Pedro river - and three for Panguipulli, which included three beaches of that district. All of them were delivered in the summer of 2017.

#### INNITIATIVES UNDER THE WING OF LA MINA PROJECT

In parallel to the construction of La Mina Hydroelectric Power Plant (San Clemente district), in 2016 the following social initiatives were promoted:

**Training:** The second version of the Diploma in Nature Tourism "Rutas Cordilleranas" (Mountainous Routes) was carried out. The Diploma certified 16 students of the Technical Career in Tourism of Entre Ríos High School, from an alliance with the Municipality of San Clemente and the Vertical Professional Institute.

**Drinking Water:** An agreement was signed with the APR (regional drinking water for its acronym in Spanish) Paso Nevado Committee, with the objective of contributing 50 million Chilean pesos to improve the drinking water system of this sector.

**Infrastructure:** A project to improve Plaza de Los Alamos was implemented, which included exercise machines, children's games, led luminaires and new green areas. Improvements were also made in the access to Baños del Médano, which considered a bus stop, arrangements on the pedestrian walkway and the reconstruction of the stairway to the town. In addition, a luminaire project was implemented in the area.

also advised the nomination of 56 social organizations to public funds, resulting in the award of 13 additional projects that together received \$ 66 million.

Itake care of my planet: This program aims to raise awareness in the community about the importance of caring for the environment.

In the district of Colbún, under this initiative in 2016 the Third Version of The Environmental Management Competitive Funds took place, which financed 10 projects belonging to educational establishments and neighborhood associations. Also in the same district the sixth version of the environmental artistic contest of the "Cuido Mi Planeta" Program was held, which invited more than 400 children and youths. Finally, in 2016 there were days of collection of appliances and sterilization of pets.

In the case of the districts of Codegua and Mostazal, and in partnership with the La Semilla Foundation, there were training courses held for parents and teachers from eight educational establishments and a neighborhood council, in order to advise them on the presentation of projects to the 2017 Environmental Competitive Funds.

#### **SOCIAL PROGRAMS IN PERU**

Some of the relevant community programs developed by Fenix in 2016 were:

Water for Chilca: This program is based on a desalination and water purification plant for sea water, which required an investment of 4 million dollars and that has been positioned as a reference for the area. The plant has the capacity to produce 2,000 cubic meters of drinking water per day, resource that is delivered to the Municipality of Chilca district, for its distribution in benefit of the local population.

Polyclinic Las Salinas: This is a health center with outpatient medical care in different specialties, which provides services of laboratory, X-ray and pharmacy. The polyclinic was set up in 2016 and opened in January 2017, benefiting directly 1,000 residents of Las Salinas.

Strengthening Fund and Base Social Organizations: Milk Glasses and Dinning rooms: Beneficiary organizations present projects of improvement of infrastructure and equipment of their premises. The projects are aligned with the improvement of the food services provided to the low-income population.

2,714

People benefited by the Entrepreneurship Center of Colbún in Santa Bárbara.

Communal unions of neighborhood councils of Coronel participate in the Board for the development of the South area which was started by Colbún.

#### COMMUNITY INVESTMENT IN PERU (COLBÚN-3.SO)

Pillar/Cornerstone	Amount (US\$)	Beneficiaries
Education, health, safety, tourism, infrastructure and administrative expenses. GRAND TOTAL	808,130*	27,020

#### NOTAS:

\*This amount corresponds to an estimated value of the cost of production of water for the community of Chilca (303.190  $\rm m_3/year$ ). A method is being developed for the valorization of the  $\rm m_3$  of water produced, which will be used in the following report.

#### MAIN SOCIO-ENVIRONMENTAL CHALLENGES

G4-EN24, G4-HR8, Colbún-4.SO

Faced with the potential risk of a socio-environmental conflict, at Colbún we believe that well managed these risks can represent an opportunity to establish relationships of trust with our neighboring communities and to promote projects that create shared value. That is why in the management of these situations, Colbún privileges direct contact with the communities, seeking common points of interest and projects that benefit all parties. In this context, in 2016 the following situations were presented:



Subject	Description	Measures adopted by Colbún
<b>Colbún Reservoir Level,</b> District de Colbún, Maule Region	Some relevant players in the area of the Colbún reservoir have manifested in recent years their interest in setting a minimum level for this reservoir in the summer months with the aim of promoting tourism. In this context, in 2014 the "Tourism Development Corporation of the Lake Colbún, "which brings together tourists from the area and the Municipalities of Colbún and San Clemente. This organization had an active role in the creation of the Tourist Interest Zone (ZOIT) Colbún-Rari in 2016.	In May 2016, Colbún sent a letter to the CDEC-SIC informing that stating in the summer of 2017, it would implement a voluntary, temporary and experimental plan to reconcile the use of the waters of the Colbún reservoir for other purposes. This is the second time that Colbún S.A. sends a letter of this nature, after raising a similar restriction in 2014, applicable in the summer of 2016.  In addition, during the past year, regular meetings were held with the Corporation, local authorities, neighbors and the community to report the situation of the level. Finally, at the end of 2016, a public website was prepared to provide information with daily or weekly updates, as the case may be, of the main hydrological variables in the Maule basin. It is expected to deliver this website to the community in the first months of 2017.  In spite of the actions carried out, as is well known, the south central zone has faced extremely dry precipitations and ice-melting conditions, the lowest of the last 6 years, which has impacted the reservoir.  The imposition of a level on any event could damage the primary purposes for which the Colbún Reservoir was created, which is the generation of energy, as well as the obligations of restitution of irrigation through channels.



Subject	Description	Measures adopted by Colbún
Santa María Thermoe- lectric Power Plant, District of Coronel, Biobío Region	In September of 2015, a lawyer from Concepción, representing a group of Coronel's neighbors, presented a Complaint to the Superintendency of the Environment (SMA), for considering that there was an overproduction of energy from the Unit I. Subsequently, he filed an appeal for protection before the Appeals Court of Concepción for this reason, while throughout 2016 the same professional denounced before the SMA other alleged non-compliances.  While the Court dismissed the protection appeal in January 2016, the SMA issued a resolution in January 2017 where non- compliance with the CAR was rejected, in particular the alleged excess of generation. The supervisory authority did formulate a charge, of a mild nature, related to exceeding the noise standard during the night, a matter on which the Company is evaluating possible courses of action.	Coronel has had coal-fired power plants since the 1970s, Unit I of the Santa María Complex being the last to be incorporated in 2012.  Since this plant, one of the most modern of its type in the country, has been operational, Colbún has placed special emphasis on having a high standard environmental operation, which in practice has meant that the main environmental impacts of the project have State below those predicted in EIA, such as emissions and water temperature in the bay.  On the side of its relationship with the environment, Colbún has promoted different channels of communication to inform environmental results and receive concerns and complaints. These channels include the realization of annual public accounts since 2013; The installation of working groups since 2011 with neighboring boards; Periodic assistance to television channels and local radio programs; The issuance of information capsules with the environmental performance of the plant, and the implementation of a program of guided tours, which in 2016 strengthened from 1,500 people in 2015 to 2,878 in 2016. Finally, Colbún actively participates in the Council for Environmental and Social Recovery of Coronel (CRAS) promoted by the Government.  In spite of this effort of relationship, dialogue and communication, and despite the fact that the Central has a good environmental performance, the public perception of the thermoelectric plants in Coronel continues to be negative.

Hydroelectric Power Plant	Description	Measures adopted by Colbún
<b>Canutillar Power Plant,</b> Cochamó district, Los Lagos Region	Neighbors of Lago Chapo have expressed to Colbún their concern about the variations of level that this lake is experiencing, where the Canutillar Power Plant operates. In particular, they have raised the difficulties of access to the shore during the summer when the level of the lake decreases.  It should be noted that the Canutillar Plant started operations in 1990 and in 2006 was acquired by Colbún.	In 2016 Colbún held periodic meetings with the Lake Chapo neighbors' board to deal with this situation. In these meetings, the Company explained that although the plant has always operated within the parameters established by the water rights granted by the General Directorate of Waters (DGA), the level of the water height has been impacted by the significant precipitations deficit that have affected the country in the last six years.  In fact, the generation level of Central Canutillar in 2016 was 38% lower than its annual historical average.  In any case, as a result of the meetings with the neighbors board, Colbún sent a letter in 2016 to the CDEC-SIC informing the implementation in the summer of 2017 of a voluntary, temporary and experimental plan to reconcile the use of waters for other purposes, establishing a minimum level that was effectively met during the forecast months (January and February).  Finally, it was agreed to build a new dock on the lake, which was delivered to the community in September 2016.
Hydroelectric Power Plant	Description	Measures adopted by Colbún
San Pedro Power Plant Project, districts of Los Lagos and Panguipulli, Los Ríos Region	In June of 2015 Colbún entered the Environmental Impact Study (EIS) for the modifications to the project, which, although initially admitted to processing by the Environmental Assessment Service (EAS) of Los Ríos, in August of 2015, the authority finished the process with anticipation for lack of essential information.  The presentation of this EIS provoked the rejection of the project by some local players, including environmental groups, kayakers and political players in the area.	From the anticipated term of the process of environmental processing of the EIS, and in particular in 2016, Colbún has promoted a work plan that has two central pillars with a view to a re-entry of the modifications: first, to give a timely and technically sound response To the observations of the services  Public and, secondly, a community relationship plan that allows the project to be properly inserted into its environment and to be a contribution to local development in the long term through a partnership formula.  As part of this plan, in 2016, two working groups - in Panguipulli and Los Lagos - were created with a transversal group of social, business and functional organizations to generate a long-term communal line of work on tourism. Thus, in the summer of 2017 seven works of improvement of tourist infrastructure were delivered in Los Lagos and Panguipulli.  In addition, a program of visits to the project was continued, totaling 621 people in 2016, and 224 meetings were held with local and regional actors to give this initiative and collect doubts and concerns.  From these channels of dialogue Colbún works today on proposals that allow the project to generate long-term local and regional value.



#### **COMMUNITY AND HUMAN RIGHTS.**

G4-HR3, G4-HR8, G4-HR12.

During the year 2016, there were no cases of violation of Human Rights Indigenous peoples, nor did we receive cases of discrimination or violation of the Human Rights in the complaint channel or in the Colbún Line (consultation and suggestions channel), neither in Chile nor in Peru.





This chapter presents the environmental performance of our operations in Chile and Peru during the year 2016, regarding the material aspects associated with the natural capital present in our facilities.

Our commitment to the environment is to generate electricity minimizing our impact and using efficiently the resources.

MATERIAL TOPICS	WATER	EMISSION / NOISE	BIODIVERSITY	CLIMATE CHANGE
SCOPE	Use of the hydrological resource     Transparency	• Emisiones bajo la norma	• Flora and fauna	Drought     Greenhouse Gases
ASSOCIATED RISKS	<ul> <li>Consumption of water in the power plants</li> <li>Variability of the water resource</li> <li>Opposition of the community for alternative use of the water resource</li> </ul>	<ul> <li>Variación de impuesto verde</li> <li>Cuotas de disminución de emisiones</li> <li>Oposición de la comunidad</li> <li>Disponibilidad de cada tipo de combustible</li> </ul>	<ul> <li>Environmental incidents</li> <li>Legal resources against a Project or power plant</li> <li>Opposition of the citizens</li> </ul>	Reduced availability of the water resource Profitability of Colbún VOpposition of the community due to the alternative use of the water resource
MANAGMENT AND NORMATIVE FRAMEWORK	<ul> <li>Sustainability Policy</li> <li>Integrated Management</li> <li>Safety, Occupational Hand Quality Policy</li> <li>Cutting-edge technolo</li> <li>NCRE Generation</li> <li>Issuance of Carbon Cree</li> </ul>	ealth, Environment gy	<ul> <li>Participation in the Carbon</li> <li>Project (CDP)</li> <li>Efficient use of water</li> <li>Agreement with Irrigators</li> <li>Biodiversity Management</li> <li>Forest Management</li> </ul>	Disclosure
SUSTAINABLE DEVELOPMENT OBJECTIVES	Clean water and sanitation  Affordable and clean energy	Sustainable cities and communities production and communities	Climate action Life below water	Ecosystem and life on land  Ecosystem and life on land  Partnership for the goals



#### **ENVIRONMENTAL MANAGEMENT MODEL**

#### **WATER**

We ensure that the water resource in our different types of power plants is used efficiently and does not lose its capacity for self-generation.

#### **AIR**

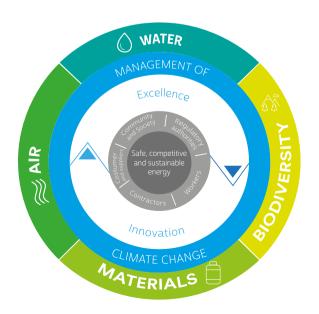
We seek to minimize the effects of our emissions on local air quality, as well as manage our greenhouse gas emissions

#### **MATERIALS**

We efficiently use the raw materials we transform into energy, taking responsibility for the waste management of our processes

#### **BIODIVERSITY**

We recognize and care for the flora and fauna as well as the habitats and ecosystems where our projects and facilities are inserted.





G4-EN8, G4-EN10,

The availability of the water resource is key for the development of our business and it represents a risk due to variability in precipitation patterns and changes in flow rates.

In the face of changing climate patterns, regulated hydroelectric plants acquire a greater importance (Colbún, Machicura and Canutillar plants), since they allow supply adjustments in order to take more load when consumption increases and are an excellent complement for renewable technologies, such as solar and wind energy, whose generation is variable.

Colbún has resolved to build and operate its power plants with high environmental standards.

Thus, for example, our hydroelectric reservoir plants exceed the international standards of efficiency established by the United Nations (more than 4 Watts of installed capacity per flooded square

meter) to qualify projects as efficient in water management and with low environmental impact. To minimize the environmental impact we seek to maximize this index.

Colbún seeks this goal and it has been improving the relevant index in power plants over time.

### EFFICIENCY OF RESERVOIRS (INSTALLED CAPACITY FOR EACH M<sup>2</sup> OF FLOODED AREA) INUNDADA)

Colbún Reservoir	
Machicura Reservoir	
Angostura Reservoir	
San Pedro Reservoir Project	

The amount of water consumed at Colbún S.A. considers all power plants, both thermal and hydroelectric, in their processes of production of steam, cooling and other support tasks. It is important to note that this measure does not consider

the water used in hydroelectric generation, because that water is used and fully returned, without being consumed.

As it can be seen in the following table, this consumption increased slightly during the year 2016 (1.2%), which is mainly due to the recovery in the operation of the Santa María I power plant with respect to 2015. It must be clarified that, although the water used for the cooling of the Santa María I power plant, is fully returned to its natural source –the sea –, this variable is considered in water consumption

During the year 2016 extremely dry hydrological conditions persisted in most of the basins where our facilities are located. The hydrologic situation has not been homogeneous along Chile, where the basins most affected by fewer precipitations are located in the southcentral zone of the SIC.

Consequently, the level of water utilization to generate energy in our

TOTAL WATER USE NOT FOR HYDROELECTRIC GENERATION, BY SOURCE (G4-EN8)					
SOURCE         Unit of measurement         2014         2015         2016					
Surface water (river/lake)	m³/year	10,760	9,115	11,045	
Surface water (sea)	m³/year	343,330,691	313,124,801	316,705,257	
Underground water	m³/year	3,730,196	4,499,648	4,774,148	
Municipal Water	m³/year	123,795	69,663	61,626	
TOTAL	<b>m3/</b> voor	2/7105 //2	217 702 227	221 552 077	

#### NOTES

Sea water is used for the cooling of the Santa María thermal power plant and it is fully returned to its origin.

The water that comes from rivers, lakes and wells is used for consumption in the administrative offices and for cooling processes, among other uses.

The decrease of the water supply from sanitary companies or municipal waters is mainly due to a decrease in the water consumption in the power plant Antilhue, which decreased its consumption 14% during 2016. The consumption of ground water remained relatively stable with respect to consumption of the year 2015 and presented an increase of only 6%. The use of sea water increased 1% due to the level of generation achieved in Santa María in comparison to 2015.

USE OF WATER RES	OURCE AS TURBINE WAT	ER (ONLY FOR ELEC	TRICITY GENERATIO	N PURPOSES) (G4-E
POWER PLANT	Unit of Measure	2014	2015	2016
Colbún	Millions m³/year	13,326	12,893	8,378
Canutillar	Millions m³/year	1,735	1,512	1,062
Carena	Millions m³/year	285	285	272
Rucúe-Quilleco	Millions m³/year	4,211	4,386	2,995
Aconcagua	Millions m³/year	1,110	996	1,387
Angostura	Millions m³/year	10,401	10,220	5,504
TOTAL	Millions m³/year	31,068	30,292	19,598



1.2%
Increase in the water consumption in all power plants, mainly due to the recovery of the operation of Santa María I power plant.

hydroelectric power plants was 35% lower than in the year 2015, being the Aconcagua Complex the only one that increased its power generation in relation to the previous year. This was because the level of water fallen in that basin presented a slight recovery, and also because we achieved the reconnection of the Chacabuquito and Blanco power plants (which had been out of service during some months of the year 2015). In addition, during 2016 the development of the project centered in the efficient management of water in the Aconcagua basin continued, which involved the characterization of sediments and the elaboration of the conceptual engineering of a prototype for the cleaning of sediments for the Colorado water inlet.



## HYDROLOGICAL SITUATION IN THE ACONCAGUA BASSIN

As a response to the prolonged water shortage that the south-central zone of our country has faced during the year 2015, we sought to reduce our dependency on the use of fresh water resources. This was done through the development and implementation of an automatic control system over the wells in the Nehuenco Complex, which has high standards and allows for operation, registration and continuous analysis to improve and optimize the use of the water resource. During the year 2016 efforts were focused on strengthening this system to increase its level of reliability.

Two reverse osmosis pilot plants were implemented in 2015 for the purpose of processing water purged from the cooling towers, and reusing the water to reduce our demand. Based on the good results of these operations, in 2016 we made the decision to implement a definitive osmosis that will have an approximate capacity of 600 m3/ hour. This new plant, which will be operationally available as of March 2017, will generate estimated savings of up to 50% of the water consumed in the most critical months.

In addition, waste water will be delivered to third parties for reutilization and use optimization purposes.

Even though the osmosis plants were operational and available during the year 2016, given the negative hydrological conditions of the period, its effective operation was not necessary. For this reason the Nehuenco Complex operated independently.

### HYDRAULIC SERIES: WATER REUTILIZATION

Given the strong hydroelectric vocation of Colbún, water resources are essential for the Company.

Thus, in order to promote energy efficiency and the sustainable use of its natural resources, Colbún has developed most of its electric generation power plants by reusing the waters that have been used by other power plants of the Company, located upstream in the same

basins, that is, in hydraulic series. Colbún has developed many of its projects in hydraulic series in order to reuse the same water.



Colbún has developed most of its electricity generation power plants by reusing the same water that has already been taken advantage of by other power plants of the Company, located upstream in the same basins, that is, in hydraulic series.



As a consequence, currently close to 37% of the maximum water flows used by Colbún in its operations are used by more than one electricity generation power plant owned by the Company, thus allowing a more efficient energy use of water resources.



**37%** of the maximum water flows used by Colbún in its operations are used by more than one electric generation power plant owned by the Company.

#### TOTAL PERCENTA GE AND VOLUME OF WATER RECYCLED AND REUSED IN HYDROELECTRIC POWER PLANTS (G 4 - EN 10)

POWER PLANT	Unit of measure	2014	2015	2016
Total turbine water	Millions m <sup>3</sup> /year	31,068.0	30,291.8	19,597.9
Volume of "re" turbine water in series	Millions m³/year	11,045.5	10,603.0	7,279.1
Percentage of reused water	%	35.6	35.0	37.1

### OTHER ENERGY-EFFICIENT USES OF WATER

Hydroelectricity with water regulation capacity generate other social benefits. This is the case of the water efficiency agreement signed with the Maule South Irrigators' Association which permitted irrigation water savings equivalent to 35% for the 2015-20161 period. This is a mutual benefit agreement, where irrigators receive an income for saving water, while Colbún has more water available for power generation.

Colbún has also taken advantage of irrigation channels and water flows destined for irrigation to generate energy by making a proper use of water.

The efficiency agreement signed with the Maule South Irrigators' Association permitted water savings for irrigation equivalent to

**35**%



1. Minutes of the agreement of Colbún Water Resources S.A. and Maule South Irrigators Association and AMS closing of agreement Apr-Aug 2016\_SIGNED.

#### EFFICIENT USE OF RESIDUAL RAIN AND IRRIGATION WATERS (G4-EN6)

				2014	2015	2016
Name of the initiative	Description	Place of implementation	Unit of measure	Estimated Savings		
Optimization of the water resource	Development of new power plants that take advantage of water flows destined for irrigation, as is the case of the San Ignacio, Chiburgo and San Clemente power plants.	San Ignacio	GWh	175	171	90
		Chiburgo	GWh	60	70	63
		San Clemente	GWh	16	16	17
TOTAL				251	256	170

#### NOTE

#### POWER PLANTS WITH ENERGY-EFFICIENT USE OF WATER







#### SAN IGNACIO HYDROELECTRIC POWER PLANT (RUN-OF-THE-RIVER)

Operates taking advantage of the residual energy existing at Colbún-Machicura Complex's tailrace channel, thus maximizing the use of energy and water of the complex with minimal environmental impact

#### CHIBURGO HYDROELECTRIC POWER PLANT (RUN-OF-THE-RIVER)

Was built in 2007 taking advantage of the facilities of Colbún power plant, which provides water for the use of the irrigators without altering its quality or quantity.

#### SAN CLEMENTE HYDROELECTRIC POWER PLANT (RUN-OF-THE-RIVER)

This power plant allows using the power losses generated along the Sanatorio Gorge, as it is used to return water to various irrigation channels. This power plant is registered under the United Nations' Clean Development Mechanism (CDM), due to the CO2 emission reduction resulting from its operation.

### USE OF THE WATER RESOURCE IN PERU

Fenix Power Perú S.A. operates the combined cycle thermoelectric power plant located in the community of Las Salinas in Chilca, 64 km south of Lima. The combined cycle power plant is comprised of one steam turbine and two gas turbines, which can also be operated with diesel oil.

By using the water collected from the ocean for its processes, the power plant avoids all consumption of underground and continental water.

The process that demands a greater amount of seawater is the cooling system of the power plant, whose value reached 255 Hm3 in 2016. A small portion of this collected water goes through a desalination and purification process, which makes possible to generate up to 2.500 m3 of drinking water daily. A small percentage of this water is destined for the internal use of the power plant and most of it is delivered to the District Municipality of Chilca, which takes care of its distribution in benefit of the local population. The drinking water has been delivered to the population since the year 2016 and reached a maximum monthly level of 31,487 m3

The seawater used for the cooling process is fully returned to its origin.

In addition, during the year 2016, a system of treatment and reutilization of domestic wastewater was implemented in Fenix to supply the irrigation requirements of the green spaces and green barriers (perimeter hedgerow) of the power plant, whose surface reaches 50,000 m2 of green spaces.

The power plant has a capacity of 10. 4 m3/day, of which an average of 6.5 m3/day of wastewater was treated in the year 2016. This reutilization of treated domestic wastewater was considered in the Environmental Impact Study.









Over the last few years Colbún has made efforts to take advantage of waste energies and to incorporate power generation equipment with cutting-edge technology and greater efficiency, resulting in a better and efficient use of resources.

One of the cases where this principle has been applied is in Los Pinos power

plant (dual cycle power plant). This unit reaches efficiencies of the order of 25% to 30% greater than other power plants of its kind, which enables it to contribute from 20 to 80 GWh/year more than a conventional facility for the same fuel consumption level.



SYSTEM ENERGY SAVINGS ASCRIBABLE TO COLBÚN'S POWER PLANTS (G4-EN6)						
				2014	2015	2016
Name of the initiative	Description	Place of implementation	Unit of measure	Estimated savings		
Optimization of fossil fuel consume.	Development of a thermal power plant, which presents efficiencies of about 25% to 30% higher than the average of power plants of its kind.	Los Pinos	GWh	39	45	22
TOTAL				39	45	22

If to this efficiency are added the energy from irrigation waters and residual rainfall mentioned in the preceding section (Chiburgo, San Clemente and San Ignacio power stations), we can see that we obtained an additional amount of approximately

170 GWh for generation in 2016 (34% less than in 2015) associated with higher efficiency initiatives. The estimated savings in Los Pinos is 51% less in comparison to 2015, due to the reduced operation of this power plant during the year 2016.

The San Ignacio power plant decreased its generation 47% in comparison to the year 2015, which translates into the reduced savings recorded for 2016



The main materials used by Colbún in Chile during the year 2016 corresponded to the fossil fuels that are consumed in our power plants. The increase of 6% in the consumption of natural gas is mainly justified by the increase in the consumption of this input in the Candelaria power plant, which increased from 2.2 Mm3 to 48 Mm3 compared to 2015. In contrast, the consumption of coal in Santa María power plant remained practically constant, whereas the consumption of diesel had a slight increase due to the greater generation based on this fuel in Candelaria and Nehuenco units (which increased its consumption by

20,000 m3 each compared to the year 2015).

The reduced availability of water in most of the basins where our hydroelectric power plants operate, resulted in an increase of 6% in our thermal generation compared to 2015.

In the case of Fenix in Peru, the main materials used are fossil fuels, that is, natural gas and to a lesser extent, diesel.

## MATERIALS USED, BY WEIGHT OR VOLUME IN CHILE (G 4 - EN 1)

Material	Weight o	r volume (mi	Condian	
	2014	2015	2016	Supplier
Diesel [Millions m <sup>3</sup> ]	0,12	0,053	0,069	COPEC, ENAP, ENEX, Petrobras
Natural Gas [Millions m <sup>3</sup> ]	572	661	701	Metrogas S.A., AGESA, ENAP
Coal [Thounsand the Tons]	962	861	874	Various

## MATERIALS USED BY WEIGHT OR VOLUME IN PERU (G 4 - EN 1)

Material	2016
Diesel [Millions m <sup>3</sup> ]	0,002
Natural Gas [Millions m <sup>3</sup> ]	640

## AVERAGE GENERATION EFFICIENCY OF COLBÚN'S THERMOELECTRIC POWER PLANTS IN CHILE (G 4 - EU 11)

Year	Total Efficiency	Average age of the power plants
2014	44.9%	9 years
2015	45.7%	10 years
2016	45.4%	11 years

#### NOTE:

The efficiency indicator shows how much fuel energy used is transformed into electrical energy injected to the system.

- -The indicators obtained are corrected to ISO conditions.
- -For the calculation of thermal efficiency we used a weighted average with the annual generation of each power plant.
- -All thermal power plants of Colbún in Chile are included: Nehuenco I, Nehuenco II, Nehuenco III, Candelaria I, Candelaria II, Antilhue, Los Pinos and Santa María.
- -For 2017 we will implement a calculation procedure for the thermal cycles' efficiency which will allow us to standardize the stages, criterion and necessary conditions for the calculation



# BETTER ENERGY, Better Environment

50%

The water consumption of the Nehuenco power plant could decrease thanks to the reverse osmosis plant, in a water shortage scenario.



4

Hydroelectric power plants that colbún certified before the CDM to reduce **CO<sub>2</sub>** emissions



**341** K

Tons of CO<sub>2</sub> emissions were reduced by the CDM power plants in 2016.



99.9%

Of the particulate matter emissions of the Santa María power plant are retained by its electrostatic filters.



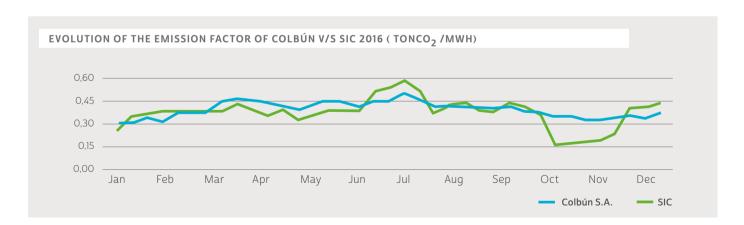
Colbún has a Corporate Risks area, which monitors and analyze the main risks the Company faces, including risks associated with climate patterns. This monitoring includes operational risks, as well as regulations associated with the normative modifications derived from Climate Change. We have quantified the way in which lower levels of precipitations could affect generation levels and costs, as well as the units where the impact could be higher

we seek to turn these risks into opportunities, and work in a strategy that allows us to better face our business in view of the demand of reducing CO<sub>2</sub>. emissions.

For this reason, we aim to maintain a balance of our generation mix, which means having a significant part from renewable energy (hydro in particular and NCRE) with an efficient thermal input and proper environmental standards in order to to maintain a CO<sub>2</sub> emission factor under the SIC'S

Faced with this scenario, in Colbún

Likewise, our experience in accreditation and certification of projects before the Clean Development Mechanism (CDM) and other standards and the subsequent generation of carbon credits, provide us with competitive advantages to develop more solid and profitable energy projects that allow us to be prepared in the face of possible demands in terms of reduction of emissions.



#### NOTE:

Graphic of the behavior of Colbún's emissions versus SIC's in 2016. This is obtained from a Colbún's internal tool called CO2 online which is hosted in the SICOP (market's real-time data internal system). This application has in its matrix all the power plants of the SIC an emission factor is assigned with respect to each type of fuel for each technology.

average.

SOURCE: Own preparation by Colbún and the Ministry of Energy, respectively.

## POWER PLANTS CERTIFIED TO REDUCE EMISSIONS

Currently, we have four operating power plants registered at the Clean Development Mechanism (CDM) of the Kyoto Protocol, which in the year 2016 generated a CO<sup>2</sup> reduction estimated in 341,451 tonCO<sub>2</sub>e.



Added to these four CDM power plants are the hydroelectric projects San Pedro and La Mina, which are currently accredited in the Verified Carbon Standard (VCS) to issue carbon credits once operations start

The Company has prescribed that every eligible project will be registered under the Clean Development Mechanism (CDM), or alternatively, under one of the standards of the voluntary market.

				tonCO <sub>2</sub> e r	eductions
Power Plants	Operation startup	Amount of MW	Registration MDL	2015	2016
Chacabuquito	2002	25,7	2007	31,491	55,532
Hornitos	2008	61	2008	77,366	149,486

71

5,9

2008

2011

143.761

9,486

126.810

9,623

COLBÚN'S CDM POWER PLANTS (G4-EN19)

2007

2010

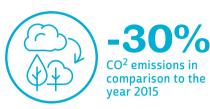
#### NOTE

Quilleco

San Clemente

A power generation plant is eligible before any carbon accreditation system when it is demonstrated that it reduces  $\mathrm{CO}_2$ , emissions, complies with the requirements of "additionality" and "common practice", in addition to contributing to the sustainable development of the electricity system. The CDM is a Kyoto Protocol mechanism, which certifies projects that help fight Climate Change, allowing them to issue carbon credits.



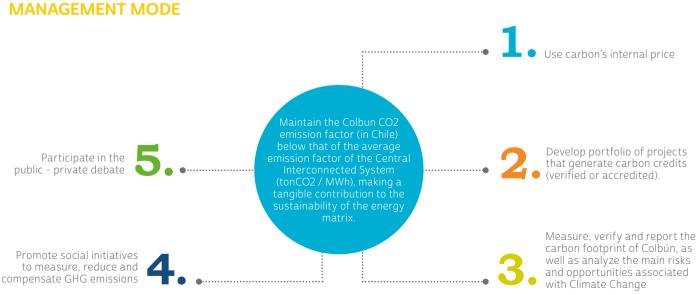




The largest reduction of  $\rm CO_2$  emissions compared to the values of 2015 (~30%) is due to the greater generation of electricity in the Aconcagua units, mainly from the reconnection of Chacabuquito and Blanco units, as well as an increase observed in the  $\rm CO_2$  emission factor of the SIC due to the drought that occurred in the south of Chile.

During 2016 Colbún commercialized carbon credits generated by the operation of our units in previous periods, which translated into additional revenues of more than US\$ 331,840.

# CLIMATE CHANGE MANAGEMENT MODE



## **OUR CARBON FOOTPRINT**

In order to contribute to the sustainable development of the industry, and also to know the environmental impact of our operation when it comes to climate change, Colbún annually quantifies its direct and indirect emissions of Greenhouse Gases (GHG), from the year 2001 on, through a GHG emissions inventory or Carbon Footprint. This measurement includes thermal and hydraulic power plants, as well as corporate offices located in the city of Santiago. For 2016 Fenix's emissions are also considered.

### **CHILE**

To measure our Carbon Footprint, at Colbún we used criteria defined by the GHG Protocol, under an operational control approach. This international measurement protocol is the most used in the world to quantify the GHG emissions, since it integrates most of the standards used to quantify emissions.

Thus is that today Colbún reports all  ${\rm CO_2}$ ,  ${\rm CH_4}$  and  ${\rm N_2O}$  emissions associated with combustion processes (stationary and mobile),  ${\rm CH_4}$  emissions in reservoirs and caused by decomposition of organic waste, and  ${\rm SF_6}$  emissions produced by occasional leaks of this gas, which is used as an insulator in transformers and electrical equipment.

The results obtained for the year 2016 show a 6.6% increase of the

GHG direct emissions (Scope 1) for the operations of Colbún in Chile, which is mainly due to higher generation in our thermal units and lower generation in the hydroelectric units, due to the persistent drought in the south-central zone of our country.

With respect to Scope 2, even though our power plants are generators of energy, at certain times, they need to consume electric energy from the grid (when they are out of service, during maintenance processes, to supply complementary equipment that are far from the main facility). The observed GHG emissions reduction associated with this scope, is mainly due to a decreased use of energy from the grid by the Nehuenco and Santa María power plants, which increased their generation in 2016.

Finally, regarding Scope 3, which mainly covers the transportation of workers, business trips, fuel transportation (land and sea) and the generation of solid waste, a decrease of 23% in comparison to 2015 is observed. This is due mainly to decreased emissions associated with the transportation of coal to the Santa María power plant.

It is important to clarify that, just as has occurred from 2010 on, the Carbon Footprint reported in this document has been verified by an external entity, thus allowing to corroborate the scope and quality of the calculation developed.

The internal importance of monitoring and measuring our Carbon Footprint was confirmed in 2009, when Colbún S.A. became the first Chilean







company to report its GHG emissions internationally through the CDP (ex-Carbon Disclosure Project), having reported to date emissions from the years 2001 to 2015. These documents are publicly available at the CDP website.

The emission factors used to calculate CO<sub>2</sub>e emissions follow the guidelines given by the GHG Protocol and, in the majority of the cases, are obtained from the reports of the IPCC, such as for mobile and, stationary combustion and fugitive emissions. The emission factor from the SIC is obtained from the reports of Chile's Ministry of Energy and other factors such as those used for emissions from business flights, through parameters given in USEPA reports. In some cases factors obtained from calculations and measurements of the own Company are considered.

Colbún has sought to concretize alliances and associations with public and private agents with the purpose of spreading good practices in this field, mainly neutralizing the carbon emissions of sports events, seminaries, corporate trips and more recently, promoting tourist routes with CO<sub>2</sub> neutral establishments.

This is how it has been done in Puerto Varas, Easter Island and the Lastarria-Bellas Artes district.

## COLBÚN'S TOTAL GHG EMISSIONS IN CHILE, YEARS 2015 -2016 (G 4 - EN 15, G 4 - EN 16, G 4 - EN 17)

	Scope 1 (ton CO <sub>2</sub> e)	Scope 2 (ton CO <sub>2</sub> e)	Scope 3 (ton CO <sub>2</sub> e)	TOTAL
	Direct Emissions	Indirect Emissions	Indirect Emissions	
	Company vehicles     Thermal Generation Units     SF6 leaks in electric equipment     Methane emissions in reservoirs (they are low in Chile)	· Own consumption of electricity	Business trips Sea transportation of coal Decomposition of organic waste Rented assets Movement of coal and ashes Transportation of employees	
2015	3,429,642	7,840	36,840	3,474,321
2016	3,669,270	5,167	28,399	3,702,836

**NOTE:** The gases considered are:  $CO_2$ ,  $CH_4$ ,  $N_2O$  and  $SF_6$ , taken to the same unit of measurement for their quantification

## **GEI Chile Emissions Factor:** The

indicator of Greenhouse Gas Emission Factor allows to measure the behavior of Colbún's emissions per unit of energy generated in all its facilities (tons of CO2e per MWh generated). For the year 2016 the GHG emission factor of the SIC was 0.397 [tCO2e/MWh], while Colbún's GHG emission factor was 0.339 [tCO2e/MWh], representing an increase of 20% with respect to the year 2015. This increase is mainly due to the decreased participation of hydroelectricity at Colbún matrix due to the decreased precipitations recorded in the southcentral zone of the country.

It is interesting to analyze how Colbún's emission factor behaves with respect to the electric system, since,

in spite of the increase in the emission factor at Colbún's matrix,

its average remains under the Central Interconnected System (SIC), which confirms the sustainability that Colbún achieves by developing and operating an energy matrix that balances thermal and renewable components.



Colbún has an emission factor for generated energy below the average of the Central Interconnected System.

## **GREENHOUSE GAS EMISSION FACTOR (G4-EN18)**

Emission for fuel consumption	2016
Diesel (ton CO <sub>2</sub> e)	182,858
Coal (ton CO <sub>2</sub> e)	2,109,631
Natural Gas (ton CO <sub>2</sub> e)	1,372,081
Net Generation (MWh)	11,180,000
Emission Factor (ton CO2/MWh)	0,339

#### **PERU**

Due to the internal importance of monitoring the Company's carbon footprint monitoring, this measurement was extended to Fenix power plant in 2016. As a result of its first year as a power plant operated by Colbún, the quantification of its emissions considered the consumption of diesel and natural gas corresponding to Scope 1, in addition to emissions generated by

the consumption of energy used at the power plant: Scope 2, and by the generation of GHG, a product of the decomposition of solid waste generated at the power plant: Scope 3. Hence, in 2016 the quantification of the emissions of these units started, which is expected to be completing during the year 2017.







	TOTAL GHG EMISSIONS OF COLBÚN IN PERU , YEAR 2015-2016						
	Scope 1 (ton CO2e)	Scope 2 (ton CO <sub>2</sub> e)	Scope 3 (ton CO <sub>2</sub> e)	TOTAL			
	Direct Emissions	Indirect Emissions	Indirect Emissions				
	· Thermal power plants	· Own consumption of electricity	· Decomposition of organic waste				
2016	1,255,796	311	292	1,256,399			





## LA MINA, OUR FIFTH POWER PLANT ACCREDITED TOISSUE CARBON CREDITS

The first stage of the project "Measurement of the Carbon Footprint of the construction of La Mina Hydroelectric power plant" concluded at the end of 2015. This initiative, unique in Chile, allowed to delve into the impact in matters of Climate Change that hydroelectricity had during its construction phase.

This initiative considered a preliminary measurement of the Carbon Footprint (which started at the end of 2013) based on the information of the Project available in the basic and detailed engineering and then to validate that measurement with data monitored and reported by the contractors during the entire construction stage (monitoring is currently ongoing and soon to be finished).

Once the construction of the power plant is finished during the year 2017, we will be in conditions to present the final value of the GHG emissions generated as a result of the construction and of this new asset of the Company, and with that we will be able to obtain lessons and learnings to better manage the GHG emissions of future hydroelectric projects that Colbún S.A. carries out.

In addition, at the beginning of 2017 the project was registered under the Verified Carbon Standard (VCS), with which it will be able to accredit during its operation that it avoids annually the emission of approximately 100,000 tons of CO2/year, being a concrete contribution to mitigate Climate Change effect and to the sustainable development of Chile.

This validates Colbún as the main issuer of carbon credits coming from hydroelectricity in Chile.

# DEVELOPMENT OF NON CONVENTIONAL RENEWABLE ENERGIES (NCRE) G4-EU8

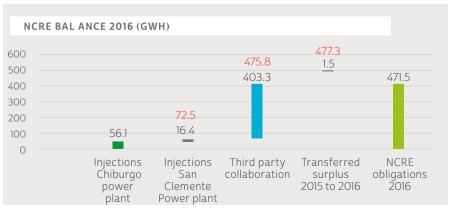




Currently, Colbún has 25.3 MW of own NCRE installed capacity, which includes two NCRE hydroelectric power plants (Chiburgo 19.4 MW and San Clemente 5.9 MW). Its energy supply also includes 45 MW of NCRE capacity contracted with Acciona (wind park Punta Palmeras) the construction of the run-of-the-river hydroelectric power plant La Mina (34 MW) is ongoing, which will also generate NCRE attributes. In addition, during the year, two photovoltaic projects from SunEdison were acquired, whose construction is still being evaluated, and a purchase-contract of solar energy and NCRE attributes was

signed for 500 GWh/year with Total SunPower. Lastly, a purchase contract of NCRE attributes was signed with Wind Park Los Cururos.

It is important to indicate that the Company also operates 6 other small hydro hydroelectric power plants, which, because they were built before the NCRE law are not officially qualified as such.



#### NOTE

The first 4 columns correspond to the NCRE energy contribution (the numbers in red represent the accumulated energy). The last column corresponds to energy obligations. In 2016 there is a surplus of 5.7 GWh that is transferred to the year 2017.



## ATMOSPHERIC EMISSIONS

## ATMOSPHERIC EMISSIONS OF COLBÚN'S FIXED SOURCES IN CHILE (TON/YEAR) (G 4 - EN 21)

Colbún Chile	2014	2015	2016
NOx	5,025	3,715	3,571
SO <sub>2</sub>	2,349	1,677	1,479
MP	97	79	50

ATMOSPHERIC EMISSIONS OF COLBÚN'S FIX SOURCES IN PERU (TON/YEAR) (G 4 - EN 21)				
2016				
948				

**NOTE:** : According to the requirements of D.S. 13/2011 MMA, it is necessary to take mercury samples in the exhaust fumes of power plants that use solid fuels. In the case of Colbún, the monitoring performed in Santa María I during the year 2016 showed that the concentration of Hg measured in the chimney is under the detection limits (<0,001 mg/Nm3). Source: SERPRAM, November 2016.

**NOTE 2:** The figures for Colbún Chile were obtained through CEMS, while for the Fenix's figures we used a calculation methodology with emission factor EPA USA AP-4, since there is no online measuring obligation, nor an emission norm that establishes limits.

In 2016 the environmental superintendence certified the compliance with the emission limits of the Emission Standards for Thermoelectric Power Plants (DS. N°13/2011 of MMA) by all the generating units of Colbún for the year 2015. It is worth remembering that the emission standards for thermoelectric plants has parameters that are similar to those applied by the European Union for these types of power plants.

In addition, the Company maintained the validation of the measurement systems (CEMS) which allow the continuous monitoring of PM, NOx and SO<sub>2</sub> emissions.

In order to further insure the registration of emissions in Santa María Unit I and in the Nehuenco complex (Units I and II), we installed CEMS backup equipment that are in the process of validation by the SMA. This equipment guarantees the continuous measurement, even in the case of failure of the main CEMS.

In Santa María I a combustion optimizer was implemented for the boiler, which allowed an approximately 30% decrease in the specific consumption of fuel and the emissions of NOx between the years 2013 and 2016.



Reduction of NOx emissions in the Santa María power plant after the implementation of a combustion optimizer.





## LEVEL OF EMISSIONS OF UNIT I OF THE SANTA MARÍA COMPLEX IN 2016

	MP (mg/ Nm³)	Límite Norma MP (mg/Nm³	NOx (mg/Nm³)	Límite Norma NOx (mg/Nm³)	SO <sub>2</sub> (mg/Nm³)	Límite Norma SO <sub>2</sub> (mg/Nm³)
Santa María	2	50	301	500	156	400

## LEVEL OF EMISSIONS OF THE NEHUENCO COMPLEX IN 2016

	PM (mg/ Nm3)	Standard Limit PM (mg/Nm³)	NOx (mg/Nm³)	Standard Limit NOx (mg/Nm³)	SO <sub>2</sub> (mg/Nm³)	Standard Limit SO <sub>2</sub> (mg/Nm³)
Nehuenco Natural Gas	-	Not applicable	25	50	-	Not applicable
Nehuenco Diesel	3	30	68	200	1	30

<sup>\*</sup> For natural gas, the emissions of PM and SO2 practically do not exist.

## **GREEN TAX**

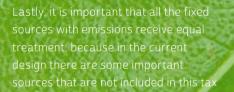
In 2017 the application of the so-called "Green Tax" will start, a duty introduced as part of the Tax Reform applied on the emissions from fixed sources with a thermal capacity higher or equal to 50 MWt (megawatts thermal).

At Colbún we believe that the policies designed to reduce atmospheric emissions aim in the right direction. However, we think that the so-called green tax still has room to improve to best achieve that goal.

In particular, it's important to create incentives that make room for alternative solutions that aim to decrease emissions. By way of example, some thermal power plants, such as Santa María, have implemented plans to reduce particulate matter emissions from third sources, which not only allows to compensate their own emissions but also to reduce them in absolute net terms. Sin embargo, este tipo de esfuerzos hoy no es reconocido en la ley en el pago de impuestos.



At Colbún we believe that the policies destined to reduce emissions aim in the right direction. However, we think that the current regulations can be improved.











At Colbún we recognize and care for the flora and fauna, as well as the habitats and ecosystems where our facility projects are inserted.

Our strategy during 2016 was founded on two pillars: excellence and innovation, focusing efforts in studying the ecosystems of our oldest facilities, in internal education, in the implementation of new initiatives aimed to improve the management of native forest and in the management of gaps from irrigations.

The following map summarizes our main measures in the field of biodiversity.

## 1. ANGOSTURA POWER PLANT

- · A riverfront sector of the reservoir was identified and studied (more than 10 ha) with a high wealth of birds (16 species) in which we are evaluating to propose a plan of action that gives value to said space as a contribution to biodiversity and in this way adding it as an attribute to the Angostura Park.
- We started the replacement of the eucalyptus vegetal screen for native trees in the south parapet. This activity is a ground-breaking experience in Chile because it involves moving large size trees.

## 2. CANUTILLAR POWER PLANT

• The Canutillar power plant, associated facilities and part of the Chapo Lake are located or are near Alerce Andino national park and Llanquihue national reservoir. For this reason, after the eruption of Calbuco volcano we carried out a study of the aquatic ecosystem for the purpose of detecting the effects of this natural event on the biota and quality of the water, which showed that the biotic communities remain in good conditions.

## MAIN MEASURES IN THE BIODIVERSITY AREA

As a part of the annual management, we carry out tracking and monitoring plans in the different facilities, mainly of the continental aquatic ecosystems, which inform which are the existing species and which is their evolution over time.

## 3. COLBÚN COMPLEX

 We carried out an investigation on ichthyofauna and crustaceans in the Colbún reservoir and in nearby courses of the Maule river basin, which showed the presence of five species of native fish (all in a state of conservation) and four of introduced species.

#### 4. LA MINA AND SAN PEDRO PROJECTS

 In 2016 we continued tracking the aquatic ecosystems of the Maule and San Pedro rivers in different stations, which allow us to monitor the dynamic of these fluvial systems and to notice possible disturbances during the period of construction of the projects

## **5. TRANSVERSAL ASPECTS**

- · As a part of the management of the knowledge acquired during the execution of the plan of rescue and relocation of fauna during the construction of Angostura power plant, we prepared a publication that summarizes the environmental actions and measures that allowed the rescue of close to 3.000 specimens of 14 species of reptiles, amphibians, birds and micromammals. Copies of the book were given to members of public services, academia and civil society, in general.
- During 2016 there were different campaigns carried out to promote the diffusion and understanding of the biodiversity inside the company. This included the creation of digital informative material, trivia and photography contests and exhibitions and talks in the headquarters.
- In the area of forest and vegetation management there were several essays and pilot programs developed to optimize the reforestation of native forest.

At Colbún

# We take care of the ecosystem













# 6.1 SCOPE OF INTEGRATED MEMORY G4-13, G4-23

This document includes the performance of Colbún S.A. and its subsidiaries in Chile and Peru in 2016. With respect to 2015, the coverage and scope of the information were modified, since the information for 2016 includes the performance of the subsidiary Fenix Power Perú, of which 51% was acquired by Colbún S.A. during the second half of December 2015.

Fenix Power Perú, operated by Colbún, has a 570 MW natural gas combined cycle power plant located in Las Salinas, Chilca District, Peru. In this document there are no indicators of HidroAysén, Electrogas or Transquillota, since they are associated companies of Colbún S.A.



This report was prepared according to the principles of the International Integrated Reports Committee (IIRC), taking into account the mandatory requirements of the Superintendency of Securities and Insurance (SVS) and the G4 Global Report Initiative, EXHAUSTIVE level of compliance and supplement for the electricity sector. In addition, the Integrated Report constitutes a communication of progress (CoP) for the United Nations Global Pact and links the performance of Colbún with the Sustainable Development Goals (SDG). We maintain the commitment to annually report our performance in the environmental, social, corporate and economic governance. The main changes in methodology of the information reported in 2016 are the following:

- · The information and data of Fenix Power Perú are included in an integrated manner.
- This year San Clemente and Chiburgo power plants are reported as NCRE.
- · Hydroelectric power plants in Chile are considered as renewable energy.



We are convinced that Sustainability is the business of Colbún. For this reason, it must be integrated into all areas of the Company and into the

relation with our stakeholders.

During 2016 we set ourselves different objectives and goals, which

we published on our website. The fulfillment of these goals can be seen below:

STAKEHOLDERS	Objetives	Indicator / KPI / Milestone	Goal 2016	Actual Result
	Corporate Governance Training	Number of Directors trained in Corporate Governance	9	8
SHAREHOLDERS	Corporate Governance Training	Number of Directors trained in Risk Management	9	9
	Continuous improvement in the liaising with shareholders	N° of liaising occasions (conferences and meetings to report results)	25	77
	Not having important environmental incidents	N° of important environmental incidents	0	1
	Greenhouse gas emissions' management	GEG emission factor	Lower than the SIC	15% lower than the SIC
ENVIRONMENT	Climate change work plan	Having a climate change strategy	Achieved / Not Achieved	Achieved
	Biodiversity	Publish and start implementation of Biodiversity strategy	Achieved / Not Achieved	Not Achieved
COMMUNITY AND SOCIETY	Improving liaising with stakeholders	Public reports in power plants	9 of 12 power plants	7
	Security: frequency index Colbún workers + Contractors	Index of fatal accidents' frequency	1, 2	2,0
WORKERS	To be an example in labor relations	Perception evaluation on Colbún's environment	80% Satisfaction	73%
	Excellence in the development of the workers	Internal mobility index	60% internal mobility in the year	55%
	Management and availability	Availability	87,49%	85,5%
		Annual meeting occasions	3	5
CLIENTS AND VENDORS	Generating a closer relationship with the client	Newsletter for clients	Achieved/ Not Achieved	Achieved
		Annual survey on service and/or perception	Achieved / Not Achieved	Achieved
CONTRACTORS AND SUPPLIERS	Supply	Implementing a corporate model of contracts	Achieved/Not Achieved	Achieved

<sup>\*</sup>According to our own standard of severity of environmental incidents. However, this did not imply a violation or non-compliance of environmental regulations.

# 6.4 HOW THE INTEGRATED REPORT WAS PREPARED

G4-29, G4-18, G4-19, G4-20, G4-21 y G4-33

After four Sustainability Reporting processes, we launched our first Integrated Report in 2015 and this year, considering the good reception and evaluation by Colbún stakeholders, we want to repeat and improve that experience. This report integrates in a single document what used to be published separately in the Annual Report and the Sustainability Report of the Company and it aims at informing how, in the context of its external environment, Colbún's strategy, performance, governance and projects create value in the short, medium and long term.

## **MATERIALITY EXERCISE**

G4-18

Below is a detail of the process of preparation of this Integrated Report 2016, which was done following the "material aspect collection" process proposed by the methodology of the fourth generation of Global Reporting Initiative guidelines <sup>1</sup>.



This process consists of 4 stages. In the first place, documents, interviews and available public information related to the electric power industry and Colbún were reviewed, from the internal and external perspective. Then, with the information collected, the relevant issues (long list) were identified and grouped as major material themes. Finally, they were prioritized in the materiality matrix presented at the end of this chapter. The material aspects were validated by the General Manager and by the Sustainability Board. At the end of the process, a stage of review is included, which will feed back future preparation processes.

# IMPORTANT INFORMATION FOR THE ENERGY INDUSTRY AND COLBÚN: EXTERNAL AND INTERNAL SOURCES

In order to identify the characteristics, projections and main challenges of the energy sector and of Colbún the following information was analyzed:

## **EXTERNAL SOURCES**

- ✓ Press analysis: news generated by third parties
- ✓ Analysis of the contact channel
- ✓ Analysis of opinions of External Stakeholders 2016
  - Investors Perception Study (5)
  - Perception Study at Coronel (151) and Colbún (150)
  - Relevant Actors Perception Study (117)
  - Customer Perception Study (5)
  - Key suppliers Perception Study (6)
  - Providers Perception Study (123)
  - Concerns of the community in Colbún's Public Accounts
- ✓ Analysis of public documents
  - Energy Agenda Chile 2050, Ministry of Energy
  - Energy Studies, Generators Association
  - Management Report of Acciona, Endesa, among others



## **INTERNAL SOURCES**

- ✓ Press analysis: news generated by Colbún
- ✓ Internal interviews
  - Members of the Board (1)
  - Managers (13)
  - Collective Bargaining Interviews (12)
  - Interviews to workers (8)
- ✓ Analysis of opinions of Internal Stakeholders
  - Perception Study Workers and Contractors (643)
- ✓ Analysis of internal documents
  - Corporate objectives Colbún
  - Climate Survey Report
  - Postgraduate DJSI 2016
  - Public Accounts: Nehuenco, Candelaria, Santa María, Angostura, Carena, Canutillar, Aconcagua.
  - Risk Matrix



## IDENTIFICATION OF RELEVANT TOPICS (LONG LIST)

G4-20

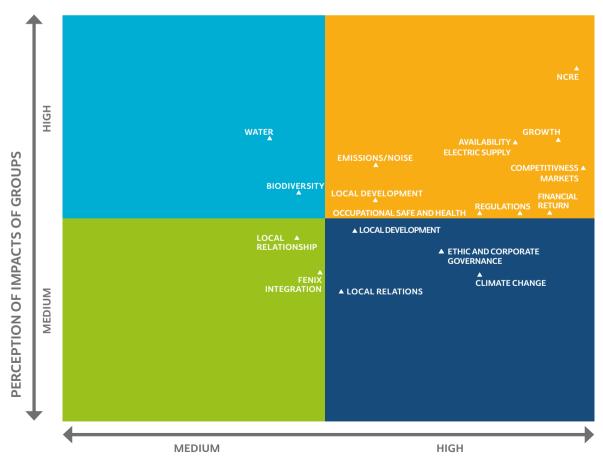
From the information analyzed from external and internal sources, we identified 53 topics important for Colbún's process of creating value. These issues span a broad spectrum of challenges from financial, operational concepts to community concerns and /or opportunities or environmental achievements, among others. These 53 topics were grouped into 17 major groups that were prioritized in the following manner.

# PRIORIZATION OF MATERIAL ASPECTS

G4-21, G4-48

The following Materiality Matrix was reviewed and validated by Thomas Keller, General Manager of Colbún, and the members of the Board of Directors, who received this Report for review and comments.

The "X" axis established the level of impact that the issue may have on the Company or, inversely, the impact that the operation of the company may have on the issue. The "Y" axis established the level of relevance that stakeholders gave to each of the 17 topics.



PERCEPTION OF IMPACTS FOR/OF THE COMPANY



## MAIN MATERIAL ASPECTS AND THEIR PRIORIZATION FOR THE SECTOR IN WHICH WE OPERATE

G4-19

From the 17 important topics collected by the Materiality Matrix, four were identified as the most important for the industry, Colbún and its stakeholders.

#### **NCRE**

## Why is it important?

Of the energy offered in the tender to supply to regulated customers carried out in August 2016 by the National Energy Commission, more than 50% was awarded to non-conventional renewable energy projects, which should be in operation in January 2021 to comply with the contracts awarded. This means that in the coming years a large number of wind and solar projects should start operations, as has already been happening in other markets. This situation reflects the drop in costs that these technologies have experienced in recent years, making them very competitive alternatives.

A couple of years ago Colbún created a renewable energy area for the purpose of evaluating opportunities in this area and it has defined a strategy based on three pillars to enhance its presence in these technologies: its own NCRE power plants, alliances with third parties and purchase of assets. However, the irruption of this type of energy generates important challenges for the industry. On one hand, it will mean a transition from the energy matrix toward sources that, along with hydroelectricity, are cleaner and renewable. On the other hand, the growth observed in the Chilean (and possibly Peruvian) market of solar and wind generation can create integration costs. Consequently, this can affect the operating conditions of the rest of the electricity system. This is especially true in the absence of a market for complementary services that adequately remunerates the services necessary to manage the variability of the generation sources mentioned. This is one of the great challenges that the system and industry will face in the coming years, where different types of energy will coexist.

## **GROWTH**

## Why is it important?

The Chilean economy grew only 1.6% in 2016, and it is not expected to perform better in 2017. This situation has been correlated with the low electricity demand, which in 2016 expanded only 1.8%, and this is not expected to change by 2017. In Chile, this low growth in demand, along with the drop in the price of fuels and an increase in variable renewable energy projects, determined a decrease in the short-term price of energy (marginal cost) during the year 2016. In Peru, there is also a scenario of temporary imbalance between supply and demand, generated mainly by the increase of efficient supply (hydroelectric power plants and natural gas).

With respect to the future growth of demand and long-term prices in the sector, it is difficult to determine with the available information its trajectory and scope. Part of that evolution will depend on what happens with the economic performance of both countries. In any case, both markets have much lower electricity consumption per capita than the OECD countries, so it is expected that the intensity of electricity use will continue to grow in the long term. Finally, Colbún has been promoting an internationalization strategy in order to diversify its sources of income and distribution of risks, and thus to better face periods of low growth in a given country.

#### **MARKET COMPETITIVENESS**

## Why is it important?

The tender for the supply of regulated customers that took place in August last year attracted a total of 84 bidders, many of them based on wind and solar generation technologies and without presence in the Chilean market. This figure set a record of participation for these types of processes, which, along with the decrease of costs experienced by the new energy sources, resulted in a significant reduction of the prices offered, with contracts awarded in a prize of \$ 47.6 per MWh.

This phenomenon raises questions about equilibrium prices in the electricity industry. However, a couple of years ago Colbún created an area of renewable energy with for the purpose of evaluating the opportunities that may arise in this sector, reinforcing its growth in this area and taking advantage of the technological innovations associated to the new sources of electricity generation.





## **AVAILABILITY OF ELECTRICAL SUPPLY**

## Why is it important?

In the energy industry, supply availability is a key operational indicator in the Company's performance as it is a necessary condition to ensure the most competitive and reliable power generation for the system. This availability will become more relevant over time, as a greater solar and wind penetration will require the complement of base energies for an adequate operation of the system. In this sense, Colbún, as a Company, seeks to generate a safe and sustainable electricity supply for the system and its customers. Counting on a trajectory of 30 years in this industry and a diversified matrix of power plants is an important asset in responding with a reliable supply. One of the focuses of the Company's management of these assets has been to continuously improve the maintenance program of the power plants and to move toward higher operational standards.

## **DESCRIPTION OF MATERIAL THEMES**

G4-19, G4-20, G4-21

Below is the coverage that each material aspects has and the subtopics that Colbún should answer in this report.

List of Material Aspects	Mentioned by Internal/ External stakeholders	Scope	Description of the material aspect according to the vision of the stakeholders
Financial profitability	Internal	· EBITDA · Price of the stock	Economic results of the Company, represented mainly by EBITDA and the share price, which had significant variations during 2016.
Growth	Internal / External	Uncertainty in the national growth     Intentions of international growth	The topics of growth address, on one hand, the low economic growth in Chile, which has impacted the electricity demand, as well as the difficulty to realize large projects, which has also affected some of Colbún's projects. This topic also incorporates the construction completion of La Mina project, planned for 2017, and the future of solar projects acquired to SunEdison. The issue of international growth focuses on the progress made by Colbún's expansion plan in the region.
NCRE	Internal/ External	· Solar energy · Wind energy · Mini hydro	The year 2016 was a relevant year in this matter. The tendering of supply of regulated customers meant the awarding of important energy blocks to solar and wind power plants. This represents a challenge for the system and also for companies such as Colbún regarding its approach to the development of these technologies.

List of Material Aspects	Mentioned by Internal/External stakeholders	Scope	Description of the material aspect according to the vision of the stakeholders
Market competitiveness	Internal / External	Great competitiveness     Innovation     Historical minimums of bidding prices	In August 2016, the results of the tender of 12,430 GWh / year from 2021 onwards were published, where prices showed a very significant drop. This process has emphasized the importance of innovation in the electric business and in management teams in order to compete under this scenario.
Water	External	· Use of water resource · Transparency in the use of the resource	In some communities there is a perception of water scarcity, which is partly attributed to the use made of the resource by electricity generation companies. This perception occurs in the communities of Lake Chapo, Colbún Reservoir and Aconcagua river basin. There is also concern among some communities about the water used in the cooling process of Nehuenco and Santa María power stations. However, in Colbún it is emphasized that hydroelectric power plants do not consume water (they return it completely and without altering its channel), while in Nehuenco's case the use of water has been optimized through different innovations. In Santa María, a monitoring plan exists that shows that the water of the cooling system has not altered the temperature of the bay of Coronel. Due to the asymmetry of perception, it is pertinent the transparency to the communities about the use / not use of this resource.

List of Material Aspects	Mentioned by Internal/external stakeholders	Scope	Description of the material aspect according to the vision of the stakeholders
Emissions/Noise	External	· Lower than standards emissions	Despite the good performance of Colbún power stations in this respect, with emissions under the standard (which have standards similar to those in Europe), some communities express their concern about the effect of emissions on the health of the population. There is an asymmetry of information here whose gap seems relevant to close.
Community Liaising	Internal / External	· Community dialogue · Public Reports · Working boards	There is a positive perception about community relationships, which has allowed to generate confidence in localities close to Colbún's power plants and projects. Public accounts, the work of power plant's chiefs and the relationship with local authorities, have allowed that in 2016 there were no significant social conflicts with the communities with the exception of the incendiary attacks suffered by Colbún in the localities of Biobío.
Local development	Internal/ External	· Local entrepreneurship / Tourism / Sports / Culture / Education / MOL / Local security	Colbún has been characterized by empowering the communities where it has worked, through the entrepreneurship and local tourism, sport, culture and education has created spaces for growth. It is constantly concerned with promoting employment and services in the areas, as well as creating mechanisms that protect the safety of communities. Important to incorporate MOL metrics and local suppliers.
Biodiversity	External	· Flora and Fauna	The communities have demonstrated the importance they give to the flora and fauna in the plants and projects, especially in Aconcagua and Colbún, where the topic was explicitly been mentioned. In addition, the cooling system of Santa María power plant is perceived by fishermen as a negative impact, despite the technological improvements introduced by the Company.

List of Material Aspects	Mentioned by Internal/external stakeholders	Scope	Description of the material aspect according to the vision of the stakeholders
Climate change	Internal / External	· Drought · Greenhouse effect gasses	2016 was characterized as one of the driest years in the history of Colbún, being a major concern for the stakeholders, especially regarding the Company's profitability and its relationship with communities which have been affected in agriculture, tourism, etc. At the international level, climate change was very relevant due to the Paris 2015 agreements and their respective implementation in each country.
Regulations	Internal / External	Water code     Electric Transmission Law     Labor reform	The year 2016 was characterized by a regulatory environment with relevant changes, as was the new Law of Transmission and the Electrical Coordinator. In addition, the discussion on the amendment of the Water Code is open.
Ethics and Corporate government	Internal	<ul><li>Complaints</li><li>Corruption</li><li>Free competition</li><li>Interlocking</li></ul>	In 2016, the online complaints channel was implemented, which received different types of complaints last year. In addition, internal training was conducted on issues of free competition.
Occupational health and safety	Internal	· Security · Health	There is a very good internal and external perception about security in Colbún. The focus of concern is the concentration of accidents in contractors.

List of Material Aspects	Mentioned by Internal/External Stakeholders	Scope	Description of the material aspect according to the vision of the stakeholders
Labor relations	Internal	<ul> <li>Internal relations</li> <li>Relations with unions</li> <li>Complaint channel</li> <li>Pride to work at Colbún</li> </ul>	A pleasant work environment and pride, despite the fact that this year there were negotiations with unions that could erode relationships and affect climate assessments.
Labor practices	Internal	Family-work balance     Salaries and compensations     Speed and efficiency in the processes with suppliers     Training	Labor climate declined this year. There are opportunities for improvement in issues such as the integration of family life, opportunities for development and the link with the headquarters.
Availability of electric supply/transmission lines	Internal	· Safe and sustainable supply · Energy efficiency	The objective of Colbún is to generate a safe and sustainable energy for your business with a focus on energy efficiency. In 2016, the Nehuenco fire had an impact on availability.  During 2016 the structure change was consolidated by separating the Transmission business and giving it its own structure. This has made it possible to raise and manage the risks inherent in that business and to define objectives for its availability.
Fenix Integration	Internal	Policy standardizations Practical standardizations Results standardization	In 2016 began the process of integration of Fenix to Colbún. This resulted in standardizing policies, practices and results, as well as incorporating Colbún's organizational culture into the Peruvian center. The internal evaluation is that it has been a smooth process and that by 2017 the challenge is to finish standardizing the operation between Chile and Peru.

\*Note:
Coverage is the description of where the impacts of each relevant issue occur (possible material aspect). In determining the Coverage of each Aspect, the organization must take into account both internal and external impacts.





The Integrated Report was reviewed by the external audit firm KPMG in order to ensure the reliability of the information provided here and compliance with the guidelines of the GRI G4 (Global Reporting Initiative). Likewise, this verification process included a detailed review of the materiality data collection and allowed to find opportunities for improvement. With respect to Colbún's carbon footprint, this was verified by the external audit firm E&Y.

On the other hand, it should be noted that the financial information related to the requirements of the Superintendency of Securities and Insurance for the Annual Report, is also audited by the external audit firm E&Y.



## Report of Independent Professionals "Integrated Annual Report 2016, Colbún SA"

Dear General Manager and Directors

## Colbún S.A.

We have made a limited review of the information and data related to the GRI indicators and other sustainability issues included in the "Integrated Annual Report 2016 of Colbún S.A. until December 31, 2016, which will be mentioned later on.

The preparation of said report is the responsibility of Colbún SA.'s Administration, which is also responsible for the information and statements contained in it, of the definition of its scope and of the management and control of the information systems that have provided the information reported.

Our review was made according to the Standards for Attestation Engagements issued by the Colegio de Contadores de Chile AG. A review has a significantly smaller scope than an examination, the objective of which is to express an opinion on the information and data related to the GRI indicators and other sustainability issues in the Integrated Annual Report 2016 of Colbún S.A. As a consequence, we do not express such an opinion.

The information and data related to the GRI indicators and other sustainability issues included the "Annual Integrated Report 2016 of Colbún S.A." were reviewed taking into account the criteria described in the Sustainability Reporting Guidelines, version G4, of the Global Reporting Initiative (GRI) as well as in its respective Sector Supplement for the Electricity Industry.

- Verify that the information and data related to the GRI indicators and other sustainability issues included the "Annual Integrated Report 2016 of Colbún S.A." are duly supported with sufficient evidence.
- Verify that Colbún S.A. has prepared the information and data related to the GRI indicators and other sustainability issues included the "Annual Integrated Report 2016 of Colbún S.A." according to the principles of Content and Quality of the GRI guidelines, version G4, and its Sector Supplement for the Electricity Industry.

Our procedures considered asking questions to Administration, Managements and Units of Colbún S.A. involved in the process of preparation of the "Integrated Annual Report 2016", as well as in making other analytic procedures and tests as described below:

- Interviews with key staff of Colbún S.A. for the purpose of evaluating the preparation process of the
- "Integrated Annual Report 2016" of Colbún S.A., the content definition and the information system used.
- Verification of the information and data related to the GRI indicators and other sustainability issues included the "Annual Integrated Report 2016 of Colbún S.A." based on the support documents provided by the Administration.
- Analysis of the compilation and internal control processes of the quantitative data related to the GRI indicators and other sustainability issues contained in the "Integrated Annual Report 2016 of Colbún S.A."
- Verification of the reliability of the data using analytical procedures and revision tests based on sampling and revision of calculations by recalculating.
- Visits to the corporate offices of Colbún S.A. in the Metropolitan Region and to the Fenix Perú power plant.
- Review of the writing of the sustainability contents of the Integrated Annual Report 2016 of Colbún S.A."

Based on our review, we have no knowledge of the following facts:

- The information and data related to the GRI indicators and other sustainability issues included the "Annual Integrated Report 2016 of Colbún S.A." are not duly supported by sufficient evidence.
- The information and data related to the GRI indicators and other sustainability issues included the "Annual Integrated Report 2016 of Colbún S.A." have not been prepared according to the Sustainability Reporting Guidelines, version G4, of the Global Reporting Initiative (GRI) and its respective Sector Supplement for the Electricity Industry

KPMG Auditores y Consultores Ltda.

Luis Felipe Encina K-P

Partner

Santiago, April 10, 2017



EY Chile Avda. Presidente Riesco 5435, piso 4. Santiago Tel: +56 (2) 2676 1000 www.eychile.cl

### Informe de Verificación Limitada Independiente - Inventario de Emisiones de Gases Efecto Invernadero de Colbún S.A. del 1 de Enero 2016 al 31 de Diciembre 2016

Señores Colbún S.A. Presente

#### Alcance

Hemos efectuado una verificación limitada independiente a los contenidos de información y datos presentados en el "Inventario de Gases de Efecto Invernadero" para el periodo comprendido entre el 1 de Enero 2016 y el 31 Diciembre 2016 de Colbún S.A. y sus instalaciones.

La preparación de dicho Inventario, es responsabilidad de la administración de Colbún S.A. Asimismo, también es responsable de la información y de los supuestos contenidos en el mismo, de la definición del alcance del Inventario y de la gestión y control de los sistemas de información que hayan proporcionado los datos reportados.

Nuestra responsabilidad consiste en emitir nuestras consideraciones sobre la razonabilidad, consistencia y fiabilidad de los datos e información no financiera incluida en dicho Inventario, en función de los procedimientos de verificación y el alcance definido, los que describimos en el párrafo siguiente.

### Estándares y procedimientos de verificación

Nuestra revisión fue efectuada de acuerdo a la norma de verificación internacional para auditorías de información no financiera, ISAE 3000, la cual es establecida por el International Auditing and Assurance Board de la International Federation of Accountants.

Dicha norma requiere que la planificación y realización de nuestro trabajo apunte a obtener un nivel de aseguramiento limitado respecto a que la información contenida en los Inventarios de Emisiones de Gases Efecto Invernadero del periodo antes mencionado, y esté alineada con:

- Directrices del GHG Protocol el cual es respaldado por el World Business Council for Sustainable Development (WBCSD) y el World Ressources Institute (WRI) -,
- Así como también a criterios y estándares corporativos.

Para la realización de este trabajo visitamos las instalaciones de la Centrales Hidráulicas de Angostura y Rucúe-Quilleco, con el objetivo de conocer los procesos productivos de cada central, a fin de validar las fuentes de emisión consideradas, y al mismo tiempo, entender la metodología de registro, cálculo, y agregación de los datos de consumo de combustible, electricidad, residuos, entre otras.

En el proceso verificador examinamos los datos e información contenida en el Inventario de Gases de Efecto, a través de la:

- Revisión de la documentación de respaido proporcionada por la Administración de Colbún S.A.
- Inspección de los estándares internos propuestos para la evidencia adjunta.
- Revisión de las fórmulas, razonabilidad aritmética y lógica de las estimaciones utilizadas en la herramienta de cálculo.
   Aplicación de las directrices establecidas por el estándar
- del GHG Protocol.
   Verificación de la correcta aplicación de los Factores de Emisión utilizados y su respectiva fuente.

Nuestra responsabilidad

Nuestra responsabilidad se limita exclusivamente a los procedimientos mencionados con anterioridad, correspondiendo a una verificación de alcance limitado, la cual sirve de base para nuestras consideraciones. No aplicamos procedimientos de verificación extendida ni de auditoria, estos procesos requieren de un mayor nível de evidencia y tiempos de trabajo más extensos.

Nuestras conclusiones se refieren exclusivamente a la información proporcionada por la Administración de Colbún S.A. y corresponde al Inventario de Emisiones de GEI para el período comprendido entre el 1 de Enero 2016 y el 31 Diciembre 2016. La información correspondiente a períodos anteriores y posteriores no ha sido objeto de puestra revisión.

#### Limitacione

Considerando la metodología descrita, la Administración de Colbún S.A., ha decidido excluir aquellas fuentes de emisión relacionadas a:

- La compra de activos, debido a la alta incertidumbre en cuanto a sus factores de emisión.
- El combustible utilizado en grupos electrógenos en centrales y el transporte de residuos industríales y asimilables a domiciliarios hacia el sitio de disposición final, debido a su inmaterialidad.
- La extracción y refinación de combustibles hasta el puerto de despacho, debido a la disponibilidad y trazabilidad de la información.

#### Conclusiones

Considerando las limitaciones anteriormente mencionadas y sujeto a los efectos que pueda tener en el Inventario de Gases de Efecto invernadero el no haber incluido la totalidad de las emisiones «las que se detallan en el párrafo inmediatamente anterior» y en base a los resultados de los procedimientos indicados en el alcance de la verificación, concluimos que no ha llegado a nuestro conocimiento ningún aspecto que nos haga pensar que:

- Las emisiones de GEI calculadas por Colbún S.A. para el período comprendido entre 1 de Enero 2016 y el 31 de Diciembre 2016, no cuenten con la documentación de respaldo establecida para los datos reportados.
- El inventario de emisiones no haya sido elaborado de acuerdo a las guías metodológicas aplicadas.
- La estimación y lógica aritmética aplicada al cálculo este fuera de lo correcto.
- La Información y los datos publicados en el Inventario de Emisiones de GEI para el período en cuestión de Colbún S.A. no estén presentados de forma correcta.

#### Recomendaciones de mejora

Sin que incidan en nuestras conclusiones, hemos detectado brechas de mejora, las cuales se detallan en un informe de recomendaciones separado, presentado a la contraparte técnica de Colbún S.A.

Saludamos atentamente a usted,

EY Consulting SpA

Alejandra Med na Lider de Sostenbilidad Chile

22 de Febrero de 2017

1-00185/17

### **STATEMENT OF LIABILITY**

In compliance with the provisions of General Standard No. 283 of the Superintendency of Securities and Insurance, the undersigned declare under oath that all the information incorporated in this Annual Report is a faithful expression of the truth, which is why we assume legal responsibility corresponding.

Bernardo Larraín Matte

Chairman 7.025.583-9

Vivianne Blanlot Soza

Vice-chairwoman 6.964.638-7

María Ignacia Benítez Pereira

me Ignacia sent

independent Director 7.460.907-4 Juan Eduardo Correa García

Director 12.231.796-k

Luz Granier Bulnes

Independent Director 7.040.317-k

Andrés Lehuedé Bromley

Director 7.617.723-6

Arturo Mackenna Iñiguez

Director 4.523.287-5

Jorge Matte Capdevila

Director 14.169.037-k Francisco Matte Izquierdo

Director 16.612.252-k

# Table GRI G4

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-1	Statement by the main person responsible for decisions on the relevance of sustainability to the organization and strategy.	8	Bernardo Larraín's Letter		Principle 1	Х	Х
G4-2	Brief descriptions of the main effects, risks and opportunities in the organization are made.	8	Bernardo Larraín's Letter			X	Х
G4-3	Name of the organization.	232	Appendices: Identification of the Company				X
G4-4	Most important brands, products and services of the organization	6-7	Colbún in Numbers 2016			X	Х
G4-5	Location of the organization's headquarters.	232	Appendices: Identification of the Company				X
G4-6	A description is made about in how many countries the organization operates or carries out significant operations or that have a specific relevance to the sustainability issues that are the subject of the report.	6-7	Colbún in Numbers 2016			Х	X
G4-7	Nature of the property regime and its legal form.	46	Ownership and corporate Structure				X
G4-8	It indicates to which markets it serves.	6-7, 42	Colbún in Numbers 2016/ Our power plants				
G4-9	The scale of the organization is determined (number of employees, operations, net sales, capitalization, and quantity of products or services offered.	6-7	Colbún in Numbers 2016			X	X
G4-10	Staff broken down by type of labor contract, working day, region and sex. Report any significant change in the number of Workers. Indicate the total labor force contractor.	116	Workers			X	X
G4-11	Percentage of employees covered by collective bargaining agreements.  Total percentage of contractor employees covered by collective bargaining agreements.	125, 283-284	Labor relations and human rights / Appendices: Labor practices	Relaciones laborales		X	X
G4-12	Supply chain of the organization	130	Contractors and Suppliers			X	Х
G4-13	Significant changes that have occurred during the period in the size, structure, ownership or supply chain of the organization are indicated.	46-47	Ownership and Corporate Structure			X	X
G4-14	Indicate how the organization addresses, if applicable, the Precautionary Principle	63	Our Business Model		Principio 7	X	Х
G4-15	Make a list of the charters, principles or other external economic, environmental and social initiatives that the organization endorses or has adopted.	260	Appendices: Entities in which we participate			X	X
G4-16	Make a list of the national and international promotion associations and organizations to which the organizations belongs.	260	Appendices: Entities in which we participate			X	X
G4-17	Make a list of the entities included in the consolidated financial statements. Please indicate if any of these entities are not	6-7	Colbún in Numbers 2016				X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-18	Describe the process that has been followed to determine the content of the report and the coverage of each Material Aspect.	204	How this Integrated Report was Prepared			Х	X
G4-19	List of Material Aspects	206	How this Integrated Report was Prepared			X	X
G4-20	Coverage of each Material Aspect within the organization.	204	How this Integrated Report was Prepared			X	X
G4-21	Coverage outside the organization of each Material Aspect is indicated.	204	How this Integrated Report was Prepared			Х	Х
G4-22	The consequences of reformulations of the information provided in previous reports and their causes are described.	202	Methodology				X
G4-23	Significant changes in Scope and coverage of each Material Aspect are indicated.	202	Scope			X	X
G4-24	A list of the stakeholders linked to the organization is showed.	63, 203	Our Business Model / Our Sustainability integration challenges			X	X
G4-25	The basis of the choice of the stakeholders with which the organization is working is indicated.	63	Our Business Model			Х	X
G4-26	Here we describe the organization's approach to the participation of Stakeholders.	72, 259	Communication Channels / Communication and Dialogue Channels with Stakeholders			X	X
G4-27	Here we point out what key issues and problems have arisen as a result of the participation of the Stakeholders. Specify which Stakeholders raised each of the key issues and issues.	204	How this Integrated Report was Prepared			X	X
G4-28	Report period.	202	Methodology				Х
G4-29	Date of the last report.	202	Methodology				Х
G4-30	Cycle of presentation of reports	202	Methodology				Х
G4-31	A contact point is provided to resolve doubts that may arise in relation to the content of the report	232	Appendices: Contact Information				X
G4-32	We indicate which option has chosen the organization "in accordance" with the Guide and provide the GRI Index of the chosen option. Reference to the external verification report is provided.	202	Methodology		Last indicator		
G4-33	The current policy and practice of the organization with respect to the external verification of the report is described.	215	Verification of the Integrated Report 2016				Х
G4-34	Description of the governance structure of the organization, not forgetting the committees of the superior governing body. It indicates which committees are responsible for decision-making on economic, environmental and social issues	50	Board of Directors			X	X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-35	Description of the process by which the higher governance body delegates its authority to senior management and to certain employees in matters of economic, environmental and social nature.	50, 58	Board of Directors / Advisory committee to the Board of Directors			X	Х
G4-36	Indication of whether there are executive or responsibility positions in economic, environmental and social matters in the organization and whether their holders report directly to the highest governance body.	50	Board of Directors			X	X
G4-37	The consultation processes between the Stakeholders and the governing body on economic, environmental and social issues are described.	50, 63	Board of Directors / Our Business Model			X	X
G4-38	Description of the composition of the superior governing body and its committees	50	Board of Directors			X	X
G4-39	Description of the composition of the superior governing body and its committees	50	Board of Directors			X	Х
G4-40	Description of the processes of appointment and selection of the superior organ of government and its committees.	50	Board of Directors			X	Х
G4-41	Description of the processes by which the superior governing body prevents and manages potential conflicts of interest.	100	Management of potential conflicts	Ethics and Corporate management		X	X
G4-42	Describe the functions of the senior governing body and senior management in developing, approving and updating the organization's purpose, values, mission, strategies, policies and objectives related to the economic, environmental and social impacts of the organization.	96-97,	Ethics and Corporate governance / Risk management			X	X
G4-43	Indicate what measures have been taken to develop and improve the collective knowledge of the governing body in relation to economic, environmental and social matters.	50, 58, 63	Board of Directors / Our Business Model			Х	Х
G4-44	Describe the processes of evaluation of the performance of the superior body of government. Indicate whether it is a selfassessment.	50	Board of Directors			X	X
G4-45	Describe the role of the senior governing body in identifying and managing economic, environmental and social impacts, risks and opportunities.	102	Risk management			Х	X
G4-46	Describe the role of the senior governing body in analyzing the effectiveness of risk management processes in economic, environmental and social matters.	102	Risk management			Х	Х
G4-47	Indicate how often the senior governing body analyzes economic, environmental and social impacts, risks and opportunities.	102	Risk management			X	X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-48	Indicate which is the committee or most important position that reviews and approves the organization's sustainability report and ensures that all Material Aspects are reflected	204, 208	How this Integrated Report was Prepared			Х	Х
G4-49	Describe the process to convey important concerns to the senior governing body.	50	Board of Directors			Х	Х
G4-50	Indicate the nature and number of important concerns that were passed on to the senior governing body.	97	Culture based on ethics			Х	Х
G4-51	Describe remuneration policies for the senior governing body and senior management.	50	Board of Directors			Х	Х
G4-52	Describe the processes by which remuneration is determined. Indicate whether consultants are used to determine remuneration and whether they are independent of management. Point out any other type of Relationship that such remuneration consultants may have with the organization.	50	Board of Directors			X	X
G4-53	Explain how the opinion of the Stakeholders is requested and taken into account in terms of remuneration, including, where appropriate, the results of voting on policies and proposals related to this issue.	50	Board of Directors			Х	Х
G4-56	Describe the values, Principles, standards and standards of the organization.	97	Culture based on Ethics			Х	Х
G4-57	Describe the internal and external counseling mechanisms for ethical and lawful conduct, and to consult matters relating to the integrity of the organization.	100	Complaints management			X	Х
G4-58	Describe the internal and external mechanisms for reporting unethical or unlawful conduct and issues related to integrity.	100	Complaints management			Х	Х
G4-EC1	Direct generated and distributed economic value.	77	Financial management/ Profitability			Х	Х
G4-EC2	Economic consequences and other risks and opportunities for the organization's activities arising from Climate Change.	184	Climate Change			Х	Х
G4-EC5	Relationship between the initial salary broken down by sex and the local minimum wage in places where significant operations are carried out	276	Appendices: Competitive Remunerations				X
G4-EC7	Development and impact of investment in infrastructure and types of services	283	Appendices: Citizen participation			Х	Х
G4-EC9	Percentage of expenditure in locations with significant operations that correspond to local suppliers.	133, 157	Number and distribution of suppliers/ Generating opportunities: Suppliers and local employment			х	Х

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-EN1	Materials by weight or volume	180	Use of materials and efficiency				Х
G4-EN3	Internal energy consumption	293	Appendices: Use of materials and efficiency			X	X
G4-EN6	Reduction of energy consumption	176, 180	Other ways of energy exploitation of water / Use of materials and efficiency		Principle 8	X	X
G4-EN8	Total water catching according to source	172	Use of water resource			X	X
G4-EN10	Total percentage and volume of recycled and reused water	172	Use of water resource		Principle 8	X	X
G4-EN11	Owned, leased or managed operating facilities that are adjacent, contain or are located in protected areas and unprotected areas of great value for biodiversity	294	Appendices: Biodiversity			X	X
G4-EN12	Description of the most significant impacts on biodiversity of protected areas or areas of high biodiversity that are not protected, derived from activities, products and services	294	Appendices: Biodiversity			Х	X
G4-EN13	Hábitats protegidos o restaurados	294	Appendices: Biodiversity			X	X
G4-EN14	Number of species included in the IUCN Red List and national conservation lists whose habitats are in areas affected by operations, depending on the species' endangered species	294	Appendices: Biodiversity			X	X
G4-EN15	Direct emissions of greenhouse gases (Scope 1)	184	Climate Change			X	X
G4-EN16	Indirect emissions of greenhouse gases when generating energy (Scope 2)	184	Climate Change			X	X
G4-EN17	Other indirect greenhouse gas emissions (Scope 3)	184	Climate Change			X	Х
G4-EN18	Intensity of greenhouse gas emissions	184	Climate Change			X	X
G4-EN19	Reduction of greenhouse gas emissions	184	Climate Change		Principle 8	Х	Х
G4-EN20	Emissions of ozone-depleting substances	293	Appendices: Atmospheric emissions			X	X
G4-EN21	NOx, SOx and other significant atmospheric emissions	194	Atmospheric emissions and air quality			X	X
G4-EN22	Total water discharge according to quality and destination	300	Appendices: Residual water discharge				Х
G4-EN23	Total weight of the residues, according to type and method of treatment	298	Appendices: Generated and discharged residues			X	X
G4-EN24	Número y volumen totales de los derrames significativos	164	Main socio- environmental challenges			X	X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-EN26	Identification, size, protection status and biodiversity value of water bodies and related habitats significantly affected by discharges and runoff from the company	298	Appendices: Biodiversity				Х
G4-EN29	Monetary value of fines and number of non- monetary sanctions for non-compliance with legislation and environmental regulations	269	Appendices: Detail of fines and sanctioning processes for 2016			X	X
G4-EN31	Breakdown of environmental expenditures and investments	301	Appendices: Environment protection			X	X
G4-EN34	Number of environmental claims that have been filed, addressed and resolved through formal complaint mechanisms	301	Appendices: Environmental claims			Х	X
G4-LA1	Number and rate of recruitment and average turnover of employees, broken down by age group, sex and region.	273	Appendices: Worker turnover			X	X
G4-LA2	Social benefits for full-time employees not offered to temporary or part-time employees broken down by significant locations of activity.	127, 285	Organizational environ-ment / Appendices: Labor environment			X	X
G4-LA3	Index of reincorporation to work and retention after maternity or paternity leave, broken down by sex	276	Appendices: Parental leave			X	X
G4-LA4	Minimum notice periods of operational changes and possible inclusion of these in collective bargaining agreements	125, 284	Labor relations and human rights / Appendices: Communication Channels				X
G4-LA5	Percentage of workers represented in formal Security and Health committees for management and employees, established to help control and advise on Occupational Health and Safety programs	287	Appendices: Health and Security			X	X
G4-LA6	Type and rate of injuries, occupational diseases, days lost, absenteeism and number of work-related fatalities by region and by sex.	142	Security Management			X	Х
G4-LA7	Workers whose profession has a high incidence or risk of disease.	147	Occupational Health and Healthy Life			Х	Х
G4-LA8	Health and security issues covered in formal agreements with trade unions.	277	Appendices: Unionization			Х	X
G4-LA9	Average annual training hours per employee, broken down by sex and by job category.	116, 122	Workers/training and development			Х	X
G4-LA10	Skills management and continuous education programs that foster employa-bility of workers and help them manage the end of their professional careers.	122, 278	Workers/training and development Appendices: Training and development			X	X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-LA11	Percentage of employees receiving regular performance and professional development evaluations, broken down by sex and by professional category	116, 124	Workers / Perfor- mance Evaluation			Х	Х
G4-LA12	Composition of governing bodies and breakdown of staff by professional cate-gory and sex, age, minorities and other indicators of diversity	50, 120	Board of Directors / Workers		Principio 6	Х	Х
G4-LA13	Ratio of male base salary to female base salary broken down by professional category and by significant locations of activity	121	Competitive remunerations		Principio 6	X	X
G4-LA14	Percentage of new suppliers that were examined according to criteria related to labor practices.	134	Exchange of best practices			X	X
G4-LA15	Negative significant, actual and potential impacts on labor practices in the supply chain, and measures in this regard	135	Exchange of best practices			Х	Х
G4-LA16	Number of complaints about labor practices that have been submitted, addressed and resolved through formal complaint mechanisms	286	Appendices: Labor complaints			X	X
G4-HR1	Number and percentage of significant contracts and investment agreements that include human rights clauses or have been subject to human rights analysis	135-136	Contractors, Suppliers and Human Rights/ Suppliers Examined in Human Rights Topics in Chile			X	X
G4-HR2	Employee training hours on policies and procedures related human rights aspects relevant to their activities, including the percentage of employees trained					Х	Х
G4-HR3	Number of cases of discrimination and corrective measures taken	135, 167	Contractors, Suppliers and Human Rights / Community and Human Rights		Principle 6	X	Х
G4-HR4	Identification of significant centers and suppliers where freedom of associa-tion and the right to benefit from collective agreements may be infringed or threatened, and measures taken to defend these rights	125	Labor relations and human rights		Principle 3	X	X
G4-HR5	Identification of centers and suppliers with a significant risk of child exploita-tion, and measures taken to contribute to the abolition of child exploitation	135	Contractors, Suppliers and Human Rights		Principle 5	X	X
G4-HR6	Centers and suppliers with a significant risk of being the source of forced labor, and measures taken to contribute to the elimination of all forms of forced labor	135	Contractors, Suppliers and Human Rights		Principle 4	X	X

Código GRI	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures	137	Contractors, Suppliers and Human Rights		Principle 2	Х	Х
G4-HR8	Number of cases of violation of the rights of indigenous peoples and measures adopted.	164, 167	Main Socio- environmental challenges / Community and Human Rights.			X	X
G4-HR9	Number and percentage of centers that have been subject to human rights impact examinations or evaluations.	135	Contractors, Suppliers and Human Rights		Principle 1	Х	X
G4-HR10	Percentage of new providers that were examined based on the criteria related to human rights	135 - 136	Contractors, Suppliers and Human Rights / Suppliers Examined in Hu-man Rights Topics in Chile		Principle 2	X	X
G4-HR11	Significant negative impacts on human rights, real and potential, in the supply chain and measures taken about it.	135	Contractors, Suppliers and Human Rights			X	X
G4-HR12	Number of human rights complaint that have been submitted, addressed and resolved through formal complaint mechanisms.	135, 167	Contractors, Suppliers and Human Rights / Community and Human Rights.			X	X
G4-SO1	Percentage of centers where development programs, impact assessments and local community participation have been implemented.	152 - 153	Generating Trust: Dialogue with the Community and Society / Communication Channels			X	X
G4-SO2	Operations centers with significant negative or actual effects on local com-munities.	152 - 153	Generating Trust: Dialogue with the Community and Society / Communication Channels			X	Х
G4-SO3	Number and percentage of centers where risks related to corruption and significant risks have been detected.	101	Ethics and Corporate Gov-ernance/ Crime Prevention Model		Principle 10	X	X
G4-SO4	Policies and procedures for communication and training on the fight against Corruption.	101, 263	Crime Prevention Model / Appendices: Crime Prevention Model			X	Х
G4-SO5	Confirmed cases of corruption and measures taken about it.	96, 101	Ethics and Corporate Gov-ernance / Crime Prevention Model		Principle 10	X	X
G4-SO6	Value of political contributions by country and recipient	289	Appendices: Value of Political Contributions			X	X
G4-SO7	Number of claims for unfair competition, practices against free competition or monopolistic and the result thereof.	88	Free competition			Х	X
G4-508	Monetary value of significant fines and number of non-monetary sanctions due to breach of legislation and regulations	269	Appendices: Detail of Fines and Sanctioning Processes 2016			X	X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
G4-SO9	Percentage of new providers that were examined based on criteria related to social impact.	130, 135	Contractors, Suppliers and Human Rights			X	Х
G4-SO10	Significant negative, actual and potential social impacts in the supply chain and measures taken about it.	130, 135	Contractors, Suppliers and Human Rights			X	X
G4-SO11	Number of complaints on social impacts that have been presented, ad-dressed and resolved through formal complaint mechanisms.	72	Communication Chan- nels			X	X
EU1	Installed capacity, analyzed by energy source and by regulatory regime.	6, 88	Colbún in Numbers 2016 / Power Generation and Commercialization			X	X
EU2	Net energy production by energy source and by country and regulatory regime.	88	Power Generation and Commercialization			X	X
EU3	Number of residential, industrial, institutional and commercial customers	84	Commercial Policy and Client Liaising			X	X
EU4	Length of transmission lines and voltage distribution.	6, 95	Colbún in Numbers 2016 / Relevance of Transmis-sion			X	X
EU5	Allocation of certified CO2 emissions, analyzed by regulatory regime.	184	Climate Change			X	X
EU6	Management to ensure the short- and long- term availability and reliability of electricity.	92	Availability and Reliability of the Power Plants		Principle 9	X	X
EU8	Research and development activities, aimed at providing reliable and achiev-able electricity and promoting sustainable development.	192	Development of non-conventional renewable ener-gies (NCRE)		Principle 9	X	X
EU10	Planned capacity versus long-term projected demand for electricity, broken down by energy source and regulatory regime.	271	Appendices: Growth Per-spectives			X	X
EU11	Average energy efficiency of thermal power plants by energy source and by regulatory regime	181	Use of Materials and Efficiency			X	Х
EU12	Losses in transmission and distribution as a percentage of total energy.	95	Relevance of Transmis-sion			X	X
EU14	Processes to ensure the retention and renewal of talents.	280	Appendices: Processes to Ensure the Retention and Renewal of Talents			X	X

GRI Code	Indicator's Name	Page	Section	Material Aspect	Global Pact	Dow Jones Sustainability Index	Verified by KPMG
EU15	Percentage of employees entitled to retire within the next 5 and 10 years, broken down by employment category and by region.	275	Appendices: Workers Eligible for Retirement				X
EU19	Participation of stakeholders in decision- making processes related to project planning and infrastructure development.	153, 156, 289	Communication Channels / Ap- pendices: Citizen Participation				X
EU21	Measures of contingency planning, disaster or emergency management plan and training programs, and recovery and restoration plans.	147	Management of public security issues in our communities			X	X
EU30	Average factor of availability of the plant by energy source and by regulatory regime.	92, 94	Availability and Reliability of the Power Plants			Х	X
Colbún- 3.SO	Social investment by type of initiative	158, 163 288	Generating Future: Community Development Programs / Appen-dices: Local Development			X	X
Colbún- 4.SO	Describe the main socio-environmental conflicts that occurred this year and how they were addressed.	164	Main socio-environmental chal-lenges				X
Colbún- 5.SO	Mechanisms for the community to give notice or consult on spills or risky events.	147	Management of public security issues in our communities				X
Colbún- 6.EC	Describe the status of the Company's projects, future prospects and goals associated with growth.	104	Growth Perspectives				X
Colbún- 7.EC	Vision of Colbún around the energy agenda and new regulations.	22	Regulatory changes and bills in Chile				X
Colbún- 8.TR	Job vacancies filled through internal competition.	116, 122	Workers			X	X
Colbún- 10.TR	Climate survey results / GPTW	127	Organizational Environment			Х	X
Colbún- 12.TR	Percentage of workers in a health range of healthy/ normal	144	Occupational Health and Healthy Life				X
NCG 386	Diversity of the Board of Directors and the Organization	57, 61, 116, 272	Diversity indicators of the Board of Directors / Diversity indicators of the Executives in Colbún Chile / Diversity indicators of the Executives in Peru/ Workers / Appendices: Workers			X	X

### CONTACT INFORMATION

G4-31

For further information, suggestions, concerns or consults regarding this document, you can write to Miguel Alarcón (malarcon@colbun.cl), (56 2) 24604394,

Finance Division, and Ana Luisa Vergara (alvergara@colbun.

(56 2) 24604428, Sustainable Development Division

## BASIC INFORMATION OF THE COMPANY

G4-3, G4-5

Company Name: Colbun S.A. Single Tax Roll: 96.505.760-9

Type of Entity: Public Limited Company

**Registration at the Registry of Securities:** N ° 0295 **Address:** Av. Apoquindo 4775, 11th floor, Santiago, Chile.

Phone: (56 2) 2460 4000 Fax: (56 2) 2460 4005 Website: www.colbun.cl Twitter: @ColbunEnergia

Facebook: www.facebook.com/ColbunEnergia/

**External Auditors Financial Statements:**Ernst & Young Professional Audit and

Consulting Limited.

**External Auditors Carbon Footprint:** Ernst & Young Professional Audit and

Consulting Limited.

External auditors of economic, social and environmental

**indicators:** KPMG **Materiality:** GECO SpA

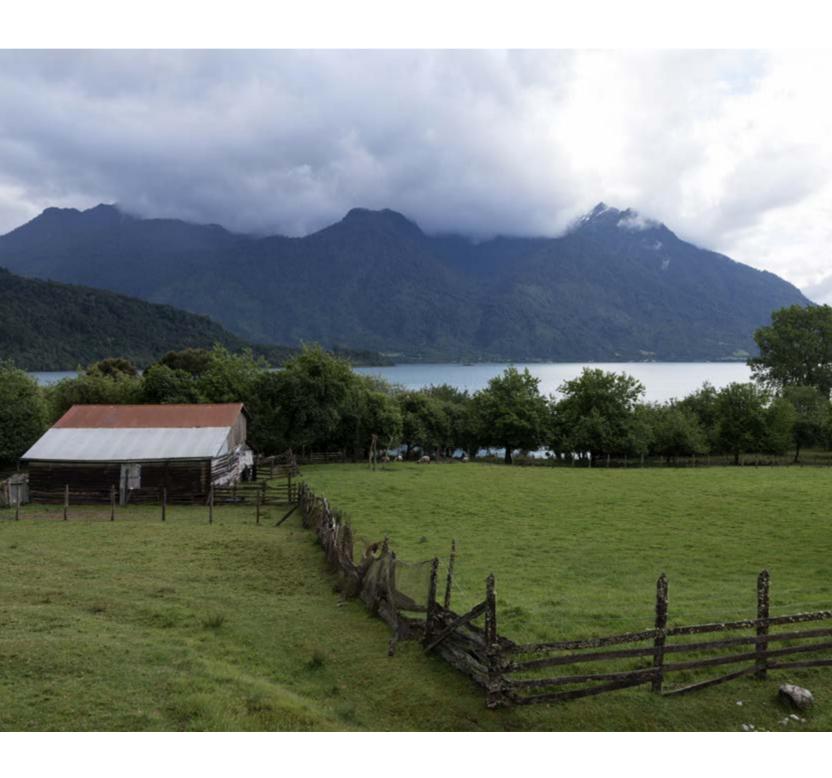
Graphic Design: Armstrong & Asociados

Imprint: Ograman











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Rationale of the Consolidated Financial Statements

Summarized Financial Statement of Subsidiaries

Summarized Financial Statement of Associated Companies

Summarized Financial Statement of Associated Companies



## INCORPORATION INFORMATION

The incorporation of Colbún SA, originally established under the name of Empresa Eléctrica Colbún, is recorded in the public deed dated April 30, 1986, granted before the Public Notary of Santiago Mario Barros González, the extract of which was registered in the Business Registry of Talca of the same year, on page 86, number 86, and published in the Official Gazette No. 32,484, dated May 31, 1986. Currently, after the change of domicile and corporate name, the statutes of Colbún S.A. are registered in Business Registry of Santiago on page 12,773, number 10,265 of the year 1999.

# 7.1 THE ELECTRICITY SECTOR IN OUR MARKETS APPENDICES

## REGULATORY FRAMEWORK IN CHILE

The regulatory framework that norms the Chilean electricity sector and Colbún's operations, is mainly composed of the General Law of Electricity Services, the Law of General Bases of the Environment and Water Code.

### GENERAL LAW OF ELECTRICITY SERVICES

DFL 1, 1982, the systemized and revised text is in the DFL 4-2006, containing its major modifications.

- "Short Law 1", Law No. 19,940 enacted in 2004. This law introduced (I) the new applicable to the transmission network regulation, the development of the transmission system and the rates that the owners of transmission facilities can charge System users and (ii) regulation for reliability and auxiliary services.
- "Short Law 2", Law No. 20,018 enacted in 2005. This law provides, inter alia, invitations to tender for the supply of power to consumers regulated through long-term contracts up to 15 years duration. These contracts are indexed to the US inflation rate and other indices of reference fuels.

- Law No. 20.257, an amendment to the General Electricity Law, enacted in 2008. This change promotes the use of Non Conventional Renewable Energy (URE). The law defines the different types of technologies considered as NCRE. Under this law, generation companies have to supply 5.5% of all of its contractual obligations in 2015, which will increase annually by 0.5% until 2024, when 10% of all contractual obligations will be reached. Additionally, in 2013 it was enacted a modification to this law, which increases the magnitude of the obligation to spend 10% to 2024 20% 2025, for all contracts after 1 July 2013. This new system provides a staggered application of the rule.
- Law No. 20,805, enacted in January 2015, which improves the system power supply bids for customers subject to price regulations.
- Law No. 20,928, enacted in May 2016, which establishes mechanisms equity in pricing for electricity services.
- Law No. 20,936, enacted in July 2016, which establishes a new electric transmission system and creates an independent coordinator of the national electricity system body.

#### **ENVIRONMENTAL LAW:**

Law "General Environmental Framework" (No. 19,300) regulates and establishes the environmental framework in Chile. Among the main reforms is the creation of the Ministry of Environment, the Superintendency of the Environment, Environmental Courts and the Biodiversity and Protected Areas. Among these changes is the reformulation of sanctions. In addition, there are numerous laws, regulations, decrees and municipal ordinances that can regulate our operations, or development of new projects, for purposes of environmental protection.

### WATER CODE:

Water rights are governed by the Water Code, which defines how these can be bought, what are its characteristics and how they can be legally used. Water rights are granted by the General Water Directorate (DGA). The Water Code was amended in 2005 to establish, among other things, payment of a patent for non-use of water rights.

### REGULATION OF THE TRANSMISSION SECTOR IN CHILE:

To inject electricity into the system and supply power to customers and electric power transmission facilities owned by us and third parties are used. The new legislation classifies the system transmission into five types: National System (Ex Trunk), Zonal System (Ex Subtransmission) Transmission System Dedicated (Ex Extra) System Development Poles and International Interconnection Systems to be submitted to special rules. In terms of planning, there are two processes: one a long-term energy planning for a horizon of at least thirty years, to be determined every five years by the Ministry. Moreover, the Commission National Energy is responsible for carrying out annual planning process for transmission expansion needed to cover different transmission systems.

The law gives Transmission Systems an open access regime and may be used by third party users on technical and non discriminatory economic conditions, where access to dedicated systems will be awarded according to the available capacity of the lines that determine the System Coordinator. A transparent methodology is established and regulated in the determination of fees for the use of National Systems and Zonal, leaving the use of dedicated systems to a bilateral negotiation between owner and user.

The new regulation stipulates that transmission companies to recover their investment through a charge to end users, this change in the remuneration of the transmission will be gradually implemented so that from the year 2034, the transmission will be financed entirely by demand system. Systems for Development Poles will collect the generators connected to said line, which in the long run idle capacity of the lines will be paid by the final consumer.

### REGULATORY FRAMEWORK IN PERU

Since 1992, business activities and electricity sector are governed by the Electric Concessions Law No. 25,844, which was perfected and supplemented by other laws in order to encourage investment and to cover certain aspects of national energy policy.

Then the main rules that encourage investment in the electricity sector and Peruvian technical standards related to safety in electrical operations and quality assurance of electrical service to the user are described:

#### **ELECTRICAL CONCESSIONS LAW:**

• Law No. 25,844. According to this law, the Peruvian electricity sector is divided into three major segments: generation, transmission and distribution. Starting October 2000 the Peruvian electrical system consists of a single National Interconnected Electric System (SEIN), plus some isolated systems. The company currently develops its operations in the segment of power generation located in the SEIN.

# LAW TO ENSURE THE EFFICIENT DEVELOPMENT OF ELECTRICITY GENERATION:

• In 2006, Law No. 28,832 Law establishes as its main objectives was issued: (a) ensure the generation of sufficient and efficient energy to reduce exposure of the Peruvian electrical system to price volatility, reduce risks due to lack of energy, and ensuring the final consumer a more competitive rate, (b) reduce administrative intervention in the pricing of generation through solutions market, and (c) promote effective competition in the generation market.

### ANTITRUST LAW AND IN THE ELECTRICITY SECTOR ANTI-OLIGOPOLY:

• By Law No. 26,876 the law that states created the same vertical mergers or greater than 5%, or horizontal equal to or greater than 15%, occurring in

generation, transmission and distribution of electricity, be subject yet procedure prior to avoid concentrations that affect free competition authorization.

## LAW PROMOTES EFFICIENT USE OF NATURAL GAS AND INVESTMENT IN HYDROELECTRIC PLANTS:

• The Law No. 1,041 published in June 2008 promotes investment in hydropower, expanding the maximum term of 15 years to 20 years for supply contracts electricity resulting from the procurement of electricity. Also it promotes investment combined cycle power plants that operate open cycle to improve efficiency of use of natural gas and transport infrastructure.

### LAW TO PROMOTE RENEWABLE ENERGY:

- The Law No. 1,002 published in May 2008 which grants competitive advantages to generation projects with renewable energy RER. It also sets a target rate of 5% of national energy demand should be covered by RER generation, excluding hydropower.
- Ley N° 1,058, publicada en junio 2008, otorga el beneficio de la depreciación acelerada, hasta de 20% anual, para la inversión en proyectos hidroeléctricos y otros recursos renovables.
- Law No. 1,058, published in June 2008 gives the benefit of accelerated depreciation, up to 20% annually for investment in hydroelectric and other renewable resources.

**Law No. 28,876,** published in June 2006 established the anticipated recovery of the general sales tax electricity companies using renewable energy and water resources.

### ELECTRICITY SUPPLY TENDER REGULATION:

Its objective is to establish the rules for tenders for electricity supply, designed to ensure, with the necessary anticipation, timely and efficient supply of demand from bidders, as well as to boost competition and investment in new powergeneration, under the provisions of the law.

# ENVIRONMENTAL PROTECTION REGULATIONS IN THE ELECTRIC ACTIVITIES:

### • (Supreme Decree No. 29-94-EM):

The purpose of this regulation is to regulate the interrelation of electrical systems activities in generation, transmission and distribution with the environment, under the concept of sustainable development. In Peru investors have the right to enter into contracts of legal and tributary stability and also of free availability of currencies. In addition, if necessary, they can make the implementation of public infrastructure projects viable or provide public services in the form of publicprivate partnership to streamline processes to promote private investment.



#### **OWNERSHIP STRUCTURE**

G4-7

As of December 2016, Minera Valparaiso S.A. directly, and through its subsidiaries listed below, indirectly, has control of the Company via single class shares. Minera Valparaiso S.A. is a publicly held corporation belonging to a business group (Matte Group), which has investments in electricity, finances, forestry, real estate, telecommunications and port sectors, the control of which is exercised indirectly by people, in the manner and proportions listed below. These persons are all members of the

Larraín Matte, Matte Capdevila and Matte Izquierdo families: Patricia Matte Larraín, ID number 4333299-6 (6.49%) and her children María Patricia Larraín Matte, ID number 9000338-0 (2.56%); Maria Magdalena Larraín Matte. ID number 6376977-0 (2.56%); Jorge Bernardo Larraín Matte, ID number 7025583-9 (2.56%), and Jorge Gabriel Larraín Matte, ID 10031620-K (2.56%). Eliodoro Matte Larraín. ID number 4.336.502- 2 (7.21%) and his children Eliodoro Matte Capdevila, ID number 13921597-4 (3.27%); Jorge Matte Capdevila, ID number 14169037-K (3.27%), and Maria del Pilar Matte Capdevila. ID number 15. 959356-8 (3.27%).

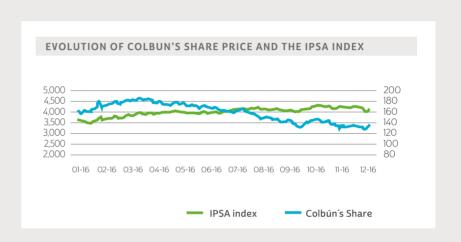
Bernardo Matte Larraín, ID number 6.598.728-7 (7.79%) and his children Bernardo Matte, ID number 15637711-2 (3.44%) Sofía Matte Izquierdo, ID number 16095796-4 (3.44%), and Francisco Matte Izquierdo, ID number 16612252-K (3.44%). The previously-identified shareholders belong to the same business group by kingship and have a formalized joint action agreement.

For its part, the Angelini group, through AntarChile SA (ID number 96.556.310-5), holds 9.58% ownership of Colbún, with which it can designate a member from the Board of Directors.

#### CONTROLLING INTEREST SHAREHOLDER PARTICIPATION AT DECEMBER 31th, 2016 Shareholder **ID NUMBER** N° OF SHARES % MINERA VALPARAISO S.A. 90.412.000-6 6.166.879.733 35.17 FORESTAL COMINCO S.A. 79.621.850-9 2.454.688.263 14.00 FORESTAL CONSTRUCTORA Y COMERCIAL DEL PACIFICO SUR S.A. 91.553.000-1 34,126,083 0.19 FORESTAL Y MINERA CANADILLA S.A. 96.969.100-0 31.232.961 0.18 FORESTAL CAÑADA S.A. 96.969.110-8 22.308.320 0.13 FORESTAL BUREO S.A. 87.014.900-K 17.846.000 0.10 INVERSIONES ORINOCO S.A. 96.878.540-0 17,846,000 0.10 INVERSIONES COILLANCA LTDA. 77.320.330-K 16,473,762 0.09 INMOBILIARIA BUREO S.A. 83.164.900-3 0.00 38.224 TOTAL 8.761.401.122 49.96

### **SHARES TRANSACTIONS**

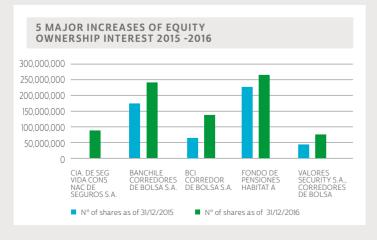
The graph shows the evolution of Colbún's share price versus the IPSA index from last year.

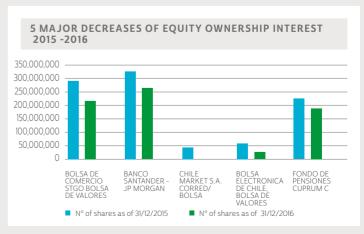


### SUMMARY OF TRANSACTIONS OF COLBÚN SHARES IN THE LAST TWO YEARS

	2015									
Quarter	Quarter Units Amount (CH\$)									
1	590,664,049	102,963,339,117	174.67							
2	500,858,888	92,219,410,442	184.17							
3	522,308,756	94,755,706,467	181.54							
4	496,829,527	88,977,153,068	178.99							

2016									
Quarter	Units	Average Price							
1	455,450,811	79,271,192,207	174.46						
2	490,754,800	84,407,135,816	172.16						
3	507,616,643	76,619,385,017	151.42						
4	895,287,877	118,960,807,521	133.55						





The shares are traded on the Santiago Stock Exchange, the Electronic Securities Exchange and Valparaiso Stock Exchange. In the first bags the stock market presence is 100%, while in the Valparaiso Stock Exchange is 0%.

The tables below show information on price, market presence, volume and amounts traded on the stock exchanges where the company is listed.

### **ELECTRONIC SECURITIES EXCHANGE**

Period	Quantity (accs.)	Amount (CLP)	Highest price (CLP)	Lowest price (CLP)	Average price (CLP)	Closing price (CLP)
1T16	29,089,878	5,136,234,vv812	188.38	155.70	176.56	184.82
2T16	31,054,684	5,399,392,776	186.43	159.15	173.75	160.50
3T16	8,426,308	1,251,307,543	165.60	131.00	148.50	131.00
4T16	88,229,188	11,568,097,860	146.64	125.35	137.63	131.90
2016	156,800,058	23,355,032,991	188.38	125.35	155.12	131.90

### **SANTIAGO SECURITY EXCHANGE**

Period	Quantity (accs.)	Amount (CLP)	Highest price (CLP)	Lowest price (CLP)	Average price (CLP)	Closing price (CLP)
1T16	426,360,933	74,134,957,395	185.02	166.03	174.31	182.55
2T16	459,694,616	79,006,754,140	180.29	164.06	172.05	167.95
3T16	499,190,335	75,368,077,474	161.26	144.06	151.47	146.47
4T16	807,019,631	107,387,706,331	142.57	125.07	133.11	132.88
2016	2,192,265,515	335,897,495,340	185.02	125.07	155.48	132.88

### **VALPARAÍSO SECURITY EXCHANGE**

Period	Quantity (accs.)	Amount (CLP)	Highest price (CLP)	Lowest price (CLP)	Average price (CLP)	Closing price (CLP)
1T16	0	0	0	0	0	0
2T16	5,500	988,900	179.80	179.80	179.80	179.80
3T16	0	0	0	0	0	0
4T16	39,058	5,003,330	128.10	128.10	128.10	128.10
2016	44,558	5,992,230	180	0	134.48	128.10

### **DISTRIBUTED DIVIDENDS**

### **DIVIDENDS PER SHARE (CLP)**

Mana- gement	Provisional	Definitive	Total
2010	0.50	0.50	1.00
2011	-	-	-
2012	-	0.36	0.36
2013	-	0.58	0.58
2014	1.46	-	1.46
2015	1.62	0.44	2.06
2016	1.75	2.34	4.09

## MANAGEMENT OWNERSHIP REQUIREMENTS

1.1.10 DJSI

At Colbún we do not have stock ownership limits as a multiple of the annual base salary. However, we are subject to the regulation that prohibits trading stocks at certain periods of time, to avoid the use of insider trade information.

In addition, there is a Manual of information management that certifies that the Company complies with a series of regulations issued by the Chilean

Superintendency of Securities and Insurance (SVS) and regulates how an executive may acquire or sell shares of the Company.

### **RELATED COMPANIES**

### **COLBUN'S SUBSIDIARIES**

Corporate name and legal nature	Corporate purpose	General Information	Direct or indirect participation	President	General Manager	Board of Directors
TERMOELÉCTRICA ANTILHUE S.A.	Generation, transportation, transformation, distribution, supply or commercialization of electrical energy and administration or operation of electrical facilities.	Privately-held corporation. Incorporated in December 14, 2007. Owner of the thermoelectric power plant Antilhue.	99.9%	Juan Eduardo Correa G.	Carlos Luna C.	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.
EMPRESA ELÉCTRICA INDUSTRIAL S.A.	Production, transportation, distribution, supply or commercialization of electrical energy and administration or operation of electrical facilities.	Privately-held corporation. Incorporated in December 31, 1997. Owner of the hydroelectric power plant Carena.	99.99%	Juan Eduardo Correa G.	Carlos Luna C.	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.

Corporate name and legal nature	Corporate purpose	General Information	Direct or indirect participation	President	General Manager	Board of directors
TERMOELÉCTRICA NEHUENCO S.A.	Production, transportation, distribution, supply or commercialization of electrical energy and administration or operation of electrical facilities.	Privately-held corporation. Incorporated in April 13, 2006. In charge of the operation of power plants that make up the thermoelectric complex Nehuenco, located in the district of Quillota, V Region and the thermoelectric plant Cande-laria, located in the district Mo-stazal, VI Region.	100.00%	Juan Eduardo Correa G.	Carlos Luna C.	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.
SOCIEDAD HIDROELÉCTRICA MELOCOTÓN LTDA.	Conduct pre-feasibility studies and develop hydroelectric power plant projects and operate them.	Limited liability company. Incorporated in July 1, 1980. Even though this company does not have operational activities, it, has water exploita-tion rights to develop hydroe- lectric projects.	100.00%	Legal representative: Thomas Keller L.		
RIO TRANQUILO S.A.	Generation, transportation, distribution, purchase and sale of power and electric power.	Privately-held corporation. Incorporated in May 20, 2005. Owner of the hydroe-lectric power plant Hornitos.	100.00%	Juan Eduardo Correa G.	Carlos Luna C.	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.
COLBÚN TRANSMISIÓN S.A.	Transmission of electrical energy; commercialization of transportation capacity and transformation of electricity; administration and opera-tion of electrical transmission facilities and the provision of services related to its corpo-rate purpose.	Privately-held corporation. Incorporated in June 28, 2012. Colbún S.A. holds 99% of the shares.	100.00%	Juan Eduardo Correa G.	Carlos Varea B.;	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.

Corporate name and legal nature	Corporate purpose	General Information	Direct or indirect participation	President	General Manager	Board of directors
COLBÚN DESARROLLO SPA	Generation, transportation, transportation, distribution, supply, purchase, sale and any other commercialization activity of electric power and energy; administration, operation and maintenance of hydraulic works and power plants; development of projects of generation, transmission and distribution of energy, national and foreign.	Privately held corporation organized according to the laws of the Republic of Peru, legally incorporated in March 18, 2015. Colbún S.A. owns 100% of the shares.	100.00%	Thomas Keller L.	Sebastián Fernandez C.	Thomas Keller L. Juan Eduardo Vásquez M. Sebastián Fernández C. Eduardo Lauer R. Sebastián Moraga Z.
INVERSIONES SUD SPA	Generation, transportation, transformation, distribution, supply, purchase, sale and any other commercialization activity of electric power and energy; administration, operation and maintenance of hydraulic works and power plants; devel-opment of projects of genera-tion, transmission and distribu- tion of energy, national and foreign.	Joint-stock company. Incorporated in March 31, 2015. Colbún S.A. holds 100% of the shares.	100.00%	Juan Eduardo Correa G.	Juan Eduardo Vásquez M.	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.

Corporate name and legal nature	Corporate purpose	General Information	Direct or indirect participation	President	General Manager	Board of directors
INVERSIONES ANDINAS SPA	Generation, transportation, transfor-mation, distribution, supply, purchase, sale and any other commercialization activity of electric power and energy; administra-tion, operation and maintenance of hydraulic works and power plants; development of projects of generation, transmission and distribution of energy, national and foreign.	Joint-stock Company incorporated in March 31, 2015. Colbún S.A. owns 100% of its shares.	100.00%	Juan Eduardo Correa G.	Juan Eduardo Vásquez M.	Juan Eduardo Correa G. Thomas Keller L. Juan Eduardo Vásquez M.
COLBÚN PERÚ S.A.	Investment in all types of chattels, including the acquisition of shares or rights in all types of companies, com-munities, foundations or associa-tions, in all kinds of transferable securi-ties and credit or investment instru-ments together with the administra-tion and exploitation of these investments and their fruits or products; and the generation, transport, trans-formation, distribution, supply, pur-chase, sale and all other activity of commercializa-tion of power and electric energy, without any limitation.	Privately held corporation organized according of the laws of the Republic of Peru, acquired by Colbún Desarrollo S.p.A. in September 28, 2015. Subsequently, by extraordi-nary meeting of shareholders dated December 15, 2015, Colbún S.A. was incorporated, which currently holds 99.9996% of the shares, with Colbún Desarrollo S.p.A. being the holder of the remain-ing 0.0004% shares.	100.00%	Thomas Keller L.	Sebastián Fernández C.	Bernardo Larrain M., (alterno Juan Eduardo Vásquez M.) Thomas Keller L. (alterno Rodrigo Pérez S.) Sebastián Fernández C. (alterno Eduardo Lauer R.).

Corporate name and legal nature	Corporate purpose	General Information	Direct or indirect participation	President	General Manager	Board of directors
INVERSIONES DE LAS CANTERAS S.A.	Investment in all types of chattels, including the acquisition of shares or rights in all types of companies, communities, foundations or associations, in all kinds of transferable securities and credit or investment instruments together with the administration and exploitation of these investments and their fruits or products; and the generation, transport, transformation, distribution, supply, purchase, sale and all other activity of commercializa-tion of power and electric energy, without limitation whatsoever.	Privately held corporation organized according to the laws of the Republic of Peru, legally incorporated in No-vember 16, 2015 by Inversiones Hacienda Montalbán S.A. (currently Colbún Perú S.A.) and Juan Carlos Escudero Velano, who later transferred his share to the first. In December 18, 2015 capital was increased and Colbún Perú S.A. subscribed and paid 51% of the shares, and Sigma and Fondo de Inversión en Infraestructura, were incorporated as partners with 13% of the shares; Blue Bolt A 2015 Limited, with 36% of the shares.	51.00%	Thomas Keller L.	Sebastián Fernández C.	Bernardo Larraín M .(alternate: Juan Eduardo Vásquez M.); Thomas Keller L. (alternate: Sebastián Moraga Z.); Sebastián Fernández C. (alternate: Eduardo Lauer R.); Rodrigo Pérez S. (alternate: Carlos Luna C.); Luis Miguel Azenha P. (alternate: Mujeeb Rehman Q.); Andrés Jana B. (alternate: Laurent Fortino); Luis Carranza U. (alternate: Gonzalo de las Casas D.)

Corporate name and legal nature	Corporate purpose	General Information	Direct or indirect participation	President	General Man- ager	Board of directors
FENIX POWER PERU S.A.	Electric power generation, secondary transmission and commercialization according to the relevant law; to develop any civil, industrial and commercial activity or operation and any other similar activity or operation that could be directly or indirectly related to or conducive to the fulfillment of the company's purpose, as well as the exploitation of those natural re-sources produced as a result of said Generation of electrical energy, as may be necessary or appropriate and authorized for public limited compa-nies.	Privately held corporation organized according to the laws of the Republic of Peru, legally incorporated in Sep-tember 15, 2004 by Enrique Víctor Macedo Abreu, Fer-nando Enrique Macedo Abreu, and Horace Alfred Sklar. Currently Inversiones de Las Canteras S.A. is holder of 100% of the shares.	51%	Miguel Aramburú Alvarez- Calderón	Juan Miguel Cayo	Bernardo Larraín M. (alterno Juan Eduardo Vásquez M.); Thomas Keller L (alterno Rodrigo Pérez S.); Sebastián Fernández C. (alterno Eduardo Lauer R.); Miguel Aramburú Alvarez-Calderón (alterno Sebastián Moraga Z.) Luis Azanha P. (alterno Mujeeb Ur Refman); David Andrés Jana B. (alterno Laurent Fortino); Luis Carranza U. (alterno Gonzalo de las Casas D.)

### **COLBÚN'S ASSOCIATED OR JOINT COMPANIES**

Corporate name and legal purpose	Company Purpose	General Data	Direct and Indirect Participation	Chairman	General Manager	Board of Directors
TRANSMISORA ELÉCTRICA DE QUILLOTA LTDA.	Transmission, distri-bution and supply of electricity.	Limited liability company. Owner of the San Luis substation, located next to the Nehuenco thermoelectric complex and the 220 kV high voltage line linking the substation with the Quillota substation. The company started commercial operations in 1999. Colbún owns 50% of the company's ownership.	50.00%	Carlos Varea B,		Carlos Varea B. Goran Nakik Ricardo Santibañez Z.
CENTRALES HIDROELÉCTRICAS DE AYSÉN S.A.	Development, financing, ownership and operation of a hydroelectric project in the Eleventh Region of Aysén.	Privately-held corporation. Incorporated by public deed dated September 4, 2006, granted by the Notary of Santiago Eduardo Avello Concha. Colbún owns 49% of the property of this company.	49.00%	Juan Eduardo Vásquez M.	Camilo Charme A.	Ignacio Quiñones S. Claudio Helfman S. Carlo Carvallo A. Bernardo Larraín M., Thomas Keller L., Juan Eduardo Vásquez M.
ELECTROGAS S.A.	Buy, sell, invest and hold shares of Elec-trogas S.A.	Privately-held Corporation. Incorpo-rated on March 11, 1999. Inversiones Electrogas S.A. is a company whose shareholders are Colbún S.A. (42.5%), Enel Generación S.A. (42.5%) and Enap (15%).	42.50%	Eduardo Lauer R.	Allan Fischer H.	Juan Oliva V. Pedro de la Sotta S. Marco Arróspide Eduardo Lauer R. (Suplente Italo Cúneo H.); Carlos Luna C. (Suplente Patricio Troncoso R.)

#### NOTE

The main commercial relations between Colbún and its affiliates correspond to contracts of purchase and sale and transportation of energy. These subsidiaries are fully consolidated and these contracts have no impact on the result. Regarding the future tie with all our affiliates, they should remain unchanged.

### **CAPITAL SUBSCRIBED AND PAID - SUBSIDIARIES AND ASSOCIATES**

Subsidiary	Currency	Subscribed Capital	Paid Capital
Empresa Eléctrica Industrial S.A.	MUS\$	3,680	3,680
Sociedad Hidroeléctrica Melocotón Ltda.	MUS\$	1,114	1.114
Río Tranquilo S.A.	MUS\$	64	64
Termoeléctrica Nehuenco S.A.	MUS\$	212	212
Termoeléctrica Antilhue S.A.	MUS\$	3,332	3,332
Colbún Transmisión S.A.	MUS\$	20,503	20,503
Colbún Desarrollo SpA	MUS\$	160	160
Inversiones SUD SpA	MUS\$	10	10
Inversiones Andinas SpA	MUS\$	10	10
Colbún Perú S.A.	MUS\$	219,635	219,635
Inversiones Las Canteras S.A.	MUS\$	432,100	432,100
Fenix Power Perú S.A.	MUS\$	620,268	620,268

Associates	Currency	Subscribed capital	Paid Capital
Electrogas S.A.	MUS\$	21,266	21,266
Centrales Hidroeléctricas de Aysén S.A.	M\$	185,045,665	185,045,665
Transmisora Eléctrica de Quillota Ltda.	M\$	4,404,446	4,404,446

#### PERCENTAGE OF THE INVESTMENT IN EACH SUBSIDIARY AND ASSOCIATED COMPANY OF THE COMPANY'S TOTAL ASSETS

Subsidiary	Investmen MUS\$	% over assets
Empresa Eléctrica Industrial S.A.	3,154	0.05%
Sociedad Hidroeléctrica Melocotón Ltda.	6,424	0.09%
Río Tranquilo S.A.	30,436	0.45%
Termoeléctrica Nehuenco S.A. *	-17,395	-0.25%
Termoeléctrica Antilhue S.A.	21,013	0.31%
Colbún Transmisión S.A.	65,224	0.96%
Colbún Desarrollo SpA	160	0.00%
Inversiones SUD SpA	10	0.00%
Inversiones Andinas SpA	10	0.00%
Colbún Perú S.A.**	222,370	3.26%

Associates	Investmen MUS\$	% over assets
Electrogas S.A.	17,048	0.25%
Centrales Hidroeléctricas de Aysén S.A.	9,245	0.14%
Transmisora Eléctrica de Quillota Ltda.	12,282	0.18%

### NOTE:

<sup>\*\*</sup> This Company has negative equity.

\*\* Consolidates the investments of the subsidiaries Inversiones Las Canteras S.A. And Fenix Power Perú S.A. with a 51% stake.

# BIOGRAPHIES OF THE MEMBERS OF THE BOARD OF DIRECTORS

#### MARÍA IGNACIA BENÍTEZ PEREIRA ID number: 7.460.907-4

Born in 1958, she is a Chemical Civil Engineer from the University of Chile, with extensive experience in the public, private, and academic sectors. She was Minister of the Environment during all the period of government of President Sebastián Piñera. She was a Regional Advisor of

the Metropolitan region between 2000 and 2008. She served as a Senior Project Manager and Deputy Manager of Environmental Management Consultants (GAC). She is the director of Colbún since 2016. She is currently a partner of Teamfex Spa, and carries out consultancy and project management activities. She is a professor of Commercial Engineering at Adolfo Ibáñez University.

### VIVIANNE BLANLOT SOZA ID number: 6.964.638-7

Born in 1955, she is a commercial engineer at the Pontificia Universidad Católica de Chile, and holds a Master's Degree in Applied Economics from the American University in USA. She has been Director of Colbún since 2012, member of the Transparency Council since 2011, and Director of Antofagasta Minerals since 2014. Previously she served as Minister of National Defense, Executive Secretary of the National **Energy Commission and Executive** Director of the National Environmental Commission. She was also a Member of the Board of Directors of the University of Santiago and of the State Bank, and Director of EMOS. Currently also part of Colbún, she is a member of the Board in Antofagasta PLC, Antofagasta Minerals, and CMPC Companies.

#### JUAN EDUARDO CORREA GARCÍA

#### ID number: 12.231.796-K

Born in 1972, he is a civil engineer from the Pontifical Catholic University of Chile. Since 2014 he has been Director of Colbún. He also serves as General Manager of BICECORP SA, as Chairman of the Board of BICE Vida Compañía de Seguros SA, Vice-Chairman of the Board of Directors of BICE Bank and Director of the BICE Hipotecaria SA, Almahue SA and iConstruct S.A.

#### LUZ GRANIER BULNES ID number: 7.040.317-K

Born in 1965, she is a commercial engineer from the University of Chile. She is currently an independent consultant for companies. Previously, she worked as Director of CIMM (Centro de Investigación Minera y Metalúrgica), Loginsa, Eléctrica Guacolda and TermoAndes, among others. Additionally, she served as subsecretary of Social Services, Chief of Cabinet of the Ministry of Public Works and Ministry of Mining and Energy. He had a long history of 11 years in Gener as Chief Treasurer, Manager of Administration and Finance of Norgener, and finally Deputy Manager of International Investments.

#### BERNARDO LARRAÍN MATTE ID number: 7.025.583-9

Born in 1966, he is a commercial engineer from the Pontificia Universidad Católica de Chile, obtained a MSc in Finance from the London School of Economics and a Master in Business Administration from Stanford University. He began working in Colbún as General Manager in 2005, and since April 2012 he has served as Chairman of the Board of Colbún. He is also a member of the Minera directories Valparaíso S.A., and Ports and Logistics S.A.

### ARTURO MACKENNA ÍÑIGUEZ ID number: 4.523.287-5

Born in 1946, he is an industrial civil engineer from the University of Chile

and holds a Ph.D. in Economics from the Massachusetts Institute of Technology. He has been Director of Colbún since 2006. He was also Director until October 2015 of Empresas CMPC S.A., and to date lansa S.A., Almahue S.A. and the Finis Terrae University.

### ANDRÉS LEHUEDÉ BROMLEY ID number: 7.617.723-6

Born in 1968, he is a commercial engineer from the Pontificia Universidad Católica de Chile and holds a Master of Business Administration from UCLA. He is General Manager of Inversiones Siemel S.A. and Manager of Administration and Finance of AntarChile S.A. Previously served as General Manager of Cruz del Sur Life Insurance Company. He was also general manager at Cruz del Sur AGF until 2007. He is currently a member of the Board of Directors of Comercializadora Novaverde S.A. (Guallarauco), Atton Hotels S.A., Red to Green S.A., Woodtech S.A., Agrícola Siemel Ltda... and Valle Grande S.A.

#### JORGE MATTE CAPDEVILA ID number: 14.169.037-K

Born in 1981, he is a commercial engineer from the Universidad de los Andes. He joined CMPC in 2007, where he held various positions in the executive area. Since 2008 he has been Director of several companies, currently of Empresas CMPC SA, CMPC Celulosa SA, CMPC Tissue SA, CMPC Papeles SA, and Minera Valparaíso SA. Since 2010 he has been President of the Amulen Foundation, a non-profit institution.

### FRANCISCO MATTE IZQUIERDO ID number: 16.612.252-K

Born in 1988, he is a lawyer from the Pontificia Universidad Católica de Chile. He has been Director of Colbún since 2016. He currently works as a lawyer in the areas of commercial and tax law.

# EFECTIVITY OF THE BOARD OF DIRECTORS

Average attendance to the Board of Directors' Meetings

95%

1.1.6 DJSI

# DESIGNATION AND ELECTION OF THE BOARD OF DIRECTORS

G4-40

With respect to the appointment and selection processes of the governing body, any natural person who is the free administrator of their assets and who is not included in any of the cases expressly indicated in articles 35 and 36 of the LSA, may be elected Director of the Company. In addition, to be Independent Director, understanding as such what is defined in article 50 bis of the LSA, must comply with the conditions established in that article.

#### **REQUIRED INFORMATION**

Shareholders who wish to promote the nomination of a person to hold a position of Director or wish to present themselves directly, may submitthe following information to the General Manager of the Company:

- 1. Experience and professional profile of the candidate.
- 2. Declaration of the candidate indicating the acceptance of his nomination and the fulfillment of all the requirements to carry out the position established by law and its regulations.
- 3. Declaration of the contractual, commercial or other relationships with

the controlling interest, competitors or suppliers of the last 18 months.

The veracity of the background information will not be the responsibility of the Company, which will be limited to receive them and leave them available to the shareholders through its website.

#### SUBMISSION OF INFORMATION

The background information should be sent to the General Manager of the Company at least three business days prior to the date of the Meeting of Shareholders, by means of an e-mail addressed to the address rsperez@ colbun.cl or by a letter delivered to the Company's address.

#### **APPLICATION**

The General Manager shall make available to the shareholders through the Company's website, at least two days prior to the Meeting of Shareholders, the information that has been given to the Company regarding the experience and professional profile of the candidates for Director received until that date.

The foregoing does not preclude the option to present any interested person as a candidate for Director at the same time of holding the corresponding Meeting of Shareholders.

#### **ELECTION**

At the Meeting of Shareholders, the

shareholders vote for the election of the board of directors. At least one Independent Director is appointed in compliance with Article 50 bis of the Spanish Corporations Law. In relation to this, the proposals of the shareholders that represent one percent or more of the shares of the Company are received, within the corresponding deadlines.

# 2016 MANAGEMENT OF THE COMMITTEE OF DIRECTORS

During the year 2016, the Directors Committee met seven times to review the Management's proposals to the Board of Directors and also the transactions with related parties regulated by art. 147 of Law No. 18,046, in which it agreed to propose to the Board of Directors the approval thereof, inasmuch as they were in accordance with the prevailing conditions of equity in the market for this type of operations, or were part of the ordinary operations of the company.

The Committee, commented on the following operations in particular:

#### Advising Agreement with BICE Chileconsult Asesorías Financieras

**S.A.**This is an advising contract for the evaluation of an eventual sale of a backup power plant. The estimated

value of services is capped at US \$ 430,000 and that the other two companies that had been selected to provide this advice considered a higher fee for equivalent services. The Committee reviewed this operation because the Director Juan Eduardo Correa G., is at the same time director of BICE Chileconsult Asesorías

### Forest Fire Protection Agreement with Forestal Arauco S.A.

This is a contract to provide services to prevent and extinguish fires that could affect the facilities of the thermoelectric power plant Santa María; The contract has an annual fixed cost of UF 91 and a variable cost, depending on the use of resources to fight fires provided for in the Convention, such as tank trucks, helicopters, aircraft and fire brigade. The Committee reviewed this operation because the Director Mr. Eduardo Navarro B. is at the same time director of Celulosa Arauco S.A., head office of Forestal Arauco S.A.

#### Diesel supply contract with Compañía de Petróleos de Chile S.A. (Copec)

This contract ensures the permanent availability of the diesel supply for situations where it is required. The price of the Contract is first compounded by the base at the diesel price parity of Enap, then volume discount and at the end an overhead coverage. The Committee reviewed this operation because the Director Eduardo Navarro B. is at the same time director of Copec.

### **Entel S.A.** This is an electricity

supply contract for a "radio station" of Entel located in the area near the Hydroelectric Power Station Los Quilos, for an average monthly energy of up to 10,800 KWh / month, power up to 30 KW and for a term of up to 5 years. The monthly value of the invoice is of the order of US \$1,500. The Committee reviewed this operation because a director of Entel, Mr. Bernardo Matte L., is a member of the controlling group of Colbún S.A., and at the same time is the father of the Director Francisco Matte I.

### Contribution to the Social Union of Christian Entrepreneurs (USEC).

It is the financing to sponsor the international conference "Subsidiarity in Business: Time is Now", for an amount of \$4,000,000 plus tax. The Committee reviewed this operation because the Director Luz Granier B. is at the same time director of the Social Union of Christian Entrepreneurs.

### Contract for the provision of advisory services with Arturo Mackenna I.

This is an advisory agreement that consists of the provision of advisory services for the development, planning, management, control and control of projects in the current or future implementation of the project. Company, whether it be transmission line projects, electric substations, hydroelectric or thermoelectric plants and other industrial facilities Of Colbún S.A. Or its subsidiaries. This contract has a cost of \$7 million per month and its term is 8 months. This Committee reviewed this Contract because Arturo Mackenna I. is a director of Colbún S.A.

### Insurance contract or civil liability policy.

This is the renewal of the Company's operational insurance policy, which includes the coverage of physical damage and damage due to shutdown associated with the facilities, for the period 2016-2017. The insurance contract was signed with several insurance companies, one of whose leaders is Mapfre Seguros. The Committee reviewed this operation because the Director, Luz Granier B. is at the same time director of Mapfre Seguros.

Contribution or funding to Society of Primary Education (SIP). It is a contribution of \$ 26,000,000 to the Society of Primary Education for the project of financing educational activities, mainly for musical purposes. The Committee reviewed this operation because a director of the Society of Primary Education is Magdalena Larraín M., sister of the President Bernardo Larraín M. and cousin of the Directors Mr. Jorge Matte C. and Francisco Matte I.

In addition, the Directors' Committee carried out the following activities:

- · Reviewed the Company's Financial Statements as of December 31, 2015;
- · Met with representatives of the external audit firm Ernst & Young to analyze the scope of services provided in 2015, the accounting criteria used and the results of the audit as at 31 December 2015.
- · Informed of the activities carried out by the Committee during the year 2015, issuing the Annual Management

#### Report;

- Evaluated the proposals of the Administration for the designation of external audit companies for the year 2016 and agreed to propose to the Board of Directors that it propose to the Shareholders' Meeting to appoint external auditors for 2016 as the first option to Ernst & Young Professional Auditing and Advisory Services Ltd., and as a second option to KPMG Auditores Consultores Ltda.
- · Reviewed the remuneration and compensation plans of the Company's managers, executives and employees;

During the year 2016, the Directors Committee did not contract consultancies or incur any expenses.

### IMPORTANT EVENTS REPORTED TO THE SVS

Resumen de Hechos Relevantes comunicados a la Superintendencia de Valores y Seguros durante el año.

#### MARCH 22, 2016

On March 22, 2016, the Board took note of the resignation presented by Ms. Vivianne Blanlot S. to the position of Director of this Society. In consideration of the above, it was reported that at the next general meeting of shareholders of Colbún S.A. It would correspond to make a choice of Directory.

#### MARCH 30, 2016

It was reported that the Board of Directors of Colbún S.A., at a meeting

held on March 29, 2016, resolved to call the shareholders of the Company to the General Meeting of Shareholders, to be held on Friday, April 22, 2016, at 10:00 a.m., at Teatinos 280, first subway, district of Santiago, in order to submit to the consideration of the shareholders of the company the Following matters:

- (I) Review of the Company's situation and report of the External Auditors and the Auditors;
- (li) Approval of the Annual Report and Financial Statements as of December 31, 2015;
- (Iii) Distribution of profits and distribution of dividends;
- (Iv) Approval of the company's investment and financing policy;(V) Profit and dividend policies and procedures;
- (Vi) Designation of External Auditors for 2016;
- (Vii) Appointment of Account Inspectors and their remuneration;
- (Viii) Election of Board:
- (Ix) Determination of the remuneration of Directors:
- (X) Report of activities of the Directors' Committee:
- (Xi) Determination of the remuneration of the Directors Committee and determination of its budget;
- (Xii) Information on Board resolutions related to acts and contracts governed by Title XVI of Law No. 18,046;
- (Xiii) Designation of the newspaper in which notices to citation to meetings of shareholders must be published; and (Xiv) Other matters of social interest of competence of the Board.

In addition, it was reported that the Board of Directors agreed to propose to the General Meeting of Shareholders the distribution of a definitive dividend, charged against earnings for the year ended December 31, 2015, for the total amount of US \$ 61,875,108.03, corresponding to US \$ 0.00353 per share. It was reported that it would also be proposed that the above-mentioned dividend be paid from May 5, 2016. It was reported that this dividend would be paid in pesos, national currency, at the "observed dollar" exchange rate that appeared published in the Journal Official dated April 29, 2016, by check, in accordance with the usual procedures of the Company for the payment of dividends.

It was reported that it would also propose to the Board to empower the Board to That, until the next Ordinary Shareholders' Meeting, it could agree and proceed with the payment of dividends, with charge to the Company's retained earnings fund, derived from profits from prior years, for the amounts and on such dates as the Board of Directors may determine at each opportunity, according to the circumstances it qualifies.

It was further reported that the Company's Financial Statements as of December 31, 2015 were available on the Company's website (www.colbun. cl).

It was informed that the Annual Report would be available for the shareholders and the general public on the same website, as of April 6, 2016.

#### **APRIL 22, 2016**

It was informed that at the Ordinary Shareholders' Meeting held on April 22, 2016, the following resolutions were adopted, among others:

- 1. Board Election: The Company's Board of Directors was renewed, with the following elected: María Ignacia Benítez Pereira, Vivianne Blanlot Soza and Luz Granier Bulnes, and Bernardo Larraín Matte, Arturo Mackenna Iñiguez, Eduardo Navarro Beltrán, Jorge Matte Capdevila, Juan Eduardo Correa García and Francisco Matte Izquierdo. I hereby remind you that María Ignacia Benítez Pereira and Luz Granier Bulnes were elected as independent directors.
- 2. It was agreed to designate Ernst & Young Servicios Professional de Auditoría y Asesoría Limitada as the external audit firm for the year 2016.
- 3.- 3. It was approved to distribute a definitive dividend No. 46, charged to the profits of the year ended on December 31, 2015, for the total amount of US \$ 61,875,108.03 corresponding to US \$ 0.00353 per share, which will be paid as of May 5, 2016 in pesos, national currency, at the exchange rate of "observed dollar" published in the official Gazette on April 29, 2016, in accordance with the usual procedures of the Company for the payment of dividends.

Subsequently, in the Extraordinary Session of the Board of Directors

held on April 22, 2016, the following resolutions were adopted, among others:

- President Bernardo Larraín Matte was appointed Chairman and Dona Vivianne Blanlot Soza as Vice-Chairman.
- 2.- Juan Eduardo Correa García, and Mrs. Luz Granier Bulnes and María Ignacia Benítez Pereira were appointed as members of the Board of Directors, the latter being independent directors.

#### JUNE 29, 2016

It was reported that on June 28 at approximately 10:00 am the transformer of the gas turbine of the Nehuenco 2 ("Unit 2") power plant, owned by Colbún S.A., was affected by a fire. Unit 2 was disconnected from the system and the fire was extinguished around 14:00 hrs. Unit 1 continued to operate normally. According to the first inspections, the material damages of the fire involved the transformer without major damages to Unit 2. The Company immediately arranged the detailed evaluation of the damages suffered, as well as the most urgent repairs to the transformer that allow to reestablish the service in the shortest possible time.

It was reported that the unavailabiliy of Unit 2 on the Company's results would be timely notified, once sufficient technical information is available and a more accurate estimate of the repair period.

#### 20 JULY 2016

It was reported that, regarding the fire that affected the main transformer of the Nehuenco 2 power plant ("the power plant"), Colbún obtained a provisional transformer abroad, which was deemed to enter into operation, provisionally, around September 25, 2016.

On the other hand, it was reported that Colbún commissioned the manufacture of a new and definitive transformer that was expected to come into operation on December 30, 2016.

With the information available at that time on estimated repair, availability of the plant, and insurance for such claims, it was reported that the impact of the failure on the Company's financial results was not material in the context of Colbún.

#### 21 DECEMBER 2016

It was reported that in a meeting held on December 20, 2016, the Board of Colbún S.A. agreed to distribute a provisional dividend charged against the profits for the year ending December 31. 2016 in the amount of US \$ 0.00261 per share. The payment of the dividend would be made after January 9, 2017, to shareholders who were registered in the corresponding register on the fifth business day prior to said date. It was reported that this dividend would be paid in pesos, national currency, at the "observed dollar" exchange rate, which appeared published in the Official Gazette dated January 3, 2017, by means of deposit in bank account or check, in accordance with the usual procedures of the Company for the payment of dividends.

For its part, it was informed that the notice of payment of said dividend would be published in due time in accordance with current regulations.

#### CHANNELS OF DIALOGUE AND COMMUNICATIO WITH STAKEHOLDERS

G4-26

We are part of an industry that is fundamental to the development of the country and the quality of life of its inhabitants. That is why we seek to be in tune and understand our stakeholders, through relationships that promote mutual communication and are based on trust and respect. The following channels of dialogue and communication are available continuously throughout the year:

#### **INVESTORS**

- $\cdot$  Area dedicated to Investor Relations.
- · Breakfasts and work meetings.
- $\cdot$  National and international conferences.
- · Perception study.
- · Consultation and reporting mechanisms linked to the Code of Ethics (telephone line, electronic or regular mail) for both Colbún Chile and Fenix in Peru.

#### **EMPLOYEES**

- · Informative and participative meetings of the Organization and People team in the power plants.
- $\cdot$  Extended meetings of headquarters with the general manager.
- · Meetings with unions and groups of workers
- $\cdot$  Specific climate survey for Colbún Chile and Fenix.

- · Internal Services Survey.
- · Consultation and reporting mechanisms linked to the Code of Ethics (telephone line, electronic or regular mail) for both Colbún Chile and Fenix.

#### **ENVIRONMENT**

- · Early and voluntary citizen participation.
- · Participation as exhibitors in seminars and participatory talks.
- · CSR Environment Committee and Leadership Center for Climate Change.
- · Participatory monitoring of environmental variables in Fenix Peru.
- · Dialogue groups with community players.

#### **COMUNIDAD Y SOCIEDAD**

· General and thematic work / dialogue groups (e.g. tourism, fishermen, communities.

Indigenous peoples, neighborhood associations, irrigators, agreements with municipalities, etc.).

- · Regular meetings with authorities and neighbors.
- · Early and voluntary citizen participation in new projects.
- · Visits to power plants, Colbún Energy House, Angostura Visitor Center, Santa María power plant.
- · Public Affairs teams on the ground.
- · Participation in trade and regional associations (directories and thematic workshops).
- · Regular meetings with national, regional and local media.
- · Website www.colbun.cl and www. Fenixpower.com.pe.
- · Corporate Twitter @ColbunEnergia.
- · Working groups and socialization process of the adjustments of the San Pedro Project. Also web page www.

centralsanpedro.cl.

- · Facebook Page Angostura del Biobio.
- · Facebook Page House of Energy.
- · Santa Bárbara-Quilaco

Entrepreneurship Centers, Coronel and Concepción (raising interests and concerns of productive development of the community).

- · Public accounts and reportability associated with Angostura, Santa María, Carena, Aconcagua, Candelaria and Canutillar.
- · Doors open on Fridays at the Santa María complex for the attention of neighbors and community in general.
- Perception study of key communities: Colbún and Colonel.
- · Study of the perception of relevant stakeholders linked to all our projects and plants.
- · "Energy +" newspaper (contact email, document)
- · Website Consultation Line
- · Reception of letters in exchanges
- · Consultation and reporting mechanisms

Linked to the Code of Ethics (telephone line, email or manual) for both Colbún Chile and Fenix in Peru.

#### CONTRACTORS AND SUPPLIERS

- · Participation in business instances.
- · Suppliers and Tenders Portal.
- · Feedback meetings.
- · Perception study.
- · Consultation and reporting mechanisms linked to the Code of Ethics (telephone line and email) for both Colbún Chile and Fenix in Peru.



# ASSOCIATIONS AND COLLABORATION OPPORTUNITIES IN WHICH WE PARTICIPATE

G4-15, G4-16

#### COLLABORATION OPPORTUNITIES IN WHICH WE PARTICIPATE IN CHILE (G4-15)

Organization	Description	Joining Date
"Center for Business Sustainability www.cbs.uai.cl"	Identifies and generates solutions for the big sustainability challenges that businesses face in Chile.	2015
"Water Disclosure Project (Water CDP)	Promotes monitoring and measuring the use of water at a worldwide level.	2011
"Programa Bota por mi Vida www.fundacionsanjose.cl"	Recycling of papers in offices of the offices of the Metropolitan Region and Region V of Chile.	2011
"Carbon Disclosure Project (CDP) www. cdp.net"	Promotes the measurement of carbon emissions from private companies and governmental entities, at worldwide level.	2009
"Concurso Junior del Agua www.juniordelagua.cl"	It seeks to increase interest, creativity and knowledge among high schoolers to promote awareness.	2009

#### GLOBAL AND BUSINESS ENTITIES IN WHICH WE PARTICIPATE

Organization	Description	Participation Level	Joining Date
Club de Innovación www.clubdeinnovación.cl	It seeks to articulate the innovation processes of companies through the connection, collabo-ration and co-creation between companies.	Partners	2016
Fundación Chilena del Pacífico www.funpacifico.cl	It articulates ways of integration in the Pacific.	Partners	2016
Red Pacto Global www.pactoglobal.cl	Red Pacto Global seeks to promote sustainable growth and civic responsibility of companies, which commit themselves to adopt the ten universal Principles in their daily actions, worldwide.	Partners, Board of Direc-tors and work commit-tees	2015
Asociación Gremial de Riego y Drenaje (AGRYD) www.agryd.cl	It promotes the professionalism of the Irrigation and Drainage sector, contributing to the efficient use of water resources, the protection of the environment and sustainable agricultural development.	Related partners	2015
Corporación Regional de Desarrollo del Biobío www.desarrollabiobio.cl	It seeks to project itself towards the community as the promoter of public and private articula-tion, which provides the strategic orientations and monitors the different strategies for devel-opment.	Partners, Board of Direc-tors and work commit-tees	2015
Corporación Municipal de Desarrollo Coronel (CORCORONEL)	It seeks to facilitate the social work of companies in the district Colonel.	Partners, Board of Direc-tors and work commit-tees	2015
Visión Valdivia www.visionvaldivia.cl	Entity that coordinates, promotes and dissemination of integrated cooperation efforts between the private, public, academic and scientific sectors.	Partners	2015
Cámara Chilena de la Construcción (CChC) Valdivia www.cchc.cl	Contributes to the well-being of Chileans through the development of the construction sector and private initiative, along with the improvement of the public sector, as agents of progress and equity in the country.	Partners	2015
Cámara de Comercio en Industria de Valdivia www.cciv.cl			2015
Asociación Gremial de Generadoras (AGG) www.generadoras.cl  Promotes the development of electricity companies in Chile.		Partners, Board of Directors and work committees	2011
Acción Empresas www.accionempresas.cl	. It bromotes work for CSB and stistaliable development in Culie		2011
Asociación de Industriales del Centro de Talca (ASICENT) www.asicent.cl  It seeks to collaborate with the development of its associates and with the progress of the Maule Region.		Partners	2011
Cámara de la Producción y del Comercio de Concepción (CPCC) www.cpcc.cl	It promotes the productive development of the Biobío region.	Partners	2010
Corporación Industrial para el Desarrollo Regional del Biobío (CIDERE) www.ciderebiobio.cl	Works for the development of the Biobío region.	Socios, Directorio, mesas de trabajo innovación y RSE	2010

Corporación para el Desarrollo de la Región de Los Ríos (CODEPROVAL) www.codeproval.cl	Corporation that works in multiple sectors and fosters growth in the Los Ríos region.	Partners sponsorship of events	2010
Organization	Description	Participation Level	Joining Date
Instituto de Ingenieros de Chile	It seeks to contribute to the promotion of science and engineering in Chile.	Partners	2010
Sociedad de Fomento Fabril (SOFOFA) www.sofofa.cl	Promotes and disseminates best business practices.	Partners and advisor	2009
Corporación Pro Aconcagua www.proaconcagua.cl	Promotes the sustainable development of the Aconcagua Valley in the Region of Valparaiso.	Partners y Board of directors	2009
Centro de Líderes Empresariales para el Cambio Climático www.clgchile.cl	Promotes policies and actions to address climate change in Chile.	Partners y Board of directors	2009
Centro de Estudios Públicos (CEP) www.cepchile.cl	Its purpose is the study and dissemination of values, Principles and institutions that serve as the basis for a free society in Chile.	Socios	2008
ICARE www.icare.cl	Promotes entrepreneurial excellence in Chile.	Socios	2008

#### COLLABORATION OPPORTUNITIES AND INSTITUTIONS IN WHICH WE PARTICIPATE

Organization	Description	Joining Date
Center for Business Sustainability www.cbs.uai.cl	Identifica y genera soluciones a los grandes desafíos de sostenibilidad que enfrentan los negocios en Chile.	2015
Water Disclosure Project (Water CDP) www.cdp.net/water	Promueve el monitoreo y medición del uso de los recursos hídricos, a nivel mundial.	2011
Programa Bota por mi Vida www.fundacionsanjose.cl	Reciclaje de papeles en oficinas de las oficinas de la Región Metropolitana y V Región de Chile.	2011
Carbon Disclosure Project (CDP) www.cdp.net	Promueve la medición de las emisiones de carbono de empresas privadas y entidades gubernamentales, a nivel mundial.	2009
Concurso Junior del Agua www.juniordelagua.cl	Busca aumentar el interés, la creatividad y el conocimiento entre los jóvenes de Enseñanza Media para promover la conciencia hídrica en Chile.	2009

NOTE: Colbún S.A. Participates in all these initiatives on a voluntary basis.

#### UNION AND ENTREPREURIAL ASSOCIATIONS. AND COLLABORATION INNITIATIVES IN WHICH WE PARTICIPATE IN PERU

Organization	Description	Participation Level	Joining Date
Water Resources Group	IFC Working Group that promotes access to water.	We participate in working groups related to best practices and uses of water	2015
Comité de Operaciones del Sistema Interconectado Nacional (COES-SINAC) www.coes.org.pe	It seeks to propose plans for the development of SINAC in order to guarantee the safety, quality and economy of the electricity supply to Peru.	Partners and work committees	2012
Sociedad Nacional de Minería, Petróleo y Energía (SNMPE)	Guild that brings together the Peruvian power industry.	Partners and work committees	2012
Hay Group	International consultant who works with the leaders of companies in order to realize their strategies.	Participation in the "Energy Club"	2012
Cámara de Comercio Americana (AmCham) www.amcham.org.pe	Promotes the free market system, promoting trade, investment and exchange between Peru and the United States.	Partners	2011



#### **TAXATION**

1.7 DJSI

Companies in Chile must fully comply with their tax obligations, all of them derived from the economic facts. They act as a legal entity and consequently generate taxable events. These tax obligations are clearly defined in the various laws that regulate the matter, such as the Tax Code, Income Tax Law (DL 824), VAT Law (DL 825), etc. Accordingly, Colbún fully complies with the laws and regulations applicable to this Law and there is no other way to develop a tax policy / strategy or guidelines different from the Law. Also, we publish the Financial Statements quarterly and the Company's report annually. These public reports sent to the Superintendency of Securities and Insurance (SVS), explain the tax situation clearly declaring, among other matters, the Effective Tax Rate and the Conciliation from the Tax Rate.

In addition, on a monthly and annual basis, we send tax documentation to the inspection body (SII: Internal Taxes Service) with all the openness and detail that the regulations in force demand.

### CRIME PREVENTION MODEL

Our Company has a Crime Prevention Model which is within the framework of Law No. 20,393 of Criminal Responsibility of the legal companies, which seeks to prevent the risks of bribery, money laundering, financing of terrorism and reception of stolen property.

### INFORMATION AND TRAINING IN ANTI-CORRUPTION PROCEDURES WITHIN THE ORGANIZATION (G4-SO4)

	Board of directors	Employees
Total number of members	9	1,011
Members informed about the anti-co- rruption procedure	9	1,011
% members informed about anti-co- rruption	100%	100%
Members trained in anti-corruption procedures	9	412
% members trained in anti- corruption	100%	40.8%

#### **RISK MANAGEMENT**

#### **RISK MANAGEMENT POLICY**

The Risk Management strategy is aimed at safeguarding the the Company's principles of stability and sustainability, identifying and managing the sources of uncertainty that affect or may affect it. Managing risk fully involves identifying, measuring, analyzing, mitigating and controlling the different risks incurred by the different management of the Company, as well as estimating the impact on the consolidated position of the company, its monitoring and control over time. In this process both the top management of Colbún and the risktaking areas are involved. Tolerable risk limits, metrics for risk measurement and the periodicity of risk analyzes are policies regulated by the Company's Board of Directors. The risk management function is the responsibility of the General Management as well as of each division and management of the Company, and has the support of the Corporate Risk Management and the supervision, monitoring and coordination of the Risk Committee.

#### **ELECTRICAL BUSINESS RISKS: In**

Colbún, risk management is a strategic pillar to safeguard the Company's principles of stability and sustainability, eliminating or mitigating uncertainty variables that could significantly affect the achievement of its objectives. The risk management is monitored by a Risk Committee, with the support of the Risk Management Corporate and in coordination with the other divisions of

the Company.

**HYDROLOGICAL RISKS:** In Chile, 48% of Colbún's power plants are hydro facilities, which are exposed to hydrology conditions.

To comply with its commitments in dry hydrologic conditions, Colbún must operate its combined thermal cycle plants mainly with natural gas purchases or with diesel, or by default operating its back-up thermal plants or even buying energy on the spot market.

This situation might rise Colbún's costs, increasing earnings variability depending on the hydrological conditions. The Company's exposure to hydrological risk is reasonably mitigated by a commercial policy that aims to maintain a balance between competitive base generation (hydro generation in a medium to dry year and thermal coal generation, cost efficient natural gas generation, other renewables cost efficient generation, all properly complemented by other sources of generation given their intermittency and volatility) and commercial commitments. Under conditions of extreme and recurrent drought, a potential shortage of water for refrigeration could affect the generation capacity of the combined cycles, whose impact could be mitigated 21 by the purchase of water from third parties and/or by operating these units in an open cycle, as well as implementing technical solutions in the medium and long term that are being analyzed for the aforementioned combined cycle complex.

In Peru, Colbún owns a combined-cycle power plant and has a commercial policy oriented towards committing such base energy through medium and long-term contracts. The exposure to dry seasons is restricted, since Colbún's operations would only be impacted in the event of potential operational failures that would require the Company to resort to the spot market. Additionally, the Peruvian electrical market presents an efficient thermal supply and availability of natural gas from local sources that backs it up.

**FUEL PRICE RISK:** In Chile, in situations of low water availability in its hydro power plants, Colbún relies on its thermal plants or purchase energy in the spot market at marginal cost. In these scenarios, there is a risk associated to potential variations in international fuel prices. Part of this risk is mitigated incorporating fuel price indexation on our selling energy contracts. Additionally, in order to reduce fuel price risks there is a hedge program in place with different derivative instruments such as call options and put options to hedge the remaining exposure, if necessary. Otherwise, in case of abundant hydrology, the Company may be in a selling position in the spot market, where the price would be partially determined by the fuel price.

In Peru, the cost of natural gas has a lower dependence to international prices, due to an important domestic production of this hydrocarbon, limiting its exposure to this risk. Like in Chile, the proportion exposed to variations

in international prices is mitigated by indexed formulas in energy sales contracts. Due to the above, exposure to the risk of changes in fuel prices is largely mitigated.

**FUELS SUPPLY RISKS:** Regarding liquid fuel supply in Chile, the Company has agreements with suppliers and own storage capacity to ensure adequate reliability in respect to the availability of this type of fuel.

Regarding natural gas supply, in Chile Colbún has medium-term contracts with ENAP and Metrogas and in Peru Fenix has long-term contracts with the ECL88 Consortium (Pluspetrol, Pluspetrol Camisea, Hunt, SK, Sonatrach, Tecpetrol and Repsol) and gas transportation agreements with TGP.

Regarding coal purchases for Santa María unit I power plant, new tenders have been undertaken, inviting important international suppliers to bid, awarding the supply contract to well supported and competitive Companies. The above is in line with an early purchasing policy and a stock management policy in order to substantially mitigate any risk of not having this fuel available.

#### **EQUIPMENT FAILURE AND**

MAINTENANCE RISK: The availability and reliability of Colbún's generating units and transmission facilities are essential to the Company's business. This is why Colbún has a policy to conduct regular maintenances on its equipment according to the recommendations of its suppliers, and maintains a policy to cover such risks through insurances for its physical assets, including coverage for physical

damage and for loss of profit.

#### PROJECT CONSTRUCTION RISK:

The development of new generation and transmission projects can be affected by factors such as: delays in obtaining environmental approvals, regulatory framework changes, prosecutions, increase in equipment price, opposition from local and international stakeholders, adverse geographical conditions, natural disasters, accidents or other unforeseen events.

The Company's exposure to such risks is managed through a commercial policy that considers the effects of potential project delays. Alternatively, clearance levels with respect to time and costs of construction estimates are incorporated. Additionally, the Company's exposure to this risk is partially covered with the "All Construction Risk" insurance policies covering both physical damage and loss of profit as a result of delay in service resulting from a casualty, both with standard deductibles for this type of insurances.

The companies in the sector face a very challenging electricity market, with lots of activity from different interest groups, mainly from local communities and NGOs, which are legitimately looking for more participation and prominence. As part of this complexity, the environmental processing times have become more uncertain, which occasionally are also followed by long prosecuting processes. This has resulted in less construction of significant size projects.

Colbún has also the policy to

integrate with excellence the social and environmental dimensions to the development of its projects. The Company has developed a model of social link that allows it to work with neighboring communities and with the society in general, starting a transparent process of public participation and confidence building in the early stages of projects and throughout their entire life cycle.

REGULATORY RISKS: Regulatory stability is fundamental for the generation sector, due to the long-term nature of the development, execution and return on investment of its projects. Colbún believes that regulatory changes must be made taking into consideration the complexities of the electrical system and keeping adequate investment incentives. It is important to dispose of a regulation that gives clear and transparent rules that consolidates the trust of the agents in the sector.

In Chile, the energy agenda promoted by the government considers different regulatory changes, which, depending on the form in which they get be implemented, could represent an opportunity or risk for the Company. Changes that are currently being discussed in the Congress regarding (i) the amendment to the Water Code, (ii) the law related to strengthening the regionalization of the country, (iii) the bill that creates the Ministry of Indigenous Peoples, (iv) the bill that creates the National Council and the Councils of Indigenous Peoples and (v) the Law on Biodiversity and Protected Areas. There are also important initiatives in the sector such as: (i) definition of the regulations necessary for the proper implementation of the recently enacted Law on Electricity

Transmission and (ii) the definition of the long-term Energy Policy for the country (2050) which is already in its diffusion stage, among others.

In Peru, the authority is conducting studies of regulatory changes for the electricity sector. Some of the issues that are being considered are related to: (i) Generation/wholesale market (to include major unregulated clients in the short term market), (ii) Duality (new methodology to monitor the performance of dual units).

The necessary and balanced development of the electricity market during the next few years depends greatly on the quality of these new regulations and on the signals provided by the authorities with them, both in Chile and Peru.

### RISK OF CHANGE IN DEMAND SUPPLY AND SELLING PRICE OF ELECTRICITY

The projection of future electricity consumption is very relevant information for the determination of its market price.

In Chile, a lower growth in demand, a decrease in fuel prices and an increase in the inflow of solar and wind renewables energy projects led to a decrease in the short-term price of energy (marginal cost) in 2016.

Regarding long-term values, the bidding process for the supply of regulated customers in August 2016 resulted in a significant drop in the prices bid and awarded, reflecting the greater competitiveness in the market and the impact of the emergence of

new technologies – solar and wind fundamentally – with a significant reduction of costs due to its massification. Although the factors that trigger these competitive dynamics and price trends can be expected to remain in the future, it is difficult to determine their precise impact in the long-term values of energy.

Additionally, given the difference generated between regulated and unregulated clients, a portion of regulated clients may choose a non-regulated regime. This can occur because the electricity legislation allows clients with connected capacity between 500 kW and 5,000 kW to choose to be categorized as regulated or non-regulated customers. Colbún has one of the most efficient generation matrix in the Chilean system, thus we have the ability to offer competitive conditions and costs to customers who require it.

In Peru, there is also a scenario of a temporary imbalance between supply and demand, mainly due to the increase of efficient supply (hydroelectric and natural gas plants), involving a decrease of energy prices in recent months.

The growth that has been observed in the Chilean (and potentially in the Peruvian) market of non-conventional renewable sources of generation such as solar and wind may generate integration costs and therefore affect the operating conditions of the rest of the electrical system especially in the absence of a market for complementary services that adequately remunerate the services necessary to manage the variability of such generation sources.

**FINANCIAL RISKS:** Are those risks associated with the inability to perform transactions or the breach of obligations from the activities due to lack of funds, as well as variations in interest rates, exchanges rates, counterparty financial stress or other financial market variables that may materially affect Colbún.

EXCHANGE RATE RISK: The exchange rate risk is mainly caused by currency fluctuations that come from two sources. The first source of exposure comes from cash flows corresponding to revenues, costs and disbursements of investments denominated in currencies other than the functional currency (U.S. dollar). The second source of risk corresponds to the accounting mismatch between assets and liabilities of the Statement of Financial Position denominated in currencies other than the functional currency.

Exposure to cash flows in currencies other than USD is limited because virtually all sales of the Company are denominated directly in or indexed to USD. Similarly, the main costs are related to diesel, natural gas and coal purchases, which incorporate pricing formulas based on international prices denominated in USD. Regarding investment projects disbursements, the Company incorporates indexers in its contracts with suppliers and resorts to the use of derivatives to fix the expenses in currencies other than USD.

Exposure to the mismatching of accounts is mitigated by applying a policy of maximum mismatch between assets and liabilities for those structural

items denominated in currencies other than USD. For purposes of the above, Colbún maintains a significant proportion of its cash surpluses in dollars and additionally resorts to the use of derivatives, mainly using currency swaps and forwards.

INTEREST RATE RISK: Is related to changes in interest rates that affect the value of future cash flows tied to a floating interest rate, and changes in the fair value of assets and liabilities linked to fixed interest rate that are measured at fair value. In order to mitigate these risks, interest rate swaps are used.

The Company's financial debt, including the effect of the contracted interest rate derivatives, has the following profile:

Interest rate	Dic-15	Dic-16
Fixed	100%	97%
Variable	0%	3%
Total	100%	100%

As of December 31, 2016, the Company's financial debt is denominated at 97% at a fixed rate, the remaining 3% corresponds to a fraction of Fenix's loan.

**CREDIT RISK:** The Company is exposed to the risk arising from the possibility

that a counterpart fails to meet its contractual obligations, producing an economic or financial loss. Historically, all of Colbún's counterparties with which it has maintained energy supply contracts have made the corresponding payments correctly.

With respect to cash and derivatives statements, Colbún has entered into these transactions with financial institutions with high credit ratings. Additionally, the Company has established limits by counterparty, which are approved by the Board of Directors and periodically reviewed.

As of December 31, 2016, cash surpluses are invested in mutual funds (of subsidiaries of banks) and in fixedtime deposits in local and international banks. The former correspond to short-term mutual funds with maturities of less than 90 days, which are known as "money market".

LIQUIDITY RISK: This risk results from different funding requirements to meet investment commitments and business expenses, debt payments, among others. The funds needed to meet these cash flow outputs are obtained from our own resources generated by Colbún's ordinary activity and by contracting credit lines to ensure sufficient funds to cover projected needs for a given period.

As of December 31, 2016, Colbún has cash in excess for approximately US\$ 600 million, invested in time deposits with an average maturity of 60 days and in short-term mutual funds with a maturity of less than 90 days. The Company also has as

additional liquidity sources available to date: (i) two bonds lines registered in the local market for a total amount of UF 7 million, (ii) a line of trade notes in the local market for UF 2.5 million and (iii) uncommitted bank lines of approximately US\$ 150 million.

In the next 12 months, the Company must disburse approximately US\$80.7 million in interests and principal amortization. This remaining interest and minor amortization is expected to be covered with the Company's own cash flow generation.

As of December 31, 2016, Colbún has a local credit rating of A+ by Fitch Ratings and AA- by Humphreys, both with stable outlooks. At the international level, the Company's rating is BBB by Fitch Ratings and BBB- by Standard & Poor's (S&P), both with stable outlooks.

Considering the foregoing, it is believed that the Company's liquidity risk is currently limited.

#### RISK MEASUREMENT

The Company periodically analyzes and measures its exposure to the different risk variables, in accordance with the previous paragraphs. Risk management is performed by a Risk Committee with the support of the Corporate Risk Management and in coordination with other divisions of the Company.

Regarding business risks, specifically those related to changes in commodity prices, Colbún has implemented mitigation measures consistent of

indexers in energy sale contracts and of hedges with derivative instruments to cover any possible remaining exposure. It is for this reason that a sensitivity analysis is not presented.

To mitigate the risk of failures in equipment or in the projects construction, the Company has insurance coverage for damage to its physical property, business interruption damages and loss of profit for the delay in the commissioning of a project. This risk is considered fairly limited.

With regard to financial risks, for purposes of measuring exposure, Colbún prepares a sensitivity analysis and value at risk in order to monitor potential losses assumed by the Company in the event that the exposure exists.

The exchange rate risk is considered to be limited, since the Company's main flows (revenues, costs and projects disbursements) are denominated directly in or indexed to USD. Exposure to the mismatching of accounts is mitigated by applying a policy of maximum mismatch between assets and liabilities for those structural items denominated in currencies other than USD. Given the above, as of December 31, 2016, the Company's exposure to this risk is limited, resulting in a potential impact due to exchange differences of approximately US\$2.7 million, on a quarterly basis, based on a sensitivity analysis with 95% confidence.

The risk of interest rate variation is partially mitigated, given that 97% of the Company's financial debt is contracted

at a fixed rate (in a direct way and using derivatives). Therefore, as of December 31, 2016, the exposure of the Company to variable interest rates is limited, which results in a potential impact of approximately US\$0.6 million in quarterly terms, based on a sensitivity analysis with 95% confidence.

Credit risk is limited because Colbún operates only with local and international banking counterparties with high credit ratings and has established policies of maximum exposure per counterparty that limits the specific concentration with these institutions. In the case of banks, local institutions have a local risk rating equal to or greater than BBB+ and foreign entities have an international risk rating investment grade. At the end of the period, the financial institution that has the largest share of cash surplus reached 20%. Regarding existing derivatives, the Company's international counterparts have a credit rating equivalent to BBB+ or higher and national counterparts have local credit rating of AA+ or higher. It should be noted that no counterpart concentrates more than 21% in national

Liquidity risk is considered low because of the relevant cash position of the Company, the amount of financial obligations over the next twelve months and the access to additional sources of funding, including committed and uncommitted financial lines.

### DETAIL OF FINES AND SANCTIONING PROCESSES OF 2016

G4-S07, G4-S08, EN29

During the year 2016 no fines or non-monetary sanctions were applied for non-compliance of environmental regulations. Likewise, no legal proceedings were reported against Colbún S.A. for reasons related to monopolistic practices and against free competition, although there are two ongoing procedures in which Colbún is not a party, but has been requested to provide information, namely:

a) Role NC 427-14, Process Free Competition Court, initiated by a consultation of Conadecus on the Gas Market, and b) Procedure No. 2357-15, of the National Economic Prosecutor, on the conditions of access and competition in the electricity market of the central zone of Chile. In both cases, the requested information was delivered in a timely manner.

Company	Fine	Amount US \$	Description
	SII (Internal Tax Ser-vice)	28,125.00	The Internal Tax Service, in accordance with its tax compliance and enforcement action, issued a draft resulting from the rectification of the Monthly Statement of Additional Tax for the month of March 2016.
Colbún S.A	SII (Internal Tax Service)	177,46	The Internal Tax Service, through its Collection capability, issued a change to the Company Works and Development a result of tax debts and tax credits that the company had owed. Colbún must have taken charge for being his legal continuation.
Social security		8,398.69	Fines made by the Labor Department to HR.
	SEC	34,154.48	The Superintendency of Electricity and Fuel by resolution ex N ° 16,397 fined Colbún for 500 UTM as a result of oil filtration in the Nehuenco Thermoelectric Complex.
Río Tranquilo S.A.	SII (Internal Tax Service)	14,985.00	The Internal Tax Service (SII), in accordance with its tax compliance and compliance action, accepted the amendment of the Income Tax Statement AT 2016 of the company. However, it applied fines and interest for declaring the differences in a period subsequent to the filing date of Form 22.
Total		85,840.63	

#### NOTE:

During the year 2016 no legal proceedings were reported against Colbún S.A. for reasons related to monopolistic practices and against free competition, although there are two ongoing procedures in which Colbún is not a party, but has been requested to provide information, namely: a) Role NC 427-14, Process Free Competition Court, initiated by a consultation of Conadecus on the Gas Market, and

b) Procedure No. 2357-15, of the National Economic Prosecutor, on the conditions of access and competition in the electricity market of the central zone of Chile. In both cases, the requested information was delivered in a timely manner.

<sup>\*</sup>This fine of the Superintendence of Electricity and Fuel (SEC) does not correspond to a non-compliance of environmental regulations; it is rather associated to specific rules of the SEC's scope, related to the lack of proper operation, maintenance and inspection of the affected pipe.

#### **GROWTH PROSPECTS**

G4-EU10

At Colbún, we continue our commitment to maximize the value of our company by exploring and identifying opportunities for growth in Chile that allow us to satisfy the electrical demand with competitive, safe and sustainable energy.

#### PLANNED CAPACITY (MW) WITH THEIR RESPECTIVE MAXIMUM GENERATION ACHIEVABLE VERSUS THE PROJECTED DEMAND FOR LONG-TERM ELECTRICITY, ANALYZED BY ENERGY SOURCE - CHILE (G4-EU10)

Classification		2016	2017	2018	2019	2020
	Water reservoir	1064.8	1064.8	1064.8	1064.8	1064.8
<u> </u>	Run-of-the-river	531.8	565.8*	565.8	565.8	565.8
Energy source	Thermal coal	350	350	350	350	350
	Thermal LNG/ Diesel	1335.2	1335.2	1335.2	1335.2	1335.2
Total capacity planned (MW)		3,282	3,316	3,316	3,316	3,316
Maximum projected generation capacity P70 (GWh)		19,500	19,690	19,690	19,690	19,690
Total projected demand (GWh)		49,716	51,557	53,466	55,443	57,488
Projected maximum generation vs. projected demand (%)		39%	38%	37%	36%	34%

Installed capacity of Colbún informed on the Colbún website www.colbun.cl

Projected demand for the SIC as defined by the National Energy Commission in the first six-month base price establishing report 2017.

The maximum generation capacity differs or may differ from what the Company actually generated in 2016 or what it expects to generate in the future. P70 implies a medium to dry hydrological scenario.

<sup>\*</sup> La Mina Hydroelectric Plant enters into operation.

### CAPACITY PLANNED (MW) WITH THEIR RESPECTIVE MAXIMUM GENERATION ACHIEVABLE VERSUS THE PROJECTED DEMAND FOR ELECTRICITY IN THE LONG TERM, ANALYZED BY ENERGY SOURCE - PERU (G4-EU10)

Classification		2016	2017	2018	2019	2020
Energy source	Thermal LNG / Diesel	570	570	570	570	570
Total capacity planned (VW)		570	570	570	570	570
Maximum projected generation capacity P70 (GWh)		3,582	4,344	4,193	4,251	4,410
Total projected demand (GWh)		48,326	51,504	55,376	59,468	63,849
Projected maximum generation vs. projected demand (%)		7%	8%	8%	7%	7%



#### **WORKERS**

#### STAFF BY TYPE OF CONTRACT, WORKING DAY

(G410)

Of the total of our workers, as of December 31, 2016, there are 38 cases of fixed-term or for-work contracts. Of these, 9 are women and 29 are men. The following is the breakdown of workers by type of contract and working day:

#### For Chile:

Time of continues	20	15	2016		
Type of contract	Women	Men	Women	Men	
Indefinite contract	165	785	178	795	
Contract by work	4	4	3	5	
Fixed term contract	3	1	6	24	
Total	172	790	187	824	

Town of days	20	)15	2016		
Type of day	Women	Men	Women	Men	
Full Day	172	790	187	824	
Part time	0	0	0	0	
Total	172	790	187	824	

#### For Peru:

Type of continet	2016		
Type of contract	Women	Men	
Indefinite contract	16	72	
Fixed term contract	2	1	
Total	18	73	

Type of day	2016			
Type of day	Women	Men		
Full day	18	73		
Part time	0	0		
TOTAL	18	73		

#### **DIVERSITY OF WORKERS (NCG.386)**

#### WORKERS BY AGE RANGE, UP TO DECEMBER 31, 2016, EXCLUDING FRONT-LINE MANAGERS (NCG386)

	CH	IILE	PERU		
Age range	Men	Women	Total	Men	
Superior to 70 years	0	3	0	0	
Between 61 and 70 years	5	55	0	0	
Between 51 and 60 years	21	155	3	1	
Between 41 and 50 years	48	245	3	18	
Between 30 and 40 years	85	286	5	47	
Less than 30 years	27	71	6	3	
TOTAL	186	815	17	69	

#### WORKERS BY SENIORITY UP TO DECEMBER 31, 2016, EXCLUDING FRONT LINE MANAGERS (NCG386)

Conjority	СН	ILE	PERU		
Seniority	Men	Women	Total	Men	
More than 12 years	15	177	0	0	
Between 9 and 12 years	6	57	0	0	
More than 6 and less than 9 years	54	204	0	0	
Between 3 and 6 years	63	226	12	48	
Less than 3 years	48	151	5	21	
TOTAL	186	815	17	69	

#### WORKERS BY NATIONALITY UP TO DECEMBER 31, 2016, EXCLUDING FRONT LINE MANAGERS (NCG386)

СН	ILE	PERU		
Chilean	Foreign	Peruvian	Foreign	
989	12	85	1	

#### **WORKER TURNOVER**

For Chile:

#### AVERAGE WORKER TURNOVER, BROKEN DOWN BY AGE GROUP AND SEX (G4-LA1)

Turnover rates (%) over the total												
Position Category		<30 years old		30-50 years old		>50 years old		Total				
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Executives	0	0	0	3.0	0	2.4	14.8	0	14.3	8.3	0	7.2
Professionals	13.8	4.8	10.0	6.0	6.3	6.1	4.1	0	3.8	6.3	5.6	6.1
Administrative staff	0	14.3	7.7	33.3	8.6	16.0	9.5	0	5.0	16.7	6.6	10.7
Other	10.0	0	9.3	4.9	0	4.8	3.4	0	3.4	5.2	0	5.1
Total	10.6	6.3	9.4	6.0	6.2	6.1	5.7	0	5.1	6.4	5.3	6.2

\*Note: During the year 2016 the contracting rate was higher than the turnover rate, with 7.5% and 6.2%, respectively, which is reflected in a greater variation in total staffing between the two years. During 2016, there were lower rates of rotation of both sexes and a higher rate of recruitment in female workers, mainly in executive and other positions. During 2016, the female turnover rate fell from 6.4% to 5.3% in 2015, and the male rate decreased from 7.9% to 6.4%.

#### **ROTATION BY GEOGRAPHICAL ZONES (%)**

Dogića	2016-Turn	Total	
Región	Women	Men	IOLAI
Metropolitan Region	6.8	9.0	8.3
V - Valparaiso Region	5.3	2.9	3.1
VI - Libertador Bernardo O'Higgins Region	0	0	0
VII - Maule Region	0	7.5	7.1
VIII – Biobio Region	0	5.7	5.1
X - Los Lagos Region	0	10.5	9.5
XIV - Los Rios Region	0	5.3	4.3
Total	5.3	6.4	6.2

#### INCOMING, OUTGOING AND TURNOVER RATE

Rotation Rate	N° of Workers 2015	N° of Workers 2016
Total Staff	962	1.011
Total Outgoing	74	63
Total Incoming	70	76
Turnover Rate %	7.7	6.2
New Recruitment Rate %	7.3	7.5

#### For Peru:

#### AVERAGE TURNOVER OF EMPLOYEES, BY GROUPS OF AGE AND SEX (G4-LA1)

Turnover rate (%) over the total												
Docition antonomy	. <		<30 years old		30-50 years old		>50 years old		Totals			
Position category	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Executives	-	-	-	50.0	0	33.3	0	-	0	25.0	0	20.0
Professional	-	0	0	5.4	33.3	9.3	-	0	0	5.4	22.2	8.7
Administrative staff	-	0	0	0	0	0	0	0	0	0	0	0
Other positions	0	-	0	0	-	0	-	-	0	0	0	0
Total	0	0	0	4.5	20.0	6.5	0	0	-	4.1	11.1	5.5

#### INCOMING, OUTGOING AND TURNOVER RATE

Turnover rates	N° of workers 2016
Total staff	91
Total Outcoming	5
Total Incoming	9
Turnover rate %	5.5
New contracts rates%	9.9

#### WORKERS ELIGIBLE TO RETIRE

G4-EU15.

The table below shows the percentage of workers eligible to retire in the next 5 to 10 years, broken down by category of work and by region.

#### Chile:

Region	Categories	(%) of workers	2016 cted percentage eligible to retire ) years
	Executives	1.56%	1.38%
A	Other workers	2.70%	2.67%
Metropolitan Region	Professionals and Techni-cians	2.81%	3.17%
	Executives	0%	0.20%
V- Valparaiso	Other workers	1.56%	1.98%
Region	Professionals and Techni-cians	0.62%	0.99%
	Executives	0%	0.10%
VI - Maule Region	Other workers	1.04%	1.19%
vi iviaule region	Professionals and Technicians	1.56%	1.88%
	Executives	0.10%	0.10%
	Other workers	0.21%	0.20%
VIII – Biobio Region	Professionals and Technicians	0.83%	0.99%

#### Peru:

		2015				
Region	n Categories		Current or expected percentage (%) of workers eligible to retire in 5-10 years			
	Executives	0%	0%			
Lima	Other workers	0%	0%			
Lima	Professionals and Technicians	1%	1%			

#### **COMPETETIVE REMUNERATIONS**

G4-EC5

Relationship between the starting salary and the local minimum wage.

#### Chile:

Places with significant op-erations	Men (chilean pesos)	Women (chilean pesos)
Metropolitan Region	441,716	377,189
V- Valparaiso Region	414,422	427,096
VI - Maule Region	526,039	811,749
VIII - Biobio Region	539,199	697,586

GROSS MONTHLY SALARY MEASURED IN CHILEAN PESOS. NOTE: The minimum wage in Chile at December 31, 2016 was \$ 257,500. Chilean pesos.

#### Peru:

Places with significant operations	Men (Peruvian soles)	Women (Peruvian soles)
Lima	7,208	7,506

NOTA: Peru's minimum wage as of December 31, was Peruvian \$ 850 Gross monthly salary measured in soles.

#### **PARENTAL LEAVE**

G4-LA3

During 2016, 28 workers made use of the Permit for Birth benefit. The levels of return to work and retention after maternity or paternity leave, broken down by sex can be seen in the tables below.

#### Chile:

Gender	N° of parental- leaves	Reincorp 20		Number of people reincorporated in 2015(4)	N° of parental leaves	Reincorpo 201		N° of people reincorporated in 2016
	2015 (1)	2014(2)	2015(3)		2016	2015	2016	
Men	0	0	0	0	1	0	1	1
Women	14	5	6	11	11	3	7	10
Total	14	5	6	11	12	3	8	11

#### Perú:

Género	N° Licencias 2015 (1)	Reingresos 2015		N° de personas reincorporadas en el 2015 (4)	s Licencias 2016			N° de personas reincorporadas en el 2016
		2014(2)	2015(3)			2015	2016	
Men	0	0	0	0	0	0	0	0
Women	1	0	1	1	1	0	1	1
Total	1	0	1	1	1	0	1	1

- (1): The number of employees who took their parental leave.
- (2): Number of employees who returned to work after parental leave in the previous period (2014).
- (3): Number of employees who returned to work after a parental leave in the same period (2015).
  (4): Number of employees who returned to work in 2015, considering those who returned after their
- leave in 2014

#### UNIONIZATION

G4-LA8.

#### **IDENTIFICATION OF TRADE UNIONS**

Union Name (or number)	Facilities	Name collective agreement covering SSO issues		
Sindicato de Empresa Eléctrica Industrial S.A.	Carena Power Plant	Collective Labor Agreement Industrial Electrical Enterprise Union		
Sindicato de Trabajadores N° 1 Empresa Eléctrica Colbún S.A. and subsidiaries	Bío-Bío Complex; Colbun and Santiago Complexes	Collective Labor Agreement Union N ° 1		
Sindicato de Empresa N° 2 Trabajadores Colbún S.A.	Aconcagua Complex	Collective Labor Agreement Corporate Union No. 2 Workers Colbún S.A.		
Sindicato de Empresa Nº 1 Trabajadores Termoeléctrica Nehuenco S.A.	Nehuenco Complex	Collective Labor Agreement Trade Union No. 1 Nehuenco Thermoelectric S.A.		

#### **WORKERS BY UNION**

Union Name (or number)	N° of Workers Represent-ed	% of Workers Represented	N° of negotiations or consultations	N° of Strikes	N° of Strike Days
Sindicato de Empresa Eléctrica Industrial S.A.	27	3%	0	0	0
Sindicato de Trabajadores Nº 1 Empresa Eléctrica Colbun S.A. y Filiales	112	11%	0	0	0
Sindicato de Empresa Nº 2 Trabajadores Colbún S.A.	130	13%	1	0	0
Sindicato de Empresa Nº 1 Trabajadores Termoeléctrica Nehuenco S.A.	55	5%	1	0	0

### TRAINING AND DEVELOPMENT

G4-LA10

In Colbún, the development and growth of our workers is key. The Company is committed to training and internal promotion as mechanisms to promote excellence in people management, one of the objectives that we have proposed ourselves within our corporate guidelines.

#### For Chile:

#### **COLBÚN S.A.'S TRAINING PROGRAMS (G4-LA10)**

		2015 2016					
Training Program	Description	N° of benefi- ciaries	Beneficia- ries as % of total	N° of benefi- ciaries	Beneficia- ries as % of total	N° of male beneficia- ries	N° of female beneficia- ries
Undergraduate Scholarships	Technical or University studies	53	5.5%	53	4.1%	47	6
Postgraduate Scholarships	Improvement in universities in Chile and abroad	41	4.3%	56	4.3%	33	23
Leadership Program	Leadership Skills of Company Headquarters	56	5.8%				
Safe Driving Program	Training in driving vehicles	22	2.3%	228	17.6%	204	24
E-learning Company Induction Program	Inform people who join the Company about relevant aspects of the business	N/I	N/I	53	4.1%	37	16
Induction Program to the Company	Inform people who join the Company about relevant aspects of the business	18	1.9%	53	4.1%	41	12
Induction Program for Visits to Power Plants	To make known the central offices to both new staff and people from Head-quarters who have been in the Company for years	N/I	N/I	16	1.2%	7	9

		2015 2016				016	6		
Training program	Description	N° of benefi- ciaries	Beneficia- ries as % of total	N° of benefi- ciaries	Beneficia- ries as % of total	N° of male beneficia- ries	N° of female beneficia- ries		
Languages	Improvement in foreign languages	93	9.7%	56	4.3%	30	26		
Capacity	Soft skills and techniques in workers	29	3.0%	46	3.5%	28	18		
Technicians	Train in specific technical areas	371	38.6%	339	26.2%	328	11		
Crime Prevention Program	Report relevant aspects of Law 20,393			396	30.6%	304	92		
Total		683		1,296	100%	1,059	237		
Total number of workers (indicator G4-10)	1,011					,			

#### For Perú:

		2016					
Training programs	Description	N° of benefi- ciaries	% of beneficia-ries with respect to the total	N° male be- neficiaries	N° of female beneficia- ries		
Post degree scholarships	Advanced studies in universities in Chile and abroad	7	7.7%	6	1		
Safe driving program	Vehicle driving training	1	1.1%	1	0		
Languages	Advanced foreign language course	16	17.6%	14	2		
Total		24	26.37%	21	3		

# PROCESSES TO ENSURE THE RETENTION AND RENEWAL OF TALENTS

G4-EU14

The programs that focus on the specialization of workers in power plants, where it is more normal to carry out this type of training are the following:

#### In Chile:

Program name	Program description	N° of women trained	N° of men trained	Alliances
Predictive Mainte-nance Training Program	This program is aimed at providing necessary tools to be able to detect, in advance, the problems that may be presented by some process of the Power Plant.	0	47	In Vibrations and Thermography topics, the activities are carried out with Bannister; in terms of oil analysis, with ALS Patagonia.
Contract Management Training Program	This Program delivers tools to those who, in the power plants, deal with and manage contracts with third parties, approving internal and legal criteria for them.	8	40	This activity was done with Tripontis consulting firm and with the lawyer Marcela Radivic.
E-learning technical training program	Through these courses we have been able to deliver basic technical tools mainly to the areas of operations that, due to their working condition per shift, are difficult to cover.	1	175	These activities are done with the OTEC Entre Ríos Capacitación made up by ENDESA but independently administrated.

#### In Perú:

Program name	Program description	N° of women trained	N° of men trained	Alliances
Operation Flexibility in Conventional power plants	Operation and maintenance of control systems and asset management. Regulation and studies, complementary services, quality and safety of the service.	0	2	LABORELEC
HRSG Component Design Opera-tion & Maintenance Fundaments	Efficient management of operation area and plant maintenance.	0	2	
Course and Workshop of Vibration Analysis Level II	Detection and diagnostics of the most common problems that are generated in a great variety of rotary machines, using in full the capacities of the vibration analyzers.	0	2	Gamma Soluciones
Trials, Operations and Protection of Transformers	Knowing the different defects that can present the power transformers and be able to diagnose them by interpreting the values of the electrical parameters obtained in the trials and in the tests of maintenance during the operation.	0	1	
Contaminated site management	Practices in the handling and final disposal of chemicals or hazardous wastes as a result of production activities, commercial or agricultural, current or past.	0	1	Sociedad Nacional de Minería, Petróleo y Energía

### PERFORMANCE EVALUATION

G4-10

Percentage of employees that receive regular performance and professional development evaluations broken down by sex and professional category.

#### **TOTAL STAFF OF COLBÚN (G4-10)**

Position category		2015		2016			
	Men	Women	Total	Men	Women	Total	
Ejecutivos	61	5	66	60	9	69	
Profesionales	303	100	403	317	107	424	
Administrativos	45	63	108	42	61	103	
Otros cargos	381	4	385	405	10	415	
Total	790	172	962	824	187	1,011	

The Performance Evaluation Process is carried out for all staff under permanent contract. Personnel that do not receive a performance evaluation correspond to staff under contract for specific work, under a fixed term contract and hired for a Project, who are measured by other evaluation criteria. In 2016, 967 workers were evaluated (equivalent to 96% of the staff), increasing the proportion of workers

evaluated in relation to the previous year. This is explained by the fact that during 2016, mainly, the new hires correspond to persons under permanent contracts, mainly in the category Professionals and Other Positions. In 2016, objectives related to the Company's strategy and sustainability, related to "Socio-Environmental Management", "Safety Management", financial results and availability of power

plants were reconsidered. There is a group of workers that were not evaluated since their date of entry is after the end of the stage of planning of objectives.

#### **LABOR PRACTICES**

Percentage of employees receiving regular performance and professional development evaluations,
Broken down by sex and by professional category.

### PERCENTAGE OF WORKERS COVERED BY COLECTIVE BARGAIN AGREEMENTS 2016 BROKEN DOWN BY GENDER

	2016		
	Women	Men	
Total number of employees	187	824	
Number of employees covered by *collective bargain agreement	32	404	
% of employees covered by an agreement	17	43	

<sup>\*</sup> Binding collective agreements are those signed by the reporting organization itself or those subscribed by employers' organizations to which it belongs. These agreements may be sectoral, national, regional, organizational or workplace.

#### PERCENTAGE OF WORKERS COVERED BY COLECTIVE BARGAIN AGREEMENTS 2016 (G4-11)

	Place	N° of collabora- tors subs- cribed	% Total staff by facility	% Total staff of Colbún	Date of last agreement	Duration of the agreement	
Nehuenco	Nehuenco Power Plant	55	85.94%	5.44%	28-10-2016	01-11-2016 al 31-10-2020	
	Aconcagua Complex	97	93.27%	9.59%			
Sindicato N°2 Trabajadores de Colbún S.A.	North Central Zone Transmission	14	93.33%	1.38%	23-12-2016	01-01-2017 al 31-12-2020	
	South Central Zone Transmission	7	53.85%	0.69%			
Candelaria	Candelaria Power Plant	11	73.33%	1.09%	31-08-2016	01-09-2016 al 31-08-2020	
	Colbún Complex	60	77.92%	5.93%		01-09-2013 al 31-08-2017	
Sindicato N°1 de Colbún S.A. y Filiales	Biobío Complex	25	32.89%	2.47%			
	South Central Zone Transmission	5	38.46%	0.49%	09-09-2013		
	Santiago	22	5.77%	2.18%			
Angostura	Biobío Complex	25	32.89%	2.47%	09-04-2014	01-04-2014 al 31-08-2018	

#### PERCENTAGE OF WORKERS COVERED BY COLLECTIVE BARGAIN AGREEMENT 2016 (G4-11)

	Place	N° of subscribed collabora- tors	% Total of the facility	% Total Colbún	Date of last agreement	Duration of the agreement
Los Pinos	Los Pinos Power Plant	16	69.57%	1.58%	23-05-2013	01-06-2013 al 31-05-2017
Santa María	Santa María Power P.	47	51.65%	4.65%	04-02-2015	01-01-2015 al 31-12-2018
Canutillar	Canutillar Power Plant	13	65.00%	1.29%	11-10-2016	01-10-2016 al 30-09-2020
Sindicato de Empresa Eléctrica Industrial S.A.	Carena Power Plant	27	79.41%	2.67%	31-05-2013	01-06-2013 al 31-05-2017
Antilhue (1)	Antilhue Power Plant	12	80.00%	1.19%	01-10-2012	01-10-2012 al 31-12-2016
Total workers covered by collective bargain agreement		436		43%		
Total unionized workers		324		32%		

<sup>\*</sup> More than 40% of the workers in the organization are covered by a collective agreement and / or contract, whether it is in agreement with a trade union organization or with a group of workers organized to negotiate common benefits collectively. In the course of 2016, four collective bargaining sessions were held, two with negotiating groups and the other two with labor unions, which successfully ended, involving 222 Company workers. It is important to mention that Union No. 1 of Aconcagua Hydroelectric was merged with Union No. 2 of Workers of Colbún SA, collectively negotiating in December 2016. (1) Regarding workers assigned to the Antilhue Convention, even if their agreement expired formally on September 30, 2016, the benefits agreed upon in said collective instrument were respected, these workers also being affiliated with Union No. 2 and participating in the respective negotiation.

### COMMUNICATION CHANNELS

G4-LA4

While it is true that there is no formal agreement with unions to inform organizational changes in advance, whenever there is a relevant organizational change in the Company, it is informed through corporate email to all the workers. The reason for these changes is commented, and the collaboration and support in the new challenge is requested. Additionally, when there is an organizational change where they are seen unionized workers, the respective union is informed of this situation. The Company promotes the dialogue between the representatives of the workers and the High Administration, for which the

Management of Organization and People maintains a constant dialogue with the leaders, through bipartite meetings, which during the year 2016 involved all the trade union organizations of the Company.

On July 7, a day was organized with the union leaders of the Company, which was attended by the Company's General Manager and Sirs. Carlos Luna, Generation Division Manager; Rodrigo Perez, Legal Manager; Paula Martinez, Organization and Person Manager, and Victor Aravena, Specialist in Occupational Health and Safety Management. Among other topics were the new Corporate Governance policies, the functioning of the channels of complaint, the Company's policies and practices regarding health and the safety of their workers and the

financial situation, for which the General Manager made an exhibition of the financial statements, their results and the progress, to date, of the corporate objectives of the year.

#### **WORK ENVIRONMENT**

#### **BENEFITS**

We believe that having benefits according to the needs of our workers contributes to the sense of belonging and pride towards the Company. That is why we have special benefits and opportunities to include the families of our workers.

#### In Chile the benefits are:

#### SOCIAL BENEFITS FOR FULL DAY WORKERS CHILE (G4-LA2)

List of Perks/Benefits	Full day	2014	2015	2016
Complementary Health Insurance	X	956	950	974
Life Insurance	X	956	950	974
Respecting salary for medical leave	X	886	950	905
Death benefit	X	900	922	919
Toys for children on Christmas	X	961	962	1,011
Christmas party for children	X	961	962	1,011
School Scholarships for children	X	924	922	946
Birth and Wedding Bonus	X	924	950	946
Disability Coverage	X	924	950	974
Birthday gift	X	956	962	974
Christmas basket	X	961	962	1,011
Dental Bonus	X	924	922	946
Drug Bonus	X	956	922	974
Optical Bonus	X	956	922	974
Free disposition or Emergency Loans	X	854	856	887
Vacation Bonus	X	924	922	946
Total staff until December 31 of each year		961	962	1,011

#### NOTE:

All Company employees hired for an indefinite term, regardless of their geographic location or facility, have a package of social benefits superior in many respects to those offered by companies in the electricity sector, which together with compensation and competitive remuneration we provide makes it an attractive company to work for. The Performance Evaluation Process is carried out for all staff under permanent contract. Personnel that do not receive a performance evaluation correspond to staff under contract for specific work, under a fixed term contract and hired for a Project, who are measured by other evaluation criteria. In 2016, 967 workers were evaluated (equivalent to 96% of the staff), increasing the proportion of workers evaluated in relation to the previous year. This is explained by the fact that during 2016, mainly, the new hires correspond to persons under permanent contracts, mainly in the category Professionals and Other Positions. In 2016, objectives related to the Company's strategy and sustainability, related to "Socio-Environmental Management", "Safety Management", financial results and availability of power plants were reconsidered. There is a group of workers that were not evaluated since their date of entry is after the end of the stage of planning of objectives. Through the purchase of specialized studies, we are continuously monitoring, new trends and new benefits that we can deliver to our workers, in order to cover the broadest spectrum of this field.

#### En Perú los beneficios son:

List of de Perks/ Benefits	Applies to full day
Complementary Health Insurance	X
Life Insurance	X
Respect of the remuneration for sick leave	X
Toys for children on Christmas	X
Christmas party for children	X
Christmas Basket	X

#### **LABOR CLAIMS**

G4-LA16

Colbún fully respects the current labor legislation, which is demonstrated by not having penalties and / or significant claims of former workers, nor have they received penalties or fines from the supervisory bodies. Regarding the two complaints received, in none of them did the labor legislation fail, which It is verified that both settlements were signed before an Inspector of the respective labor inspectorate without fines or additional payments of any kind.

Colbún (both in Chile and Peru) has a channel of communication of direct and anonymous complaints related to compliance with its ethical standards, which are then derived to the area that corresponds to analyze and solve the complaint.

SPECIFIC BENEFITS AND CONCILIATION POLICIES IN CHILE				
Academic Excellence Award Ceremony	Eighth version, which seeks to recognize the families of workers by symbolically and economically rewarding academic performance, highlighting both school and university.			
Bring your kid to work day	It is carried out for the eighth consecutive year, and is being carried out in all the plants of Colbún, besides Santiago.			
Cultural Confer- ences	Cycles of Cultural Talks are carried out with the Cultural Network in Santiago and regions, the workers and their family are invited.			
Personal Day	The workers are given two administrative days a year to be used when they need them. They can be divided into four half days.			
Half day Friday	At home headquarters every Friday we work part time, until 13:30 hrs. This modality is beginning to be implemented in some plants.			
Inter-holidays	Inter-holidays are given Monday or Friday for long weekend. That day should be recovered with a Friday afternoon.			
Flexible Hours	In Santiago there is an option to advance or postpone the entrance schedule. There are three new schedules in addition to the current one. One should be chosen and maintained throughout the year.			
Quality of Life Program	Takes place in Santiago and at the power plants. Includes trekking and hiking for workers and family; sport talks and healthy eating and city tours. For the second consecutive year the Sports Competitive Funds were carried out, which in 2016 sponsored 28 projects.			

### **HEALTH AND SAFETY**

G4-LA5

#### WORKERS REPRESENTEDS IN FORMAL SAFETY AND HEALTH COMMITTEES IN CHILE (G4-LA5)

	2	2015	2016		
	Represented workers	Represented contractors	Represented workers	Represented contractors	
Canutillar Power Plant	18	49	19	62	
Biobío Complex	79	220	79	221	
Colbún Complex	71	88	73	93	
Carena Power Plant	42	27	39	35	
Aconcagua Complex	107	150	104	143	
Antilhue Power Plant	14	16	15	13	
Los Pinos Power Plant	16	90	16	61	
Candelaria Power Plant	15	70	15	41	
Nehuenco Complex	62	107	63	120	
Santa María Complex	73	327	79	330	
Santiago Office	384	24	402	26	
Transmission Management	33	91	41	191	
La Mina Project	26	400	28	857	
San Pedro Project	10	19	11	9	
Project in Santa María (2015)	9	0			
Project in Blanco Power Plant (2015)	0	22			
Technical Sub-management Project (2015)	0	105			
LAT La Mina Loma Alta Project	0	67	0	158	
DIP Engineering Project	0	0	0	69	
Other Projects	0	0	0	327	

#### NOTE:

In the facilities where there are less than 25 workers, Joint Site Committees are formed. The total represents the annual average of workers.

## COMMUNITY RELATIONS/LIAISING

#### **CITIZEN PARTICIPATION**

G4-EU19. G4-EC7

For infrastructure investment projects in the community, Colbún establishes working groups with territorial and functional organizations to collect the local vision. Under this methodology initiatives have been developed such as the Historical Center and Cultural Santa Bárbara; the renovation of the Chapo Lake community center; Coronel multipurpose cour; new green area of Los Alamos; Quilleco luminaires, to name a few.

The same happens in the case of Fenix in Peru. For example, in the case of the Lo Salinas Polyclinic, it is an initiative that emerged within the framework of the commitments made in the EIA of the plant, where in public hearings the company assumed the commitment to support the health of the neighbors through the installation of the polyclinic. For the development of the project the Municipality of Chilca, the health authorities, and other social organizations and settlers in general were consulted.

#### LOCAL DEVELOPMENT

Colbún 3. SO

In addition to the social programs described in the main body of the Integrated Memory 2016, these are some of the other programs

promoted by the Company.

### PROGRAMS IN PRODUCTIVE DEVELOPMENT

### Agricultural Development (Colbún Complex).

One of the focuses of Colbún in the Maule Region has been the promotion of better agricultural practices. In 2016, the first Stubble Management and Incorporation Program was launched, in partnership with the Municipality of Colbún, which benefited 65 small farmers. With them, a total of 160 hectares were intervened and about 80 tons of Carbon Dioxide (CO<sub>2</sub>) were avoided.

In 2016, the Technological Transfer Program was continued to promote irrigation efficiency; a new version of the specialty of irrigation was imparted in the Lyceum Ignacio Carrera Pinto de Colbún; and Field Days were held, aimed at training farmers in agricultural techniques.

# Framework agreement with irrigators' associations (Colbún Complex)

In 2011, Colbún and the Maule South Irrigation Association signed an agreement that creates tools to encourage water savings and irrigation efficiency, generating benefits for agriculture and energy generation. This agreement was renewed in 2016 for a period of two years.

#### Pesca Futuro (Future Fishing, Santa

#### María Complex)

This program was born in 2014 and seeks to support fishermen and their families by facilitating the financing of studies, developing training and supporting entrepreneurship at the union level. In 2016, 87 new scholarship recipients were 68 benefited, which were joined by 68 renewal beneficiaries from 2015 who are in their second year of studies. At the level of production and with the support of the Universidad Católica de la Santísima Concepción, from seven projects that started implementation in 2015, five managed to start operations in 2016, with five more being added to the implementation stage. In addition, three projects of this program were awarded public funds, totaling a leverage of \$106 million.

#### Tourism and Productive Development Working Group of Antuco (Rucúe-Quilleco power plants)

Entity formed in 2015, made up of public and private stakeholders, such as the municipality, SERNATUR, local entrepreneurs and Colbún, among others. In 2016, training programs were offered, which enabled 24 people to receive a certificate for participating in Basic English for Tourism courses, New Product Design and the monitor course "No Dejes Rastro" ("Don't leave a trace").

#### PROGRAMS IN QUALITY OF LIFE

Agreement with the Municipality of Quillota (Nehuenco complex) Colbún has been working for several years with the Municipality of Quillota, in

order to contribute to a better quality of life and local progress. In 2016 this alliance was translated into different initiatives, among which stand out the construction of a new Rehabilitation and Motor Stimulation Room in the San Pedro shelter; the delivery of 53 complementary scholarships for students from Quillota to continue higher education studies, and the provision of a set of playground games for children in three places in the sector of the Corvi.

#### Neighbors Meeting Program of Lake Chapo (Canutillar power plant)

As a result of the working group established with the Lago Chapo Neighbors Board, Colbún built a new dock in 2016 in that body of water, while at the beginning of 2017, Board in the area.

# Corporate Social Responsability Agreement with Municipality of San Esteban (Aconcagua complex) Under

this agreement have been executed different works of improvement and social contributions in the district of San Esteban in recent years, benefiting schools, boards of Neighbors and firefighters.

In 2016, the design of a project to improve the rural health post of the Rio Colorado sector began, and will be implemented in 2017.

### Support to the Fire Department (several power plants)

In the context of the important work carried out by the Fire Department and the usefulness it provides this

organization, Colbún has provided support to several units in the areas where it is present, Highlighting those located in the districts of Yerbas Buenas (Colbún complex), Quilleco (Rucúe-Quilleco power plants), Coronel (Santa María complex) and Quilaco and Santa Bárbara (Angostura power plant).

#### **PROGRAMS IN EDUCATION**

### Youth Orchestra of Cochamó (Canutillar power plant)

Organization formed by students of the district of Cochamó and supported for several years by Colbún.

The orchestra has extended its recognition and presentations to different points of the southern zone of our country, under the concept that music is an educational channel that

### Family Vegetable Gardens (Aconcagua Complex)

cultivates different values.

2016 was the first year of implementation of the Family Vegetable Gardens program, an initiative developed with 31 neighbors of the International Route, in the districts of Los Andes and San Esteban. The program, which was supported by Fundación La Semilla and Pipartnert Group, included the execution of workshops, donation of inputs, support in the field and the construction of two platforms for the development of sustainable crops.

#### **SPORTS SUPPORT PROGRAMS**

#### Promotion of sports in Coronel (Santa María complex)

For the third consecutive year, in 2016 Colbún supported the implementation of the Jaime Osorio Cup in alliance with the Football Association of Coronel, an activity that in this version had eight educational establishments participating and about 3 thousand attendees.

### Soccer School "Energy for Champions" (Aconcagua Complex)

Initiative aimed at 100 children and young people of the International Route and who belong to the districts of Los Andes and San Esteban, whose objective is to promote sport and healthy living. In 2016 a new version was made, which this time included also summer workshops.

#### **OTHERS**

### Support to the Fire Department (several power plants)

In the context of the important work carried out by the Fire Department and the usefulness of this organization, Colbún has provided support to several units in the areas where it is present, especially those located in the districts of Curacaví (Carena power plant), Yerbas Buenas (Colbún complex), Antuco and Quilleco (Rucúe-Quilleco power plants), Cabrero (Los Pinos power plant) and Quilaco and Santa Bárbara (Angostura power plant).



# USE OF THE WATER RESOURCE

PERCENTAGE AND VOLUME OF RECYCLED AND REUSED WATER

Chile

# **HYDROELECTRIC POWER PLANTS G4-EN10**

	Unit of measure	2013	2014	2015	2016
Total turbine water	Mm³/año	17,160.6	31,068.0	30,291.8	19,597.9
Volume of "re"turbine water in series	Mm³/año	8,811.5	11,045.5	10,603.0	7,279.1
Reused water	%	51.3%	35.6%	35.0%	37.1%
Description of the recycling/reutilization p	rocess	are fundamental efficiency and sudeveloped most of waters that have above the same both Of the above, cur uses for its opera	to the Company. The stainable use of its of its power general already been used pasins, that is, in hydrently about 37% of the or are used in mo	r of Colbún, water r us, in order to prom natural re-sources, tion plants by reusir by other plants in the draulic series. As a r f the maximum flow are than one power er ener-gy efficienc	note energy Colbún has ng the same ne Company, result vs that Colbún plant belonging

# THERMOELECTRIC POWER PLANTS

ITILKWOLLECTRIC FOWLK FLANTS						
	Unidad de medida	2013	2014	2015	2016	
Total catchment of water	m³/año	237,469,677.4	347,159,683.1	317,650,833.7	321,483,266.6	
Volume of recycled / reused water (sea surface water)	m³/año	233,554,495.3	343,330,691.0	313,124,801.0	316,705,257.0	
Percentage of water recycled / reused	%	98.4%	98.9%	98.6%	98.5%	
Description of the recycling / reuse process		Of the total water catched for the Colbún thermal power stations, the water used for cooling in the Santa María Central Station is returned entirely to its source of origin, the sea. It is for this reason that it is considered as recycled water.				

### Perú:

THERMOELECTRIC POWER PLANTS		
	Unit of measure	2016
Total of Sea water catchment	m³/año	256,150,665
Treated water used for irrigation of 50,000 m2 of green areas. 6.5 m3 / day (365 days)	m³/año	2,373
Desalinized and potable water that is delivered to Mu-nicipality of Chilca	m³/año	303,190
Sea water that is used in the cooling process of the plant and is returned to the sea	m³/año	255,840,933
Desalinated water used for the internal consumption of the plant	m³/año	4,169
Percentage of water recycled / reused	%	100%*
Description of the recycling / reuse proces	S	A portion of the sea water collected passes through a process of desalination and purification with which daily drinking water is generated Is used internally in the plant and, for the most part, is delivered to the Municipality of Chilca District, which is responsible for distribution to benefit the local population. The delivery of drinking water to the population is made from the year 2016, reaching 303,190 m3 in the year. The rest of the seawater captured is used in the process of origin.

#### NOTE

# RISKS RELATED TO WATER (2.8 DJSI) Chile:

Colbún owns the Nehuenco
Thermoelectric Complex located in
an area defined as of water distress,
according
to the definition of the DJSI.
The Nehuenco Complex is located in
the district of Quillota, Valparaíso,
at the end of the third section of
the Aconcagua river. This Complex
is composed of two combinedcycle power plants: (Nehuenco I and

Nehuenco II) and an open cycle plant (Nehuenco III), which can be operated with natural gas or diesel oil.

The percentage of Colbún power stations located in zones of water stress is obtained by calculating the ratio of the three Nehuenco power plants on the total of 23 power plants owned by Colbún in Chile.

	In areas of water stress (<1,700 m3/ (person*year))
% of production of	
the power plants	13%
in the recent years	

<sup>\*</sup>The calculation was made according to a balance of body of water. We are working on a hydric balance for the future

The Nehuenco Complex requires water to operate the cooling system, whose demand in 2016 amounted to 4,450,273 m3 (4.45 Hm3). Although sufficient water levels were observed in the set of 18 wells supplying the Complex in 2016, Colbún has taken short- and long-term measures to ensure adequate supply of the resource.

In the long term, a reverse osmosis plant is in the final phase of construction, which will save up to 50%

## Peru:

Although the Peruvian regulation on water resources does not establish a formal definition of water stress, there is the practice of several entities of the State in managing water stress indicators and initiatives that encourage the managed to be efficient in the use of water. (E.g. Blue Certificate of A.N.A).

Fenix Power Perú S.A. Operates the Thermoelectric Plant located in the community of Las Salinas in Chilca - Lima, approximately 300 meters from the sea. The plant is composed of a steam turbine and two gas turbines which can also be operated with diesel.

The waters used by the Central for its processes are taken directly from the sea, avoiding all consumption of groundwater and continental.

The demand for sea water to operate the cooling system, which is the main consumer, amounted to 255,840,933 m3 (255, 8 Hm3) a year 2016. A portion

the water consumption of the Complex. That said, the cost of water within the cost of generation of energy does not represent an important value.

Power plant	Location	Water use m3/year
Nehuenco 1	Quillota, V Región de Valparaíso, Chile	2.831.167
Nehuenco 2	Quillota, V Región de Valparaíso, Chile	1.609.689
Nehuenco 3	Quillota, V Región de Valparaíso, Chile	9.416

of the sea water collected passes through a process of desalination and purification, with which it can generate about 2,000 m3 of drinking water daily, of which, for the internal use of the power plant and mainly to be delivered to The Municipality of Chilca, which is in charge of its for distribution the benefit of the local population. The delivery of drinking water to the population is made from the year 2016. Also in 2016 began the process of treatment and reuse of domestic wastewater, to supply the irrigation of green areas and live encirclement in the Thermal Power Plant, which reaches 50,000 m2. This reuse of domestic wastewater was contemplated in the response to observation No. 51 of the Environmental Impact Study. The treatment plant implemented has a capacity of 10.4 m3 / day, with which on average the year 2016 was treated 6.5 m3 / day.

# USE OF MATERIALS AND EFFICIENCY

# INTERNAL ENERGY CONSUMPTION (G4-EN3)

#### Chile

The electricity consumption corresponds to that of the power plants and the building of the corporate offices. The considerable drop in this indicator compared to the year 2015 is mainly due to the lower consumption of energy coming from the network at the Nehuenco and Santa María thermal power stations. These consumptions occur when the plants are stopped or out of service, but given the higher level of operating hours presented

by these units during 2016, network consumption was replaced by the same generation of power plants.

# ELECTRICITY CONSUMPTION AT THE POWER PLANT AND COPORATIVE OFFICES IN CHILE

		2014	2015	2016
Electricity	Tera Joules	85	82	17

# **ENERGY USED BY POWER PLANTS FOR GENERATION IN CHILE**

Tipos de Fuentes	Unidad de Medida	2014	2015	2016
Diesel	Tera Joules	4,477	1,913	2,460
Natural Gas	Tera Joules	23,632	23,043	24,434
Coal	Tera Joules	20,127	20,929	22,205
Total (TJ)		48,236	45,885	49,099

# ATMOSPHERIC EMISSIONS

# EMISSIONS OF SUBSTANCES THAT DEPLETE THE OZONE (G4-EN20)

Under this indicator are considered SF6 gas leaks, used in our transformers and electrical equipment as insulation. These unintended releases of gas into the atmosphere usually occur because of failures in the joints, seals, or gaskets of the above equipment. During the year 2016 there was a leak of 36 kg of SF6 which, given their global warming potential, are equivalent to the emission of 837 tCO2e. The increase over 2015 is mainly due to leaks at the Rucúe substation, and two leaks occurred at the end of the year on two Angostura Central switches.

It should be noted that every time an SF6 leak occurs a report is generated in the Incident Reporting System (SRI), which is classified as an environmental incident. This situation gives rise to a report

Preliminary investigation of incidents, which opens an investigation to find the root cause of the leak in

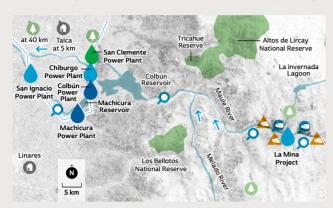
question. Finally, a document or report is generated of lessons learned surrounding the fact investigated, and if necessary, an action plan is put in place to help prevent recurrence of the incident.

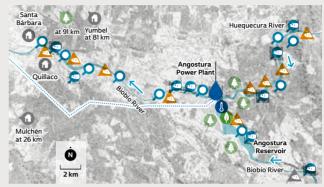
SF <sup>6</sup> GAS EMISSIONS						
	Unit of Measure	2014	2015	2016		
SF <sup>6</sup>	Kg	17	9	36		
% de coverage		100.0%	100.0%	100.0%		
Total Emissions	TCO <sub>s</sub> e	400	209	837		

# **BIODIVERSITY**

G4-EN11, G4-EN12, G4-EN13, G4-EN14

The following are the maps of Colbún's biodiversity management in Chile:





### LA MINA COMPLEX PROJECT





**ANGOSTURA POWER PLANT** 





### **NEHUENCO COMPLEX**

Cortina vegetal

.... Transmission Lines









**SAN PEDRO PROJECT** 

# **SANTA MARÍA POWER PLANT**

Water temperature monitoring

Hazard analysis of ashes

Plan of rescue and relocation of species



- Green wall

The Fenix Power Plant is not located in or near protected areas or unprotected areas of significant value to biodiversity. Likewise, its operation does not have significant impacts or effects on the ecosystem and consequently, there are no affected species that are cataloged in any national or international state of conservation

# FACILITIES LINKED TO AREAS THAT ARE PROTECTED OR ARE OF GREAT VALUE TO BIODIVERSITY (G4-EN11)

Land name	Geographic Location	Area and/or Surface in Km2	Type of Operation (Operation, office, etc.)	Description of the area (pro-tected/not protected)
Parque Nacional Alerce Andino	Los Lagos Region	1	Construction work of the Canutillar power plant	Protected (state)
Reserva Forestal Río Blanco	Valparaíso Region	1	Transmission Line	Protected (state)
Santuario de la Naturaleza Quebrada de la Plata	Metropolitan Region	<1	Transmission Line	Protected (state)

# PROTECTED, RESTORED OR REFORESTED HABITATS (G4-EN13)

Habitat Name	Geographic Location	Area or Surface	Protected/ Re-stored/ Reforested
Fdo. Villa Rivas	Contulmo district, Province of Arauco	0.25 ha	Enrichment with the addition of 4 species in state of conservation
Fdo. Cabaña Eugenia	Angostura Power Plant, Sta. Bárbara district, Province of Biobío	36 ha	Enrichment of eroded forest
Angostura reservoir bank	Angostura Power Plant, Sta. Bárbara district, Province of Biobío	7.5 ha	Reforestation of banks for fauna shelter

# SPECIES PROTECTED IN THE AREAS WITH COLBÚN'S INFLUENCE (G4-EN14)

Species	Geographic Location	Level of risk of extinction
Aegla abtao	Chamiza river (Canutillar)	Minor concern
Samastacus spinifrons	Chamiza river (Canutillar), Maule river	Minor concern
Galaxias maculatus	Chamiza river and Chapo lake (Canutil-lar), Huequecura river and Biobío (An-gostura)	Minor concern
Geotria australis	Chamiza river (Canutillar)	Vulnerable
Trichomycterus areolatus	Chamiza river and Chapo lake (Ca-nutillar), Rucúe and Laja rivers, Huequecura and Biobío rivers (An-gostura), Maule river	Vulnerable
Percichthys trucha	Chapo lake (Canutillar), Rucué and Laja rivers, Huequecura and Biobío rivers (An-gostura)	Minor concern
Basilichthys australis	Rucúe and Laja rivers, Maule river and Colbún reservoir	Almost threatened
Percilia gillissi	Maule river	Endangered
Diplomystes nahuelbutaensis	Rucué and Laja rivers (Quilleco), Huequecura and Biobío rivers (Angostura), Maule river	Endangered
Percilia irwini	Rucué and Laja rivers (Quilleco), Huequecu-ra and Biobío rivers (Angostura)	Endangered
Cheirodon galusdae	Rucué and Laja rivers, Maule river and Colbún reservoir	Vulnerable
Bullockia maldonadoi	Huequecura and Biobío rivers (Angostu-ra)	Endangered
Nematogenys inermis	Huquecura and Biobío rivers (Angostura)	Endangered
Aegla pewenchae	Maule river	Minor concern
Aegla araucaniensis	Maule river	Preocupación menor

# EN14 NOTE:

List of species that live in (or strongly depend on) aquatic ecosystems for survival in areas influenced by the operations and, therefore, are monitored in the framework of Colbún's environmental monitoring plans.

# BIODIVERSITY OF BODIES OF WATER AND RELATED HABITATS

(G4-EN26)

# Chile:

No receiving water or habitat has been "significantly affected" by our discharges. This is demonstrated by the monitoring of quality variables that is carried out in the receiving environment and by the compliance with the corresponding emission standards (DS 90), according to the monitoring programs defined by the relevant authority for each establishment.

We have self-control certificates available that prove compliance with the emission standard for 2016, of each of the four thermoelectric plants where liquid industrial residues are generated and the results of the water quality monitoring carried out in the Bay of Coronel (by RCA 176\_CTSM), in the Aconcagua river (Nehuenco volunteer) and Discharge Canal (RCA 120\_ Los Pinos). Finally, it is also worth noting the temperature monitoring carried out in the Bay of Coronel, where the Santa María 1 power plant discharges its waters, a voluntary monitoring that the Company makes since 2010 based on a network of thermistors in the water column.

It should be noted that hydroelectric power plants do not alter the water quality and therefore cannot "significantly affect" the habitats and bodies of water that exist downstream

#### Peru:

The receiving environment has not been "significantly affected" by our discharges. This is demonstrated by the results of seawater quality monitoring (temperature, residual chlorine, dissolved oxygen, turbidity, Ph, SST, BOD5, total oils and fat and hydrocarbons) carried out there (we have 5 monitoring stations) according to the program engaged in the EIS.

Source: EIS made by Golder, submitted in August 2015 to MINEM

# RESIDUES GENERATED AND DUMPED

G4-EN23, 1.9.3 DJSI

As a result of industrial processes for electricity generation, some of the activities produce solid waste, which is separated in the power plants, divided into categories and managed independently, depending according to their danger and the possibility of adding value to them.

The main hazardous waste generated by the operation of our facilities correspond to fabrics contaminated with fuels, used industrial oils, fluorescent light tubes, paint containers, solvent containers and batteries. Non-hazardous waste corresponds to domestic waste and includes organic waste, bags, plastics and others.

With respect to "hazardous waste", there is a slight increase that is mainly due to the removal of oily water accumulated in the facilities of the Candelaria power plant.

There was no significant changes in the production of "non-hazardous waste" in comparison to 2015.

# TOTAL WEIGHT IN TONS OF RESIDUES PRODUCED (G4-EN23)

		2014	2015	2016
Domestic/Non-hazardous (Ton)	Thermoelectric power plants	255	341	327
	Hydroelectric power plants	69	68	71
	Santiago Offices	44	42	42
	Thermoelectric power plants	187	523	900
Hazardous (Ton)	Hydroelectric power plants	77	53	41
	Total	631	1,028	1,381

# TOTAL WEIGHT AND DESTINATION OF THE SANTA MARÍA COMPLEX' ASHES

	20	014	2015		2016		
	Ton	%	Ton	%	Ton	%	
Ash collection	71,837.6	68%	30,347.7	31%	33.96	38%	
Reutilization by cement companies	34,341.6	32%	66,985.8	69%	55,211	62%	
Total	106,179.2	100%	97,333.4	100%	89,180	100%	

In 2016 the amount of recycled ashes was reduced as a result of a lower demand from cement companies.

During the year 2016, a study was initiated, the purpose of which is to assess the viability of managing waste minimization, a gap brought up by Colbún's Sustainability working group in its first year of operation. For this purpose, a diagnosis of waste management was made the Santa

María power plant to later define the viability of carrying out minimization and / or revaluation actions.

# INCOME FROM SALE OF ASHES (US\$) (1.9.3 DJSI)

2014	2015	2016
270.116	345,985	257,601

# RESIDUAL WATERS DISCHARGES

The water discharges come from thermal power plants. They are carried out in a planned manner in accordance with the environmental permits (RCAs) dispositions and the self-control resolutions, which are monitored and certified by the SMA and the Superintendency of Health Services (SISS), which are specific to each of the facilities.

The waters have different uses in the power plants so their quantity (flows), physical-chemical characterization and treatment prior to their disposal are specific and particular to each facility. Likewise, the standards or limits of discharges also depend on the receiving environment, whether superficial courses of water or mains off the coast, or infiltration in the subsoil.

### Chile:

# **TOTAL DISCHARGES IN WATERS AND DESTINATIONS (G4-EN22)**

Discharges	Unit of measure	2014	2015	2016	Destination
Candelaria Power Plant	m <sup>3</sup>	11,359	22,196	34,844	Curso superficial
Los Pinos Power Plant	m³	58,937	95,555	59,751	Curso superficial
Nehuenco Complex	m³	1,719,900	1,349,900	1,690,291	Curso superficial
Antilhue Power Plant	m³	57,847	24,474	22,347	Subsuelo
Santa María Complex	m <sup>3</sup>	343,330,691	313,124,801	316,705,253	Mar

### NOTE:

The water surpluses associated with the Antilhue power plant are infiltrated and adequately monitored in the parameters of the irrigation standard (NCh 1333 Of.87). A decrease in volume is maintained as a result of the operational criterion of the reverse osmosis plant, which allows the reduction of weekly operating hours to keep the process water stabilized. Although it is not an industrial liquid residue, the infiltrated water is kept within the ranges allowed to comply with the associated regulations.

# Peru:

Dischar- ges	Unit of measure	2016	Planned/ not planned	Destina- tion	Treatment method	Reused by other organ-ization Yes/No
Fenix	m³	255,840,933	Planned	Sea	Residual chlorine controls	No

# ENVIRONMENTAL PROTECTION

BREAK DOWN OF EXPENSES AND INVESTMENTS FOR THE PROTECTION OF THE ENVIRONMENT (G4-EN31)

### Chile:

# ENVIRONMENTAL INVESTMENT EXPENSES (IN THOUSANDS OF US\$)

	2014	2015	2016
Santa María 1	1,969	1,221	1.121
Angostura	332	1,424	982
Guaiquivilo-Melado HPP Project	NA	7	375
Corporate Environmental Management		290	356
Candelaria	18	364	324
Antilhue	1	229	255
Los Pinos	250	181	211
Proyecto CH San Pedro	NA	359	160
Proyecto CH La Mina		99	76
Colbún	60	37	38
Canutiillar	112	71	11
Aconcagua	282	379	10
Rucúe-Quilleco	1	234	2
Carena	26	38	62
Nehuenco	50	716	615
Otros			
Total Gastos e Inversiones Ambientales	3,101	5,649	4,598

#### Peru:

# **EXPENSES (IN THOUSANDS OF US\$)**

	2016
Monitoreo	C11
ambiental	611
Disposición Final de	56
residuos	30
Mejora en Almacén	12
de residuos	IZ
Trabajos de	
Consultoría	50
Ambiental ( varios)	
Mejoramiento	
de estación	1
meteorológica	
Kits anti derrame	4
Total Gastos E Inversiones Ambientales	734

# NOTE:

Exchange rates: 2014 (USD = CLP 606.75), 2015 (USD = CLP 710.16) and 2016 (USD = CLP 669.47). Values for Colbún in Chile correspond to those reported to the Superintendency of Securities and Insurance at the end of each year. Prior to 2014 environmental disbursements were not reported specifically.

# ENVIRONMENTAL COMPLAINTS

NUMBER OF ENVIRONMENTAL COMPLAINTS SUBMITTED, ADRESSSED AND SOLVED TRHOUGH FORMAL COMPLAINT MECHANISMS G4-EN34

Colbún has on its website a Consultation Line where it is possible to make all kinds of queries or complaints, including environmental ones. In 2016 there were two environmental complaints that were solved through formal mechanisms.

One was a complaint through our

Consultation Line regarding the fire of the Transformer of Unit Nehuenco 2.

And a second complaint submitted through legal actions and claims to court and the environmental authority by a lawyer representing neighbors from Coronel. In this latter case, the lawsuit and the claims were dismissed by the relevant entities.

In Peru, the Social Responsibility area has implemented a suggestion box located in the Salinas tourist booth and also the telephone numbers of the staff of this area to register complaints. Notwithstanding the foregoing, during 2016 no environmental complaints from the community were received.

# Consolidated Financial Statement

Señores Accionistas y Directores Colbún S.A.

Hemos efectuado una auditoría a los estados financieros consolidados adjuntos de Colbún S.A. y filiales, que comprenden los estados de situación financiera consolidados al 31 de diciembre de 2016 y 2015 y los correspondientes estados consolidados de resultados integrales, de cambios en el patrimonio y de flujos de efectivo por los años terminados en esas fechas y las correspondientes notas a los estados financieros consolidados.

#### Responsabilidad de la Administración por los estados financieros consolidados

La Administración es responsable por la preparación y presentación razonable de estos estados financieros consolidados de acuerdo a las Normas Internacionales de Información Financiera. Esta responsabilidad incluye el diseño, implementación y mantención de un control interno pertinente para la preparación y presentación razonable de estados financieros consolidados que estén exentos de representaciones incorrectas significativas, ya sea debido a fraude o error.

#### Responsabilidad del auditor

Nuestra responsabilidad consiste en expresar una opinión sobre estos estados financieros consolidados a base de nuestras auditorías. Efectuamos nuestras auditorías de acuerdo con normas de auditoría generalmente aceptadas en Chile. Tales normas requieren que planifiquemos y realicemos nuestro trabajo con el objeto de lograr un razonable grado de seguridad que los estados financieros consolidados están exentos de representaciones incorrectas significativas.

Una auditoría comprende efectuar procedimientos para obtener evidencia de auditoría sobre los montos y revelaciones en los estados financieros consolidados. Los procedimientos seleccionados dependen del juicio del auditor, incluyendo la evaluación de los riesgos de representaciones incorrectas significativas de los estados financieros consolidados, ya sea debido a fraude o error. Al efectuar estas evaluaciones de los riesgos, el auditor considera el control interno pertinente para la preparación y presentación razonable de los estados financieros consolidados de la entidad con el objeto de diseñar procedimientos de auditoría que sean apropiados en las circunstancias, pero sin el propósito de expresar una opinión sobre la efectividad del control interno de la entidad. En consecuencia, no expresamos tal tipo de opinión. Una auditoría incluye, también, evaluar lo apropiadas que son las políticas de contabilidad utilizadas y la razonabilidad de las estimaciones contables significativas efectuadas por la Administración, así como una evaluación de la presentación general de los estados financieros consolidados.



Consideramos que la evidencia de auditoría que hemos obtenido es suficiente y apropiada para proporcionarnos una base para nuestra opinión de auditoría.

# Opinión

En nuestra opinión, los mencionados estados financieros consolidados presentan razonablemente, en todos sus aspectos significativos, la situación financiera de Colbún S.A. y filiales al 31 de diciembre de 2016 y 2015 y los resultados de sus operaciones y los flujos de efectivo por los años terminados en esas fechas de acuerdo con las Normas Internacionales de Información Financiera.

Victor Zamora Q.

EY Audit SpA

Santiago, 31 de enero de 2017



# Estados Financieros Consolidados correspondiente a los años terminados al 31 de diciembre de 2016 y 2015

COLBÚN S.A. Y FILIALES
Miles de Dólares

# Colbún S.A. y Filiales Estados de Situación Financiera Consolidados, Clasificados al 31 de diciembre de 2016 y 2015 (En miles de dólares)

ACTIVOS	<b>Nota</b> N°	31 de Diciembre, 2016 MUS\$	31 de Diciembre, 2015 MUS\$
Activos corrientes			
Efectivo y equivalentes al efectivo	8	593.720	895.507
Otros activos financieros, corrientes	9	74.285	185.393
Otros activos no financieros, corrientes	20	27.190	28.270
Deudores comerciales y otras cuentas por cobrar	10	199.159	164.947
Cuentas por cobrar a entidades relacionadas, corrientes	12.b	2.792	2.590
Inventarios	13	45.114	39.919
Activos por impuestos	19	5.364	8.740
Activos corrientes totales		947.624	1.325.366
Activos no corrientes			
Otros activos financieros, no corrientes	9	5.377	212
Otros activos no financieros, no corrientes	20	45.798	32.262
Cuentas por cobrar a entidades relacionadas, no corrientes	12.b	263	280
Inversiones contabilizadas utilizando el método de la participación	16	38.576	36.012
Activos intangibles distintos de la plusvalía	17	138.129	91.340
Plusvalía	6	4.000	4.000
Propiedades, planta y equipos	18	5.635.827	5.660.763
Activos por impuestos diferidos	21.b	7.004	6.922
Activos no corrientes totales		5.874.974	5.831.791
ACTIVOS		6.822.598	7.157.157

Las notas adjuntas forman parte integral de estos estados financieros consolidados

Colbún S.A. y Filiales Estados de Situación Financiera Consolidados, Clasificados (continuación) al 31 de diciembre de 2016 y 2015 (En miles de dólares)

PATRIMONIO NETO Y PASIVOS	<b>Nota</b> N°	31 de Diciembre, 2016 MUS\$	31 de Diciembre, 2015 MUS\$
Pasivos corrientes			
Otros pasivos financieros, corrientes	22.a	53.044	453.385
Cuentas por pagar comerciales y otras cuentas por pagar, corrientes	23	207.945	174.433
Cuentas por pagar a entidades relacionadas	12.b	32.339	30.252
Otras provisiones	24.a	7.393	15.501
Pasivos por impuestos	21.a	32.605	24.045
Provisiones por beneficios a los empleados, corrientes	24.a	14.996	11.237
Otros pasivos no financieros, corrientes	25	11.733	4.648
Pasivos corrientes totales		360.055	713.501
Pasivos no corrientes			
Otros pasivos financieros, no corrientes	22.a	1.656.988	1.782.256
Cuentas por pagar comerciales y otras cuentas por pagar, no corrientes	23	18.960	6.422
Pasivos por impuestos diferidos	21.b	957.848	955.956
Provisiones por beneficios a los empleados, no corrientes	24.a	27.508	23.001
Otros pasivos no financieros, no corrientes	25	11.407	10.603
Pasivos no corrientes totales		2.672.711	2.778.238
Pasivos totales		3.032.766	3.491.739
Patrimonio			
Capital emitido	26.a	1.282.793	1.282.793
Ganancias (pérdidas) acumuladas	26.f	1.510.514	1.411.684
Primas de emisión	26.c	52.595	52.595
Otras reservas	26.e	730.483	715.588
Patrimonio atribuible a los propietarios de la controladora		3.576.385	3.462.660
Participaciones no controladoras		213.447	202.758
Patrimonio Total		3.789.832	3.665.418
PATRIMONIO Y PASIVOS		6.822.598	7.157.157

Colbún S.A. y Filiales Estados de Resultados Integrales Consolidados, por Naturaleza por los ejercicios terminados al 31 de diciembre de 2016 y 2015 (En miles de dólares)

	Nota	Enero - Di	Diciembre	
ESTADOS DE RESULTADOS INTEGRALES POR NATURALEZA		2016	2015	
	No	MUS\$	MUS\$	
Ingresos de actividades ordinarias	7 y 27	1.436.240	1.313.856	
Materias primas y consumibles utilizados	28	(724.587)	(645.934)	
Gastos por beneficio a los empleados	29	(67.813)	(56.082)	
Gastos por depreciación y amortización	30	(227.918)	(194.947)	
Otros gastos, por naturaleza	-	(42.090)	(28.503)	
Otras ganancias (pérdidas)	34	(17.577)	(1.220)	
Ganancia de actividades operacionales		356.255	387.170	
Ingresos financieros	31	10.054	5.517	
Costos financieros	31	(103.440)	(90.536)	
Participación en las ganancias (pérdidas) de asociadas y negocios	33	5.414	6.620	
conjuntos que se contabilicen utilizando el método de participación	33	5.414	6.620	
Diferencias de cambio	32	3.426	(11.160)	
Resultados por unidades de reajuste	32	(55)	2.425	
Ganancia antes de impuesto		271.654	300.036	
Gasto por impuesto a las ganancias	21.a	(66.914)	(99.603)	
Ganancia de actividades continuadas		204.740	200.433	
GANANCIA		204.740	200.433	
Ganancia atribuible a				
Ganancia atribuible a los propietarios de la controladora	7 y 26.i	201.429	203.806	
Ganancia atribuible a participaciones no controladoras		3.311	(3.373)	
GANANCIA		204.740	200.433	
Ganancias por acción				
Ganancias por acción básica en operaciones continuas US\$/acción	26.i	0,01149	0,01162	
Ganancias por acción básica		0,01149	0,01162	
Ganancias por acción diluida en operaciones continuas US\$/ acción	26.i	0,01149	0,01162	
Ganancias por acción diluida		0,01149	0,01162	

Las notas adjuntas forman parte integral de estos estados financieros consolidados

Colbún S.A. y Filiales Estados de Otros Resultados Integrales Consolidados por los ejercicios terminados al 31 de diciembre de 2016 y 2015 (En miles de dólares)

FOTABOO DE OTROS DEC	Nota	Enero - D	iciembre
ESTADOS DE OTROS RESULTADOS INTEGRALES		2016	2015
	N°	MUS\$	MUS\$
Ganancia		204.740	200.433
Componentes de otro resultado integral que no se reclasificarán al resultado del periodo, antes de impuestos			
Ganancias (pérdidas) por nuevas mediciones de planes de beneficios definidos		(2.699)	(2.433
Otro resultado integral que no se reclasificará al resultado del periodo, antes de impuestos		(2.699)	(2.433
Componentes de otro resultado integral que se reclasificarán al resultado del periodo, antes de impuestos			
Ganancias (pérdidas) por diferencias de cambio de conversión	16.a	1.386	(4.321
Ganancias (pérdidas) por coberturas de flujos de efectivo		19.782	1.685
Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación		1.230	(1.207
Otro resultado integral que se reclasificará al resultado del perio	do.		
antes de impuestos	,	22.398	(3.843
			(3.843
antes de impuestos  Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del			
antes de impuestos  Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo		19.699	
antes de impuestos  Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo  Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo	tos	19.699	(6.276
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el	tos	19.699	<b>(6.276</b>
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación	21.c	<b>19.699</b> 729	(6.276
antes de impuestos  Otros componentes de otro resultado integral, antes de impues  Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo  Impuesto a las ganancias relacionado con planes de beneficios definidos  Impuesto a las ganancias relativos a componentes de otro	21.c 21.c	<b>19.699</b> 729  (332)	(6.276 65) 326 1.38:
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relacionado con planes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación Impuesto a las ganancias relacionado con coberturas de flujo de efectivo Impuesto a las ganancias relacionado con componentes de otro resultado	21.c 21.c	19.699  729  (332)  (5.201)	(6.276 657
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación Impuesto a las ganancias relacionado con coberturas de flujo de efectivo Impuesto a las ganancias relacionado con componentes de otro resulta integral	21.c 21.c	19.699  729  (332) (5.201)  (4.804)	(6.276 657 326 1.383 2.364
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación Impuesto a las ganancias relacionado con coberturas de flujo de efectivo Impuesto a las ganancias relativo a componentes de otro resulta integral Otro resultado integral total	21.c 21.c	19.699  729  (332) (5.201)  (4.804)  14.895	(6.276 65) 32( 1.38) 2.364 (3.912
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación Impuesto a las ganancias relacionado con coberturas de flujo de efectivo Impuesto a las ganancias relacionado con componentes de otro resultad integral Otro resultado integral total	21.c 21.c	19.699  729  (332) (5.201)  (4.804)  14.895	(6.276 653 326 1.383 2.364 (3.912 196.521
Otros componentes de otro resultado integral, antes de impues Impuesto a las ganancias relativos a componentes de otro resultado integral que no se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con planes de beneficios definidos Impuesto a las ganancias relativos a componentes de otro resultado integral que se reclasificará al resultado del periodo Impuesto a las ganancias relacionado con Participación de otro resultado integral de asociadas y negocios conjuntos contabilizados utilizando el método de la participación Impuesto a las ganancias relacionado con coberturas de flujo de efectivo Impuesto a las ganancias relacionado con componentes de otro resulta integral Otro resultado integral total Resultado integral total	21.c 21.c	(332) (5.201) (4.804) 14.895 219.635	(6.276 65) 32( 1.38) 2.364 (3.912

Las notas adjuntas forman parte integral de estos estados financieros consolidados

# Colbún S.A. y Filiales

Estados de Flujos de Efectivo Consolidados – Método Directo por los ejercicios terminados al 31 de diciembre de 2016 y 2015 (En miles de dólares)

ESTADOS DE FLUJOS DIRECTO	Nota N°	31 de Diciembre, 2016 MUS\$	31 de Diciembre, 2015 MUS\$
Flujos de efectivo procedentes de (utilizados en) actividades de operación		11034	11054
Clases de cobros por actividades de la operación			
Cobros procedentes de las ventas de bienes y prestación de servicios		1.631.555	1.536.831
Cobros procedentes de primas y prestaciones, anualidades y otros		447	33.082
Otros cobros por actividades de la operación		3.915	11.330
Clases de pago			
Pagos a proveedores por el suministro de bienes y servicios		(905.043)	(792.771
Pagos a y por cuenta de los empleados		(61.978)	(62.051
Pagos procedentes de primas y prestaciones, anualidades y otras		(15.970)	(37.271
Otros pagos por actividades de operación		(88.790)	(18.537
Flujos de efectivo netos procedentes de (utilizados en) la operación		564.136	670.613
Dividendos recibidos		8.682	7.550
Intereses recibidos		9.662	5.823
Impuestos a las ganancias reembolsados (pagados)		(52.722)	17.274
Otras entradas (salidas) de efectivo		(11.908)	16.828
Flujos de efectivo netos procedentes de (utilizados en) actividades de operación		517.850	718.088
i iujoo aa araan ii aasa pi aasaaniisa aa (aanii aasa ah) aasa ii aa aparaasa		017.000	7 2 0.000
Flujos de efectivo procedentes de (utilizados en) actividades de inversión			
Otros pagos para adquirir participaciones en negocios conjuntos		(3.324)	
Para obtener el control de subsidiarias u otros negocios		(5.428)	(202.222
Compras de propiedades, plantas y equipos		(152.145)	(87.651
Otras entradas (salidas) de efectivo		74.839	393.404
Flujos de efectivo netos procedentes de (utilizados en) actividades de inversión		(86.058)	99.609
Flujos de efectivo procedentes de (utilizados en) actividades de financiación			
Importes procedentes de préstamos		365.700	-
Importes procedentes de préstamos de largo plazo		365.700	_
Pagos de préstamos		(894.007)	(22.894
Dividendos pagados		(98.923)	(53.479
Intereses pagados		(92.404)	
Otras entradas (salidas) de efectivo		(21.381)	21.721
Flujos de efectivo netos procedentes de (utilizados en) actividades de financiación		(741.015)	(169.570)
Incremento neto (disminución) en el efectivo y equivalentes al efectivo, antes del efecto	o do		( 11 1 )
los cambios en la tasa de cambio	ue	(309.223)	648.127
Efectos de la variación en la tasa de cambio sobre el efectivo y equivalentes al efectivo			
Efectos de las variaciones en las tasas de cambio sobre el efectivo y equivalentes ar efectivo  Efectos de las variaciones en las tasas de cambio sobre el efectivo y efectivo equivalente		7.436	(6.710
Incremento (disminución) neto de efectivo y equivalentes al efectivo	_	(301.787)	641.417
Efectivo y equivalentes al efectivo al principio del ejercicio		895.507	254.090
Efectivo y equivalentes al efectivo al final del periodo	R	593.720	895.507

#### Colbún S.A. y Filiales Estados de Cambios en el Patrimonio por los ejercicios terminados al 31 de diciembre de 2016 y 2015 (En miles de dólares)

	Patrimonio Atribuible a los Propietarios de la Controladora											
				T GG IIIIC		en otras rese		Conta oludoi				
				Reserva por						Patrimonio		
Estados de Cambios en el Patrimonio	Nota			diferencias de	coberturas	ganancias o	Otras	Total	Ganancias	atribuible a los	Participaciones	
		Capital	Primas de		de flujo de	pérdidas	reservas	Otras	(pérdidas)	propietarios de	no	Patrimonio
		emitido	emisión	conversión	efectivo	actuariales	varias	reservas	acumuladas	la controladora	controladoras	total
		MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Saldo inicial al 01.01.2016		1.282.793	52.595	(266,792)	(6.854)	-	989,234	715.588	1.411.684	3,462,660	202,758	3,665,418
Cambios en Patrimonio												
Resultado integral	Т											
Ganancia (pérdida)									201.429	201.429	3.311	204.740
Otro resultado integral	Т			1.386	13.700	(1.970)	-	13.116		13.116	1.779	14.895
Dividendos	Т								(100.898)	(100.898)		(100.898)
Incremento (disminución) por otros cambios	Т	-	-	-	-	1.970	(191)	1.779	(1.701)	78	5.599	5.677
Total de cambios en patrimonio		-	-	1.386	13.700	-	(191)	14.895	98.830	113.725	10.689	124.414
Saldo final al 31.12.2016	26	1.282.793	52.595	(265.406)	6.846	-	989.043	730.483	1.510.514	3.576.385	213.447	3.789.832

		Patrimonio Atribuible a los Propietarios de la Controladora										
				Cambios en otras reservas								
				Reserva por	Reserva de	Reserva de				Patrimonio		
Estado de Cambios en el Patrimonio	Nota			diferencias de	coberturas	ganancias o	Otras	Total	Ganancias	atribuible a los	Participaciones	
		Capital	Primas de	cambio por	de flujo de		reservas	Otras	(pérdidas)	propietarios de	no	Patrimonio
		emitido	emisión	conversión	efectivo	actuariales	varias	reservas	acumuladas	la controladora	controladoras	total
		MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Saldo inicial al 01.01.2015		1.282.793	52.595	(262.471)	(9.039)	-	989.403	717.893	1.284.692	3.337.973	-	3.337.973
Cambios en Patrimonio	ambios en Patrimonio											
Resultado integral												
Ganancia (pérdida)									203.806	203.806	(3.373)	200.433
Otro resultado integral				(4.321)	2.185	(1.776)	-	(3.912)		(3.912)	-	(3.912)
Dividendos									(73.670)	(73.670)		(73.670)
Incremento (disminución) por otros cambios		-	-	-	-	1.776	(169)	1.607	(3.144)	(1.537)	206.131	204.594
Total de cambios en patrimonio		-	-	(4.321)	2.185	-	(169)	(2.305)	126.992	124.687	202.758	327.445
Saldo final al 31.12.2015	26	1.282.793	52.595	(266.792)	(6.854)	-	989.234	715.588	1.411.684	3.462.660	202.758	3.665.418

Las notas adjuntas forman parte integrante de estos estados financieros consolidados

# COLBÚN S.A. Y FILIALES NOTAS A LOS ESTADOS FINANCIEROS CONSOLIDADOS

Indic	pa pa	gina
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### COLBÚN S.A. Y FILIALES NOTAS A LOS ESTADOS FINANCIEROS CONSOLIDADOS

(En miles de dólares)

#### 1. Información general

Colbún S.A. fue constituida por escritura pública de fecha 30 de abril de 1986, ante el Notario Público de Santiago Señor Mario Baros G., e inscrita en el Registro de Comercio del Conservador de Bienes Raíces de Talca, a fojas 86, el 30 de mayo de 1986. El Rol Único Tributario de la Sociedad es el Nº96.505.760-9.

La Compañía se encuentra inscrita como Sociedad Anónima Abierta en el Registro de Valores con el número 0295, desde el 1º de septiembre de 1986, y por ello está sujeta a la fiscalización de la Superintendencia de Valores y Seguros (SVS).

Colbún es una compañía generadora de energía eléctrica, que al 31 de diciembre de 2016 es matriz del grupo (en adelante, la Compañía, la Sociedad o Colbún), formado por trece sociedades: Colbún S.A. y doce Subsidiarias.

El domicilio comercial de Colbún se encuentra en Avenida Apoquindo 4775 piso 11, comuna de Las Condes, Santiago.

El objeto social de Colbún consiste en la generación, transporte y distribución de energía eléctrica, según se explica con mayor detalle en Nota 2.

La Compañía es controlada por el Grupo Matte que tiene inversiones en el sector eléctrico, financiero, forestal, inmobiliario, de telecomunicaciones y portuario, cuyo control es ejercido, indirectamente, por las personas, en la forma y proporciones, que se señalan a continuación, todas integrantes de las familias Larraín Matte, Matte Capdevila y Matte Izquierdo:

Patricia Matte Larraín, RUT 4.333.299-6 (6,49%) y sus hijos María Patricia Larraín Matte, RUT 9.000.338-0 (2,56%); María Magdalena Larraín Matte, RUT 6.376.977-0 (2,56%); Jorge Bernardo Larraín Matte, RUT 7.025.583-9 (2,56%), y Jorge Gabriel Larraín Matte, RUT 10.031.620-K (2,56%).

Eliodoro Matte Larraín, RUT 4.336.502-2 (7,21%) y sus hijos Eliodoro Matte Capdevila, RUT 13.921.597-4 (3,27%); Jorge Matte Capdevila, RUT 14.169.037-K (3,27%), y María del Pilar Matte Capdevila, RUT 15. 959.356-8 (3,27%).

Bernardo Matte Larraín, RUT 6.598.728-7 (7,79%) y sus hijos Bernardo Matte Izquierdo, RUT 15.637.711-2 (3,44%); Sofía Matte Izquierdo, RUT 16.095.796-4 (3,44%), y Francisco Matte Izquierdo, RUT 16.612.252-K (3,44%).

Los accionistas identificados precedentemente pertenecen por parentesco a un mismo grupo empresarial y tienen un acuerdo de actuación conjunta formalizado, por el grupo de personas jurídicas que se indican a continuación, los cuales son propietarios del 49,96% del capital social de la Compañía:

Grupo Controlador	Nº Acciones	Participación
		%
Minera Valparaíso S.A.	6.166.879.733	35,17
Forestal Cominco S.A.	2.454.688.263	14,00
Forestal Constructora y Comercial del Pacífico Sur S.A.	34.126.083	0,19
Forestal y Minera Canadilla S.A.	31.232.961	0,18
Forestal Cañada S.A.	22.308.320	0,13
Forestal Bureo S.A.	17.846.000	0,10
Inversiones Orinoco S.A.	17.846.000	0,10
Inversiones Coillanca Ltda.	16.473.762	0,09
Inmobiliaria Bureo S.A.	38.224	0,00
Total Participación	8.761.439.346	49,96

#### 2. Descripción del negocio

## Objeto de la Compañía

El objeto social de la Compañía es producir, transportar, distribuir y suministrar energía y potencia eléctrica, pudiendo para tales efectos adquirir y explotar concesiones y servirse de las mercedes o derechos que obtenga. Asimismo, está facultada para transportar, distribuir, suministrar y comercializar gas natural para su venta a procesos industriales o de generación. Adicionalmente, puede prestar asesorías en el campo de la ingeniería, tanto en el país como en el extranjero.

### Descripción del Negocio en Chile

#### **Principales activos**

El parque de generación está formado por centrales hidráulicas (de embalse y de pasada) y por centrales térmicas a carbón, diésel y gas (ciclos combinados y convencionales), que en suma aportan una potencia máxima de 3.278 MW al Sistema Interconectado Central (SIC).

Las centrales hidroeléctricas suman una capacidad de 1.589 MW y se distribuyen en 16 plantas: Colbún, Machicura, San Ignacio, Chiburgo y San Clemente, ubicadas en la Región del Maule; Rucúe, Quilleco y Angostura, en la Región del Biobío; Carena, en la Región Metropolitana; Los Quilos, Blanco, Juncal, Juncalito, Chacabuquito y Hornitos, en la Región de Valparaíso; y Canutillar, en la Región de Los Lagos. Las centrales Colbún, Machicura, Canutillar y Angostura cuentan con sus respectivos embalses, mientras que las instalaciones hidráulicas restantes corresponden a centrales de pasada.

Las centrales térmicas suman una capacidad de 1.689 MW y se distribuyen en el complejo Nehuenco, ubicado en la Región de Valparaíso; la central Candelaria, en la Región de O'Higgins; la central Antilhue, en la Región de los Ríos; y las centrales Los Pinos y Complejo Santa María Unidad I, ubicadas en la Región del Biobío.

#### Política comercial

La política comercial de la Compañía es lograr un adecuado equilibrio entre el nivel de compromisos de venta de electricidad y la capacidad propia en medios de generación eficientes, con el objetivo de obtener un aumento y estabilización de los márgenes de operación, con un nivel aceptable de riesgos ante sequías. Para ello se requiere también mantener un adecuado mix de generación térmica e hidráulica.

Como consecuencia de esta política, la Compañía procura que las ventas o compras en el mercado spot no alcancen volúmenes demasiado relevantes, debido a que los precios en este mercado experimentan importantes variaciones, siendo la variable de mayor incidencia la condición hidrológica.

#### **Principales clientes**

La cartera de clientes está compuesta por clientes regulados y libres:

Los clientes regulados con contratos a Precio de Nudo de Largo Plazo Licitados son: Enel Distribución Chile S.A., CGE Distribución S.A.; Saesa S.A., Frontel S.A., Compañía Eléctrica de Osorno S.A., Cooperativa Eléctrica de Curicó Ltda., Compañía Distribuidora de Energía Eléctrica Codiner Ltda., Cooperativa de Consumo de Energía Eléctrica Chillán Ltda., Cooperativa Eléctrica Los Ángeles Ltda., Cooperativa Regional Eléctrica Llanquihue Ltda., Cooperativa Eléctrica Pillaco Ltda., Cooperativa Eléctrica Charrúa Ltda., Compañía Nacional de Fuerza Eléctrica S.A., Empresa Eléctrica de Puente Alto Ltda., y Cooperativa Rural Eléctrica Río Bueno Ltda.

Los clientes libres son Anglo American Sur S.A. para sus faenas de Los Bronces/Las Tórtolas; cliente libre asociado a Enel Distribución Chile S.A. (Planta La Farfana de Aguas Andinas S.A.) y Codelco para sus divisiones Salvador, Andina, Ventanas y El Teniente.

Adicionalmente, a partir del 1º de septiembre de 2011 y como consecuencia de la situación de insolvencia financiera de la empresa Campanario Generación S.A., la Superintendencia de Electricidad y Combustibles (SEC) emitió la Resolución Exenta Nº 2.288 de fecha 26 de agosto de 2011, modificada por la Resolución Exenta Nº 239 de fecha 09 de febrero de 2012, instruyendo a todas las empresas generadoras del Sistema Interconectado Central (SIC) abastecer los consumos de los clientes regulados cuyos suministros fueron adjudicados a Campanario Generación S.A., en los precios y condiciones obtenidas en las licitaciones respectivas.

### El mercado eléctrico

El sector eléctrico chileno tiene un marco regulatorio de casi 3 décadas de funcionamiento. Éste ha permitido desarrollar una industria muy dinámica con alta participación de capital privado. El sector ha sido capaz de satisfacer la creciente demanda de energía, la cual ha crecido en promedio en los últimos 10 años a una tasa promedio anual de 3,3% levemente menor al crecimiento del PIB durante el mismo periodo.

Chile cuenta con 4 sistemas interconectados y Colbún opera en el de mayor tamaño, el Sistema Interconectado Central (SIC), que se extiende desde Taltal por el norte hasta la Isla Grande de Chiloé por el sur. El consumo de esta zona representa el 75% de la demanda eléctrica de Chile. Colbún es el segundo generador eléctrico en base de la potencia instalada del SIC con una participación de mercado del orden del 21%.

El sistema de tarificación distingue distintos mecanismos para el corto y largo plazo. Para efectos de la tarificación de corto plazo, el sector se basa en un esquema de costo marginal, que incluye a su vez los criterios de seguridad y eficiencia en la asignación de los recursos. Los costos marginales de la energía resultan de la operación real del sistema eléctrico de acuerdo a la programación por mérito económico que efectúa el CDEC (Centro de Despacho Económico de Carga) y que corresponde al costo variable de producción de la unidad más cara que se encuentra operando en cada instante. La remuneración de la potencia se calcula sobre la base de la potencia de suficiencia de las centrales, es decir, el nivel de potencia confiable que la central puede aportar al sistema para abastecer la demanda de punta, considerando la incertidumbre asociada a la disponibilidad de sus insumos, la indisponibilidad forzada y programada de sus unidades, y la indisponibilidad de las instalaciones que conectan la unidad al Sistema de Transmisión o Distribución. El precio de la potencia se determina como una señal económica, representativa de la inversión en aquellas unidades más eficientes para absorber la demanda de potencia, en las horas de mayor exigencia de suministro del sistema.

Para efectos de tarificación de largo plazo, los generadores pueden tener 2 tipos de clientes: regulados y libres.

Con la entrada en vigencia de la Ley N° 20.018 (Ley Corta II), desde el 1° de enero de 2010, en el mercado de clientes regulados, constituido por empresas distribuidoras, los generadores venden energía a un precio resultante de licitaciones públicas y competitivas.

Los clientes libres son aquellos que tienen una potencia conectada superior a 2.000 KW, y negocian libremente sus precios con sus proveedores.

El mercado spot es aquel donde los generadores transan entre ellos a costo marginal los excedentes o déficit de energía (a un nivel horario) y potencia que resulten de su posición comercial, neta de su capacidad de producción, dado que las órdenes de despacho son por mérito económico y exógeno a cada generador.

Cabe destacar que la regulación permite que los usuarios con una potencia conectada entre 500 KW y 2.000 KW, puedan optar por un régimen de precios libres o regulados, con un periodo de permanencia mínimo de cuatro años en cada régimen.

Para inyectar su electricidad al sistema y suministrar energía y potencia eléctrica a sus clientes, Colbún utiliza instalaciones de transmisión de su propiedad y de terceros, conforme a los derechos que le otorga la legislación eléctrica.

En este contexto, cabe mencionar que con fecha 20 de julio de 2016, se publicó en el Diario Oficial la Nueva Ley que establece un nuevo Sistema de Transmisión Eléctrica y crea un organismo Coordinador Independiente del Sistema Eléctrico Nacional. Los cambios principales incluidos en esta Ley es que la remuneración de la transmisión será de cargo íntegro a la Demanda Eléctrica. Asimismo, se establece un nuevo Coordinador con personalidad jurídica propia para operar un único sistema llamado Sistema Eléctrico Nacional, que comenzará a ejercer sus funciones de manera gradual a partir del 1 de enero de 2017.

### Descripción del Negocio en Perú

## **Principales activos**

Central termoeléctrica de ciclo combinado a gas natural de 570 MW ubicada en Las Salinas, distrito de Chilca, 64 kilómetros al sur de Lima, propiedad de la filial Fénix Power Perú. Su ubicación es estratégica, ya que se encuentra cerca del gaseoducto de Camisea y la subestación eléctrica Chilca, lo que permite la generación de energía a costos eficientes.

Esta central entró en operación comercial en diciembre de 2014, y está compuesta de dos turbinas duales (gas o diésel) General Electric que generan el 60% de la potencia de la planta, y una turbina a vapor General Electric que genera el restante 40%. Dadas sus características, esta central es un activo estratégico del mercado eléctrico peruano, ya que dentro de las centrales térmicas en el país es la más eficiente y la tercera de mayor tamaño.

### **Principales clientes**

Clientes regulados con contratos a Largo Plazo: Grupo Distriluz, conformado por Electro Norte S.A., Electro Noreste S.A., Electrocentro S.A., COELVISAC, Hidrandina S.A., Grupo Luz del Sur, conformado por Edecañete S.A., Edelnor S.A.A., Electricidad del Oriente S.A., Electro Dunas S.A.A. y Luz del Sur S.A.A.

Clientes con contratos de Corto Plazo: Celepsa S.A., Grupo Distriluz y GCZ Energía.

Clientes Libres: Pamolsa e Inversiones Centenario.

### El mercado eléctrico

Perú reestructuró el mercado energético el año 1992 (Ley de Electricidad 25.844) y en los últimos 4 años se han realizado importantes reformas al marco regulatorio del sector.

El mercado eléctrico peruano tiene a nivel nacional a diciembre de 2015, una capacidad instalada de aproximadamente 10,3 GW, de los cuales 9,3 GW corresponden a la capacidad instalada del Sistema Eléctrico Interconectado Nacional (SEIN), de esta última cifra cerca del 60% es capacidad térmica, 36% hidráulica y el restante 4% en base a energías renovables. Por lo anterior, el gas natural juega un rol fundamental en la generación térmica del país dadas las importantes reservas y pozos de exploración con que cuenta, siendo Camisea el principal yacimiento con más de 15 trillones de pies cúbicos.

El sistema de tarificación distingue dos categorías de clientes: usuarios regulados que consumen menos de 200 kW y clientes no regulados (grandes usuarios privados con consumos superiores a 2.500 kW). Los clientes con demanda entre 200 kW y 2.500 kW tienen la opción de ser clientes regulados o no regulados.

El Sistema Eléctrico Interconectado Nacional (SEIN) está administrado por un Comité de Operación Económica del Sistema (COES), éste está constituido como una entidad privada sin fines de lucro y con personería de Derecho Público. El COES está conformado por todos los agentes del SEIN (Generadores, Transmisores, Distribuidores y Usuarios Libres) y sus decisiones son de cumplimiento obligatorio para todos los agentes. Su finalidad es coordinar la operación de corto, mediano y largo plazo del SEIN, preservando la seguridad del sistema, el mejor aprovechamiento de los recursos energéticos, así como planificar el desarrollo de la transmisión del SEIN y administrar el Mercado de Corto Plazo, éste último basado en costos marginales.

En términos de consumo, la demanda anual de energía esperada para el año 2016 se sitúa en torno a los 48,3 TWh siendo el sector minero y residencial quienes concentran dicha demanda. En el año 2015 la demanda de sistema fue 44.5 TWh.

#### 3. Resumen principales políticas contables

#### 3.1 Principios contables

Los presentes estados financieros consolidados de Colbún S.A. y filiales al 31 de diciembre de 2016 y 2015, han sido preparados de acuerdo con Normas Internacionales de Información Financiera ("NIIF" o "IFRS", por sus siglas en inglés).

En lo referente a los estados financieros consolidados de la Compañía al y por el año terminado al 31 de diciembre de 2015, éstos fueron preparados en su oportunidad de acuerdo a instrucciones y normas de preparación y presentación de información financiera emitidas por la SVS, las cuales se componen de las NIIF y normas de la SVS, incluyendo el Oficio Circular Nº 856 de octubre de 2014 de dicho organismo, que instruyó registrar en el ejercicio 2014 contra patrimonio las diferencias en activos y pasivos por concepto de impuestos diferidos que se produzcan como efecto directo del incremento en la tasa de impuestos de primera categoría introducido por la Ley 20.780, cambiando el marco de preparación y presentación de información financiera adoptado hasta esa fecha, dado que el marco anterior (NIIF) requiere ser adoptado de manera integral, explícita y sin reservas.

En la re-adopción de las NIIF al 1 de enero de 2016, Colbún ha aplicado estas normas como si nunca hubiese dejado de aplicarlas en la preparación de sus estados financieros. De esa forma, no se ha optado por ninguna de las exenciones contempladas en IFRS 1 "Adopción por primera vez de las Normas Internacionales de Información Financiera".

Los presentes estados financieros consolidados han sido preparados siguiendo el principio de empresa en marcha y han sido aprobados por su Directorio en sesión celebrada con fecha 31 de enero de 2017.

A continuación se describen las principales políticas contables adoptadas en la preparación de estos estados financieros consolidados. Estas políticas han sido definidas en función de instrucciones y normas de preparación y presentación de Información Financiera, emitidas por la SVS vigentes al 31 de diciembre de 2016 aplicadas de manera uniforme en los periodos que se presentan en estos estados financieros consolidados.

- **a. Bases de preparación y periodo -** Los presentes estados financieros consolidados de Colbún S.A. comprenden:
- Estados de Situación Financiera al 31 de diciembre de 2016 y 2015.
- Estados de Resultados Integrales por los ejercicios terminados al 31 de diciembre de 2016 y 2015.
- Estados de Cambios en el Patrimonio por los ejercicios terminados al 31 de diciembre de 2016 y 2015.
- Estados de Flujos de Efectivo por los ejercicios terminados al 31 de diciembre de 2016 y 2015.
- Notas explicativas.

La información contenida en los presentes estados financieros consolidados es responsabilidad de la Compañía.

Los estados financieros consolidados han sido preparados bajo el criterio del costo histórico, con excepción, de aquellos activos y pasivos que se registran a valor razonable (nota 3 h. y 3 i).

- **a.1 Moneda funcional** La moneda funcional de la Sociedad es el dólar estadounidense, por ser ésta la moneda que influye principalmente en los precios de venta de bienes y servicios en los mercados en los que opera la Compañía. Toda la información en los presentes estados financieros consolidados es presentada en miles de dólares (MUS\$), excepto cuando se indica de otra manera.
- **b. Bases de consolidación -** Los estados financieros consolidados incorporan los estados financieros de la Sociedad Matriz y las sociedades controladas por la Compañía.

Se establece el control como la base para determinar qué entidades se consolidan en los estados financieros consolidados.

Las sociedades subsidiarias son aquellas en las que Colbún S.A. está expuesto, o tiene derechos, a rendimientos variables procedentes de su participación en estas sociedades y tiene la capacidad de influir en sus rendimientos

a través de su poder sobre éstas. En el caso de la Compañía, en general, el poder sobre sus subsidiarias se deriva de la posesión de la mayoría de los derechos de voto otorgados por instrumentos de capital de las subsidiarias.

El detalle de las subsidiarias se describe en el siguiente cuadro:

		Moneda funcional		Porcentaje de participación al			
Sociedad consolidada	País		RUT	31.12.2016			31.12.2015
				Directo	Indirecto	Total	Total
Empresa Eléctrica Industrial S.A.	Chile	Dólar	96.854.000-9	99,9999	-	99,9999	99,9999
Sociedad Hidroeléctrica Melocotón Ltda.	Chile	Dólar	86.856.100-9	99,9000	0,1000	100	100
Río Tranquilo S.A.	Chile	Dólar	76.293.900-2	99,9999	0,0001	100	100
Termoeléctrica Nehuenco S.A.	Chile	Dólar	76.528.870-3	99,9999	0,0001	100	100
Termoeléctrica Antilhue S.A.	Chile	Dólar	76.009.904-K	99,9998	-	99,9998	99,9998
Colbún Transmisión S.A.	Chile	Dólar	76.218.856-2	99,9999	0,0001	100	100
Colbún Desarrollo SpA	Chile	Dólar	76.442.095-0	100	-	100	100
Inversiones SUD SpA	Chile	Dólar	76.455.649-6	100	-	100	100
Inversiones Andinas SpA	Chile	Dólar	76.455.646-1	100	-	100	100
Colbún Perú S.A.	Perú	Dólar	0-E	99,9996	0,0004	100	100
Inversiones Las Canteras S.A.	Perú	Dólar	0-E	-	51	51	51
Fénix Power Perú S.A.	Perú	Dólar	0-E	-	51	51	51

#### Variaciones en el perímetro de consolidación

Durante el periodo 2016 no se han producido variaciones en el perímetro de consolidación.

En el ejercicio 2015 se produjeron las siguientes variaciones en el perímetro de consolidación:

Colbún International Limited fue disuelta con fecha 31 de marzo de 2015.

Colbún Desarrollo SpA fue constituida con fecha 18 de marzo de 2015, con un capital de MUS\$ 160. La sociedad es una filial directa de Colbún S.A., quien posee el 100%.

Con fecha 31 de marzo de 2015, fue constituida la sociedad Inversiones SUD SpA, con un capital de MUS\$ 10. Con fecha 6 de abril de 2015, se firmó un contrato de suscripción de acciones mediante el cual Colbún S.A. suscribió el 100% de las acciones. Por tanto, desde esa fecha la sociedad es una filial directa de Colbún S.A.

Con fecha 31 de marzo de 2015, fue constituida la sociedad Inversiones Andinas SpA, con un capital de MUS\$ 10. Con fecha 6 de abril de 2015, se firmó un contrato de suscripción de acciones mediante el cual Colbún S.A. suscribió el 100% de las acciones. Por tanto, desde esa fecha la sociedad es una filial directa de Colbún S.A.

Colbún Perú S.A. es una sociedad anónima cerrada organizada de acuerdo a las leyes de la República del Perú, adquirida por Colbún Desarrollo SpA con fecha 28 de septiembre de 2015. Posteriormente, mediante Junta Extraordinaria de Accionistas de fecha 15 de diciembre de 2015 se incorporó Colbún S.A., quien actualmente es titular del 99,9996% de las acciones, siendo Colbún Desarrollo SpA el titular del 0,0004% restante.

Inversiones Las Canteras S.A. es una sociedad anónima cerrada organizada de acuerdo a las leyes de la República del Perú, constituida con fecha 16 de noviembre de 2015 por Inversiones Hacienda Montalbán S.A. (hoy Colbún Perú S.A.) y Juan Carlos Escudero Velano, quien posteriormente transfirió su acción a la primera. Con fecha 18 de diciembre de 2015 se realizó aumento de capital, en el cual Colbún Perú S.A. suscribió y pagó el 51% de las acciones, y se incorporaron como nuevos socios Sigma Fondo de Inversión en Infraestructura con el 13% de las acciones; y Blue Bolt A 2015 Limited, con el 36% de las acciones.

Fénix Power Perú S.A. es una sociedad anónima cerrada organizada de acuerdo a las leyes de la República del Perú, constituida con fecha 15 de septiembre de 2004 por Enrique Victor Macedo Abreu, Fernando Enrique Macedo Abreu, y Horace Alfred Sklar. Actualmente Inversiones Las Canteras S.A. es titular del 100% de las acciones.

Todas las transacciones y los saldos significativos intercompañías han sido eliminados al consolidar, como también se ha dado reconocimiento a la participación no controladora que corresponde al porcentaje de participación de terceros en las subsidiarias, el cual está incorporado en forma separada en el patrimonio de Colbún consolidado.

**b.1 Combinaciones de negocios y Plusvalía** – Las combinaciones de negocios se registran aplicando el método de adquisición. El costo de adquisición es la suma de la contraprestación transferida, valorada a valor razonable en la fecha de adquisición, y el importe del interés minoritario de la adquirida, si hubiera. Para cada combinación de negocios, la Compañía determina si valora la participación no controladora de la adquirida al valor razonable o por la parte proporcional de los activos netos identificables de la adquirida. Los costos de adquisición relacionados se contabilizan cuando se incurren, en Otros gastos por naturaleza.

Cuando la Compañía adquiere un negocio, evalúa los activos financieros y los pasivos financieros asumidos para su adecuada clasificación en base a los acuerdos contractuales, condiciones económicas y otras condiciones pertinentes que existan en la fecha de adquisición. Esto incluye la separación de los derivados implícitos de los contratos principales de la adquirida.

Si la combinación de negocios se realiza por etapas, en la fecha de adquisición se valoran al valor razonable las participaciones previamente mantenidas en el patrimonio de la adquirida y se reconocen las ganancias o pérdidas resultantes en el estado de resultados.

Cualquier contraprestación contingente que deba ser transferida por el adquiriente se reconoce por su valor razonable en la fecha de adquisición. Las contraprestaciones contingentes que se clasifican como activos o pasivos financieros de acuerdo con NIC 39 Instrumentos Financieros: Reconocimiento y Valoración se valoran a valor razonable, registrando los cambios en el valor razonable como ganancia o pérdida o como cambio en otro resultado integral. En los casos, en que las contraprestaciones contingentes no se encuentren dentro del alcance de NIC 39, se valoran de acuerdo con la NIIF correspondiente. Si la contraprestación contingente clasifica como patrimonio no se revaloriza y cualquier liquidación posterior se registra dentro del patrimonio neto.

La plusvalía es el exceso de la suma de la contraprestación transferida registrada sobre el valor neto de los activos adquiridos y los pasivos asumidos. Si el valor razonable de los activos netos adquiridos excede al valor de la contraprestación transferida, la Compañía realiza una nueva evaluación para asegurarse de que se han identificado correctamente todos los activos adquiridos y todas las obligaciones asumidas y revisa los procedimientos aplicados para realizar la valoración de los importes reconocidos en la fecha de adquisición. Si esta nueva evaluación resulta en un exceso del valor razonable de los activos netos adquiridos sobre el importe agregado de la consideración transferida, la diferencia se reconoce como ganancia en el estado de resultados.

Después del reconocimiento inicial, la plusvalía se registra al costo menos cualquier pérdida por deterioro acumulada. A efectos de la prueba de deterioro, la plusvalía adquirida en una combinación de negocios es asignada, desde la fecha de adquisición, a cada unidad generadora de efectivo de la Compañía que se espera que se beneficie de la combinación, independientemente de si existen otros activos o pasivos de la adquirida asignados a esas unidades. Una vez que la combinación de negocios se complete (finaliza el proceso de medición) la plusvalía no se amortiza y la Compañía debe revisar periódicamente su valor en libros para registrar cualquier pérdida por deterioro.

Cuando la plusvalía forma parte de una unidad generadora de efectivo y una parte de las operaciones de dicha unidad se dan de baja, la plusvalía asociada a dichas operaciones enajenadas se incluye en el valor en libros de la operación al determinar la ganancia o pérdida obtenida en la enajenación de la operación. La plusvalía dada de baja en estas circunstancias se valora sobre la base de los valores relativos de la operación enajenada y la parte de la unidad generadora de efectivo que se retiene.

- **b.2 Participaciones no controladoras -** El valor de la participación de los accionistas no controladores en el patrimonio y en los resultados integrales de las sociedades filiales se presenta, respectivamente en los rubros "Patrimonio Total: "Participaciones no controladoras" del estado de situación financiera consolidado y "Ganancia (pérdida) atribuible a participaciones no controladoras" y "Resultado integral atribuible a participaciones no controladoras" en el estado de resultados integrales.
- **b.3 Entidades con cometido especial -** Con fecha 17 de mayo de 2010, según consta en el D.E. Nº 3.024, el Ministerio de Justicia concede personalidad jurídica y aprueba los estatutos de la Fundación Colbún (en adelante "Fundación"). Dentro de los objetivos centrales de la Fundación están:

La promoción, fomento y apoyo de todas las clases de obras y actividades que tiendan al perfeccionamiento y mejoramiento de las condiciones de vida de los sectores de mayor necesidad de la población.

La investigación, el desarrollo y la difusión de la cultura y el arte. La Fundación podrá participar en la formación, organización, administración y soporte de todas aquellas entidades, instituciones, asociaciones, agrupaciones y organizaciones, sean públicas o privadas que tengan los mismos fines.

La Fundación apoyará a todas las entidades que tengan como objeto la difusión, investigación, el fomento y el desarrollo de la cultura y las artes.

La Fundación podrá financiar la adquisición de inmuebles, equipos, mobiliarios, laboratorios, salas de clases, museos y bibliotecas, financiar la readecuación de infraestructuras para apoyar el perfeccionamiento académico.

Además podrá financiar el desarrollo de investigaciones, desarrollar e implementar programas de instrucción, impartir capacitación o adiestramiento para el desarrollo y financiar la edición y distribución de libros, folletos y cualquier tipo de publicaciones.

En el año terminado al 31 de diciembre de 2016 Colbún entregó MUS\$ 85 a la Fundación para el cumplimiento de sus objetivos, importe que ha sido incluido en los presentes estados financieros consolidados de la Compañía.

**c. Inversiones contabilizadas por el método de participación** - Corresponden a las participaciones en sociedades sobre las que Colbún posee control conjunto con otra sociedad o en las que ejerce una influencia significativa.

El método de participación consiste en registrar la participación por la fracción del patrimonio neto que representa la participación de Colbún sobre el capital ajustado de la emisora.

Si el importe resultante fuera negativo se deja la participación en cero a no ser que exista el compromiso por parte de la Compañía de reponer la situación patrimonial de la sociedad, en cuyo caso se registra la correspondiente provisión para riesgos y gastos.

Los dividendos percibidos de estas sociedades se registran reduciendo el valor de la participación, y los resultados obtenidos por estas sociedades que corresponden a Colbún conforme a su participación se incorporan, netos de su efecto tributario, a la cuenta de resultados "Participación en las ganancias (pérdidas) de asociadas y negocios conjuntos que se contabilicen utilizando el método de participación".

El detalle de las sociedades contabilizadas por el método de participación se describe en el siguiente cuadro:

Tipo de		País	Moneda		Porcentaje de participación al		
relación	Sociedad		funcional	RUT	31.12.2016 Directo	31.12.2015 Directo	
					Directo	Directo	
Asociada	Electrogas S.A.	Chile	Dólar	96.806.130-5	42,5	42,5	
Negocio conjunto	Centrales Hidroeléctricas de Aysén S.A.	Chile	Pesos	76.652.400-1	49,0	49,0	
Negocio conjunto	Transmisora Eléctrica de Quillota Ltda.	Chile	Pesos	77.017.930-0	50,0	50,0	

- **c.1 Inversiones en entidades asociadas -** Las entidades asociadas son aquellas entidades en donde la Compañía tiene influencia significativa, pero no control, sobre las políticas financieras y operacionales. En general, se asume que existe una influencia significativa cuando la Compañía posee entre el 20% y el 50% del derecho a voto de otra entidad.
- **c.2 Inversiones en control conjunto -** Son aquellas entidades en que la Compañía posee control conjunto sobre sus actividades, establecido por acuerdos contractuales y que requiere el consentimiento unánime para

tomar decisiones relevantes por las partes que comparten el control.

**d. Efectos de las variaciones en las tasas de cambio de la moneda extranjera** - Las transacciones en moneda local y extranjera, distintos de la moneda funcional, se convierten a la moneda funcional utilizando los tipos de cambio vigentes en las fechas de las transacciones.

Las pérdidas y ganancias en moneda extranjera que resultan de la liquidación de estas transacciones y de la conversión a los tipos de cambio de cierre de los activos y pasivos monetarios denominados en monedas distintas a la moneda funcional, se reconocen en el Estado de Resultados, excepto si se difieren en el patrimonio neto como las coberturas de flujos de efectivo y las coberturas de inversiones netas. Asimismo, la conversión de los saldos a cobrar o a pagar al cierre de cada ejercicio en moneda distinta de la moneda funcional en la que están denominados los estados financieros de las compañías que forman parte del perímetro de consolidación, se realiza al tipo de cambio de cierre. Las diferencias de valoración producidas se registran como resultados financieros en la cuenta diferencias de cambio.

**e. Bases de conversión -** Los activos y pasivos en pesos chilenos, euros, soles peruanos y unidades de fomento han sido traducidos a dólares a los tipos de cambio vigentes a la fecha de cierre de los estados financieros, de acuerdo al siguiente detalle:

Paridad por un dólar	31.12.2016	31.12.2015
Pesos	669,47	710,16
Euros	0,9488	0,9168
Soles	3,3600	3,4130
Unidades de fomento	0,0254	0,0277

- **f. Propiedades, planta y equipos** Las propiedades, planta y equipos mantenidos para el uso en la generación de los servicios de electricidad o para propósitos administrativos, son presentados a su valor de costo menos la subsecuente depreciación y pérdidas por deterioro en caso que corresponda. Este valor de costo incluye aparte del precio de compra de los activos los siguientes conceptos, según lo permiten las NIIF:
- El costo financiero de los créditos destinados a financiar obras en ejecución, se capitaliza durante el periodo de su construcción.
- Los gastos de personal relacionados directamente con las obras en curso.
- Los costos de ampliación, modernización o mejora que representan un aumento de la productividad, capacidad o eficiencia o un aumento de la vida útil de los bienes se capitalizan como mayor costo de los correspondientes bienes.
- Las sustituciones o renovaciones de elementos completos que aumentan la vida útil del bien, o su capacidad económica, se registran como mayor valor de los componentes de propiedades, plantas y equipos, con el consiguiente retiro contable de los elementos sustituidos o renovados.
- Los costos de desmantelamiento, retiro o rehabilitación de Propiedades, plantas y equipos se reconocen en función de la obligación legal de cada proyecto (nota 24 c).

Las obras en curso se traspasan al activo en explotación una vez finalizado el periodo de prueba, a partir de cuyo momento comienza su depreciación.

Los gastos periódicos de mantenimiento, conservación y reparación, se imputan a resultados, como costos del ejercicio en que se incurren.

Las propiedades, planta y equipos, neto del valor residual de los mismos, se deprecian distribuyendo linealmente el costo de los diferentes elementos que componen dichos activos entre los años de sus vidas útiles técnicas estimadas (nota 5 a. (i)).

El valor residual y la vida útil de los activos se revisan a lo menos al final de cada ejercicio, y ajustan si es necesario.

q. Intangibles distintos de la plusvalía - Los activos intangibles adquiridos individualmente se valoran

inicialmente al costo. En el caso de los activos intangibles adquiridos en una combinación de negocios es el valor razonable de la fecha de adquisición. Después del reconocimiento inicial, se registran al costo menos su amortización acumulada y las pérdidas por deterioro acumuladas.

La Compañía evalúa en el reconocimiento inicial si la vida útil de los activos intangibles es definida o indefinida.

Los activos con vida útil definida se amortizan a lo largo de su vida útil económica y se evalúa su deterioro cuando haya indicios de que puedan estar deteriorados. El periodo de amortización y el método de amortización para los activos intangibles con vida útil definida se revisan por lo menos al final de cada periodo. Los criterios para el reconocimiento de las pérdidas por deterioro de estos activos y en su caso, de las recuperaciones de las pérdidas por deterioro registradas se explican en nota 5 a.

Los cambios en la vida útil esperada o el patrón esperado de consumo de los beneficios económicos futuros materializados en el activo se toman en consideración a objeto de cambiar el periodo o método de amortización, si corresponde, y se tratan como un cambio de estimación contable. El gasto por amortización de los activos intangibles con vida útil definida se reconoce en el estado de resultados integrales.

#### h. Instrumentos financieros

- h.1. Activos financieros Los activos financieros se clasifican en las siguientes categorías:
- a) Préstamos y cuentas a cobrar
- b) Mantenidos hasta su vencimiento
- c) Activos financieros a valor razonable con cambios en resultados
- d) Activos financieros disponibles para la venta

La clasificación depende de la naturaleza y el propósito de los activos financieros y se determina en el momento de reconocimiento inicial.

**h.1.1 Préstamos y cuentas a cobrar -** Son activos financieros no derivados con pagos fijos o determinables, que no cotizan en un mercado activo. Después de su reconocimiento inicial se registran a su costo amortizado, correspondiendo éste al valor de la contraprestación recibida menos la amortización acumulada (calculada con el método de la tasa de interés efectiva). Se incluyen en activos corrientes, excepto para vencimientos superiores a 12 meses desde la fecha del Estado de Situación Financiera que se clasifican como activos no corrientes. Los préstamos y cuentas a cobrar se incluyen en deudores comerciales y otras cuentas por cobrar en el Estado de Situación Financiera.

El método de tasa de interés efectiva corresponde al método de cálculo del costo amortizado de un activo financiero y de la asignación de los ingresos por intereses durante todo el periodo correspondiente. La tasa de interés efectiva corresponde a la tasa que descuenta exactamente los flujos futuros de efectivo estimados por cobrar (incluyendo todos los cargos sobre puntos pagados o recibidos que forman parte integral de la tasa de interés efectiva, los costos de transacción y otros premios o descuentos) durante la vida esperada del activo financiero.

- **h.1.2 Inversiones mantenidas hasta el vencimiento -** Son aquellas inversiones en las que la Compañía tiene intención y capacidad de conservar hasta su vencimiento, y que también son contabilizadas a su costo amortizado. En general las inversiones en instrumentos de corto plazo como Depósitos a Plazo Fijo se reconocen en esta categoría.
- **h.1.3** Activos financieros registrados a valor razonable con cambios en resultados Incluye la cartera de negociación y aquellos activos financieros que se gestionan y evalúan según el criterio de valor razonable. Las variaciones en su valor se registran directamente en el Estado de Resultados en el momento que ocurren. Las inversiones en Fondos Mutuos de corto plazo se reconocen en esta categoría.
- **h.1.4 Inversiones disponibles para la venta -** Corresponden al resto de inversiones que se asignan específicamente como disponibles para la venta o aquellas que no califican a ninguna de las tres categorías anteriores. Estas inversiones se registran a su valor razonable cuando es posible determinarlo en forma fiable. Cambios en valor razonable se registran en otras reservas a través del Estado de Otros Resultados Integrales.
- **h.1.5 Baja de activos financieros -** La Compañía da de baja los activos financieros únicamente cuando los derechos a recibir flujos de efectivo han sido cancelados, anulados, expiran o han sido transferidos.

**h.1.6 Deterioro de activos financieros -** Los activos financieros clasificados como préstamos y cuentas por cobrar y mantenidos hasta el vencimiento, son evaluados a la fecha de cierre de cada ejercicio para establecer la presencia de indicadores de deterioro. Los activos financieros se encuentran deteriorados cuando existe evidencia objetiva de que, como resultado de uno o más eventos ocurridos después del reconocimiento inicial, los flujos futuros de caja estimados de la inversión han sido impactados.

La existencia de dificultades financieras significativas por parte del deudor, la probabilidad de que el deudor entre en quiebra o reorganización financiera y la falta o mora en los pagos se consideran, entre otros, indicadores de que la cuenta por cobrar se ha deteriorado. El valor de la provisión es la diferencia entre el valor en libros del activo y el valor actual de los flujos futuros de efectivo estimados, descontados a la tasa de interés efectiva. La pérdida se reconoce en el estado de resultados integrales.

Cuando una cuenta a cobrar se transforma en incobrable definitivamente, esto es que se hayan agotado todas las instancias razonables de cobro pre-judicial y judicial, según informe legal respectivo; y corresponda su castigo financiero, se regulariza contra la cuenta de provisión constituida para las cuentas a cobrar deterioradas.

Cuando el valor razonable de un activo sea inferior al costo de adquisición, si existe evidencia objetiva de que el activo ha sufrido un deterioro que no pueda considerarse temporal, la diferencia se registra directamente en pérdidas del ejercicio.

En el caso de instrumentos clasificados como disponibles para la venta, para determinar si los títulos han sufrido pérdidas por deterioro se considerará si ha tenido lugar un descenso significativo y prolongado en el valor razonable de los instrumentos por debajo de su costo. Si existe cualquier evidencia de este tipo para los activos financieros disponibles para la venta, la pérdida acumulada determinada como la diferencia entre el costo de adquisición y el valor razonable actual, menos cualquier pérdida por deterioro del valor en ese activo financiero previamente reconocida en las pérdidas o ganancias se elimina de Otras reservas y se reconoce en el estado de resultados. Las pérdidas por deterioro del valor reconocidas en el estado de resultados por instrumentos de patrimonio no se revierten a través del estado de resultados.

Los activos financieros a valor razonable con cambios en resultados no requieren de pruebas de deterioro.

Considerando que al 31 de diciembre de 2016 la totalidad de las inversiones financieras de la Compañía han sido realizadas en instituciones de la más alta calidad crediticia y que tienen un vencimiento promedio en el corto plazo (menor a 90 días), las pruebas de deterioro realizadas indican que no existe deterioro observable.

#### h.2. Pasivos financieros

- **h.2.1 Clasificación como deuda o patrimonio** Los instrumentos de deuda y patrimonio se clasifican ya sea como pasivos financieros o como patrimonio, de acuerdo con la sustancia del acuerdo contractual.
- **h.2.2 Instrumentos de patrimonio** Un instrumento de patrimonio es cualquier contrato que ponga de manifiesto una participación residual en los activos de una entidad una vez deducidos todos sus pasivos. Los instrumentos de patrimonio emitidos por Colbún S.A. se registran al monto de la contraprestación recibida, netos de los costos directos de la emisión. La Compañía actualmente sólo tiene emitidas acciones de serie única.
- **h.2.3 Pasivos financieros -** Los pasivos financieros se clasifican ya sea como pasivo financiero a "valor razonable con cambios en resultados" o como "otros pasivos financieros".
- **h.2.4 Pasivos financieros a valor razonable con cambios en resultados** Los pasivos financieros son clasificados a valor razonable a través de resultados cuando éstos, sean mantenidos para negociación o sean designados a valor razonable a través de resultados.
- **h.2.5 Otros pasivos financieros -** Otros pasivos financieros, incluyendo los préstamos y bonos, se valorizan inicialmente por el monto de efectivo recibido, neto de los costos de transacción. Los otros pasivos financieros son posteriormente valorizados al costo amortizado utilizando el método de tasa de interés efectiva.

El método de la tasa de interés efectiva corresponde al método de cálculo del costo amortizado de un pasivo financiero y de la asignación de los gastos por intereses durante todo el periodo correspondiente. La tasa de interés efectiva corresponde a la tasa que descuenta exactamente los flujos futuros de efectivo estimados por pagar durante la vida esperada del pasivo financiero o, cuando sea apropiado, un periodo menor cuando el pasivo asociado tenga una opción de prepago que se estime será ejercida.

- **h.2.6 Baja de Pasivos financieros -** La Compañía da de baja los pasivos financieros únicamente cuando las obligaciones son canceladas, anuladas o expiran.
- **i. Derivados -** La Compañía tiene firmados contratos de derivados a efectos de mitigar su exposición a la variación en las tasas de interés, en los tipos de cambio y en los precios de los combustibles.

Los cambios en el valor justo de estos instrumentos a la fecha de los estados financieros consolidados se registran en el estado de resultados integral, excepto que los mismos hayan sido designados como un instrumento de cobertura contable y se cumplan las condiciones establecidas en las NIIF para aplicar dicho criterio.

Las coberturas se clasifican en las siguientes categorías:

- <u>Coberturas de valor razonable</u>: es una cobertura de la exposición a los cambios en el valor razonable de activos o pasivos reconocidos o de compromisos en firme no reconocidos, que puede atribuirse a un riesgo en particular. Para esta clase de coberturas, tanto el valor del instrumento de cobertura como del elemento cubierto, se registran en el estado de resultados integrales neteando ambos efectos en el mismo rubro.
- <u>Coberturas de flujo de efectivo</u>: es una cobertura de la exposición a la variación de los flujos de efectivo que se atribuye a un riesgo particular asociado a un activo o pasivo reconocido, o a una transacción prevista altamente probable. Los cambios en el valor razonable de los derivados se registran, en la parte en que dichas coberturas son efectivas, en una reserva del Patrimonio denominada "Coberturas de flujo de efectivo". La pérdida o ganancia acumulada en dicho rubro se traspasa al Estado de Resultados Integrales en la medida que el subyacente tiene impacto en el Estado de Resultados Integrales por el riesgo cubierto, neteando dicho efecto en el mismo rubro del Estado de Resultados Integrales. Los resultados correspondientes a la parte ineficaz de las coberturas se registran directamente en el estado de resultado integral.

Una cobertura se considera altamente efectiva cuando los cambios en el valor razonable o en los flujos de caja del subyacente atribuibles al riesgo cubierto, se compensan con los cambios en el valor razonable o en los flujos de efectivo del instrumento de cobertura, con una efectividad que se encuentre en el rango de 80% - 125%. En los periodos cubiertos por los presentes estados financieros consolidados la Compañía designó ciertos derivados como instrumentos de cobertura de transacciones previstas altamente probables o instrumentos de cobertura de riesgo de tipo de cambio de compromisos firmes (instrumentos de cobertura de flujos de caja).

La Compañía ha designado todos sus instrumentos derivados como instrumentos de cobertura contable.

**j. Inventarios** - En este rubro se registra el stock de gas, petróleo y carbón; y las existencias de almacén (repuestos y materiales), los que se registran valorizados a su costo, neto de posibles obsolescencias determinadas en cada periodo. El costo se determina utilizando el método del precio medio ponderado.

- **j.1 Criterio de deterioro de los repuestos (obsolescencia) -** La estimación de deterioro de repuestos (obsolescencia), se define de acuerdo a un análisis individual y general, realizado por los especialistas de la Compañía, quienes evalúan criterios de rotación y obsolescencia tecnológica sobre el stock en almacenes de cada Central.
- k. Estado de flujos de efectivo Para efectos de la preparación del Estado de Flujos de Efectivo, la Compañía ha definido las siguientes consideraciones:

El efectivo y equivalentes al efectivo incluyen el efectivo en caja, los depósitos a plazo en entidades de crédito y otras inversiones a corto plazo de gran liquidez con un vencimiento original inferior de tres meses y que están sujetos a un riesgo poco significativo de cambios en su valor. En el estado de situación financiera, los sobregiros bancarios se clasifican como pasivo corriente.

<u>Actividades de operación</u>: son las actividades que constituyen la principal fuente de ingresos ordinarios de la Compañía, así como otras actividades que no puedan ser calificadas como de inversión o financiación.

<u>Actividades de inversión</u>: Corresponden a actividades de adquisición, enajenación o disposición por otros medios de activos a largo plazo y otras inversiones no incluidas en el efectivo y sus equivalentes.

<u>Actividades de financiación</u>: Corresponden a actividades que producen cambios en el tamaño y composición del patrimonio neto y de los pasivos de carácter financiero.

**I. Impuesto a las ganancias** - La Sociedad y sus subsidiarias determinan la base imponible y calculan su impuesto a la renta de acuerdo con las disposiciones legales vigentes en cada periodo.

Los impuestos diferidos originados por diferencias temporarias y otros eventos que crean diferencias entre la base contable y tributaria de activos y pasivos se registran de acuerdo con las normas establecidas en la NIC 12 "Impuesto a las ganancias".

El impuesto corriente sobre las ganancias se registra en el estado de resultado integral o en el estado de otros resultados integrales en función de donde se hayan registrado las ganancias o pérdidas que lo hayan originado. Las diferencias entre, el valor contable de los activos y pasivos, y su base fiscal, respectivamente generan la base sobre la cual se calcula el impuesto diferido, utilizando las tasas fiscales que, se espera, estén en vigor cuando los activos se realicen y pasivos se cancelen.

Las variaciones producidas en el periodo en los impuestos diferidos de activo o pasivo se registran en la cuenta de resultado del estado de resultados integrales consolidados o en rubros de patrimonio total en el estado de situación financiera, en función de donde se hayan registrado las ganancias o pérdidas que lo hayan generado.

Los activos por impuestos diferidos se reconocen únicamente cuando se espera disponer de utilidades tributarias futuras suficientes para recuperar las deducciones por diferencias temporarias y utilizar las pérdidas tributarias.

En cada cierre contable se revisan los impuestos diferidos registrados, tanto activos como pasivos, con objeto de comprobar que se mantienen vigentes, efectuándose las oportunas correcciones a los mismos de acuerdo con el resultado del citado análisis.

A nivel de saldos en el estado de situación financiera consolidado, se ha realizado la compensación de los activos y pasivos por impuestos diferidos de Colbún y las subsidiarias si, y solo si, se relacionan con el impuesto a la renta correspondiente a la misma administración tributaria, siempre y cuando la entidad tenga el derecho legalmente aplicable de compensar los activos por impuestos corrientes, con los pasivos por impuestos corrientes.

m. Indemnización por años de servicio - Las obligaciones reconocidas por concepto de indemnizaciones por años de servicios ante todo evento surgen como consecuencia de acuerdos de carácter colectivo suscritos con los trabajadores de la Compañía en los que se establece el compromiso por parte de la Compañía y que califican como "beneficios definidos de post-empleo". La Compañía reconoce el costo de beneficios del personal de acuerdo a un cálculo actuarial, según lo requiere NIC 19 "Beneficios del personal" el que incluye variables como la expectativa de vida, incremento de salarios, entre otros.

El importe de los pasivos actuariales netos devengados al cierre del periodo se presenta en el ítem Provisiones por beneficios a los empleados no corrientes del estado de situación financiera consolidado.

La Compañía reconoce todas las ganancias y pérdidas actuariales surgidas en la valoración de los planes de beneficios definidos en otros resultados integrales. En tanto, todos los costos relacionados con los planes de beneficios se registran en los gastos de personal en el estado de resultado integral.

**n. Provisiones -** Las obligaciones existentes a la fecha del estado de situación financiera, surgidas como consecuencia de sucesos pasados de los que pueden derivarse perjuicios patrimoniales de probable materialización para la Compañía cuyo importe y momento de cancelación pueden ser estimados de forma fiable, se registran como provisiones por el valor actual del importe más probable que, se estima, la Compañía tendrá que desembolsar para cancelar la obligación.

Las provisiones son revisadas periódicamente y se cuantifican teniendo en consideración la mejor información disponible a la fecha de cierre de los estados financieros consolidados.

- **n.1 Reestructuración -** Una provisión por reestructuración es reconocida cuando la Compañía ha aprobado un plan de reestructuración detallado y formal, y la reestructuración en sí ya ha comenzado o ha sido públicamente anunciada. Los costos de operación futuros no son provisionados.
- **n.2 Vacaciones al personal -** El gasto de vacaciones se registra en el ejercicio en que se devenga el derecho, de acuerdo a lo establecido en la NIC N°19.
- **o. Reconocimiento de ingresos -** Los ingresos provenientes de la venta de energía eléctrica, tanto en Chile como en Perú, se valorizan a su valor justo del monto recibido o por recibir y representan los montos de los servicios prestados durante las actividades comerciales normales, reducido por cualquier descuento o impuesto relacionado.

La siguiente es una descripción de las principales políticas de reconocimiento de ingresos de la Compañía, para cada tipo de cliente:

- Clientes regulados compañías de distribución: Los ingresos por la venta de energía eléctrica se registran sobre la base de la entrega física de la energía y potencia, en conformidad con contratos a largo plazo a un precio licitado.
- Clientes no regulados capacidad de conexión mayor a 2.000 KW en Chile y para Perú entre 200 KW y 2.500 KW: Los ingresos de las ventas de energía eléctrica para estos clientes se registran sobre la base de entrega física de energía y potencia, a las tarifas especificadas en los contratos respectivos.
- Clientes mercado spot: Los ingresos de las ventas de energía eléctrica y potencia se registran sobre la base de entrega física de energía y potencia, a otras compañías generadoras, al costo marginal de la energía y potencia. El mercado spot por ley está organizado a través de Centros de Despacho (CDEC en Chile y COES en Perú) donde se comercializan los superávit y déficit de energía y potencia eléctrica. Los superávit de energía y potencia se registran como ingresos y los déficit se registran como gastos dentro del estado de resultado integral consolidado.

Cuando se cambian o intercambian bienes o servicios por otros de naturaleza y valor similar, el intercambio no se considera como una transacción que genere ingresos.

Adicionalmente, cualquier impuesto recibido por los clientes y remitidos a las autoridades gubernamentales (por ejemplo IVA, impuestos por ventas o tributos, etc.) se registra sobre una base neta y por lo tanto se excluyen de los ingresos en el estado de resultados integral consolidado.

**p. Dividendos -** El artículo N°79 de la Ley de Sociedades Anónimas establece que, salvo acuerdo diferente adoptado en la Junta Ordinaria de Accionistas, por la unanimidad de las acciones emitidas, las sociedades anónimas abiertas deberán distribuir anualmente como dividendo en dinero a sus accionistas a prorrata de sus acciones o en la proporción que establezcan los estatutos si hubiere acciones preferentes, a lo menos el 30% de las utilidades líquidas distribuibles del ejercicio, excepto cuando corresponda absorber pérdidas acumuladas provenientes de ejercicios anteriores.

Al cierre de cada año se determina el monto de la obligación con los accionistas, neta de los dividendos provisorios que se hayan aprobado en el curso del ejercicio, y se registra contablemente en el rubro "Cuentas

por pagar comerciales y otras cuentas por pagar, corrientes" o en el rubro "Cuentas por pagar a entidades relacionadas", según corresponda, con cargo al Patrimonio.

Los dividendos provisorios y definitivos, se registran como disminución del patrimonio en el momento de su aprobación por el órgano competente que, en el primer caso, generalmente es el Directorio de la Compañía, mientras que en el segundo caso la responsabilidad es de la Junta Ordinaria de Accionistas.

**q. Medio ambiente** - En el caso de existir pasivos ambientales se registran sobre la base de la interpretación actual de leyes y reglamentos ambientales, cuando sea probable que una obligación actual se produzca y el importe de dicha responsabilidad se pueda calcular de forma fiable (ver nota 24 c).

Las inversiones en obras de infraestructura destinadas a cumplir requerimientos medioambientales son activadas siguiendo los criterios contables generales para Propiedades, planta y equipos.

- **r. Clasificación de saldos en corrientes y no corrientes** En el Estado de Situación Financiera Consolidado adjunto, los saldos se clasifican en función de sus vencimientos, es decir, como Corrientes aquellos con vencimiento igual o inferior a doce meses y como No corrientes los de vencimiento superior a dicho periodo.
- **s. Arrendamientos** La Compañía aplica CINIIF 4 para evaluar si un acuerdo es, o contiene, un arrendamiento. Los arrendamientos en los que se transfieren sustancialmente todos los riesgos y beneficios inherentes a la propiedad se clasifican como financieros. El resto de arrendamientos se clasifican como operativos.

Los arrendamientos financieros en los que Colbún y subsidiarias actúa como arrendatario se reconocen al comienzo del contrato, registrando un activo según su naturaleza y un pasivo por el mismo monto e igual al valor razonable del bien arrendado, o bien al valor presente de los pagos mínimos por el arrendamiento, si éste fuera menor. Posteriormente, los pagos mínimos por arrendamiento se dividen entre gasto financiero y reducción de la deuda. La carga financiera se reconoce como gasto y se distribuye entre los ejercicios que constituyen el periodo de arrendamiento, de forma que se obtiene una tasa de interés constante en cada ejercicio sobre el saldo de la deuda pendiente de amortizar. El activo se deprecia en los mismos términos que el resto de activos depreciables similares, si existe certeza razonable de que el arrendatario adquirirá la propiedad del activo al finalizar el arrendamiento. Si no existe dicha certeza, el activo se deprecia en el plazo menor entre la vida útil del activo o el plazo del arrendamiento.

Las cuotas de arrendamiento operativo se reconocen como gasto de forma lineal durante el plazo del mismo, salvo que resulte más representativa otra base sistemática de reparto.

**t. Operaciones con partes relacionadas -** Las operaciones entre la Compañía y sus subsidiarias dependientes, que son partes relacionadas, forman parte de las transacciones habituales de la Sociedad en cuanto a su objeto y condiciones, y son eliminadas en el proceso de consolidación. La identificación de vínculo entre la Controladora, Subsidiarias, Negocios Conjuntos y Asociadas se encuentra detallada en la nota 3.1 letra b y c.

Todas las transacciones con partes relacionadas son realizadas en términos y condiciones de mercado.

**u. Subvenciones del gobierno -** Las subvenciones del gobierno se miden al valor razonable del activo recibido o por recibir. Una subvención sin condiciones de rendimiento futuras específicas se reconoce en ingreso cuando se reciban los importes obtenidos por la subvención. Una subvención que impone condiciones de rendimiento futuras específicas se reconoce en ingresos cuando se cumplen tales condiciones.

Las subvenciones del gobierno se presentan por separado de los activos con los que se relacionan. Las subvenciones del gobierno reconocidas en ingresos se presentan por separado en las notas. Las subvenciones del gobierno recibidas antes de que se cumplan los criterios de reconocimiento de ingresos se presentan como un pasivo separado en el estado de situación financiera.

No se reconoce importe alguno para aquellas formas de ayudas gubernamentales a las que no se les puede asignar valor razonable. Sin embargo, en la eventualidad de existir, la entidad revela información acerca de dicha ayuda.

- v. Costos por intereses Los costos por intereses que sean directamente atribuibles a la adquisición, construcción o producción de un activo cuya puesta en marcha o venta requiere necesariamente un periodo prolongado de tiempo son capitalizados como parte del costo del activo. La Compañía ha establecido como política capitalizar los intereses en base a la fase de construcción. El resto de los costos por intereses se reconocen como gastos en el periodo en el que se incurren. Los gastos financieros incluyen los intereses y otros costos en los que incurre la Compañía en relación con el financiamiento obtenido.
- w. Reclasificaciones Para efectos comparativos se realizó la siguiente reclasificación al 31 de diciembre de 2015: i) Desde activos no corrientes rubro "Deudores comerciales y otras cuentas por cobrar no corrientes" al activo corriente rubro "Deudores comerciales y otras cuentas por cobrar corrientes" por concepto de impuestos global a las ventas (IGV) por MMUS\$ 17,7; ii) Desde activos corrientes rubro "Deudores comerciales y otras cuentas por cobrar" al rubro "Efectivo y Equivalentes al efectivo" por MMUS\$ 19,4 (ver nota 8.a); iii) Desde activos corrientes rubro "Inventarios" al activo no corriente rubro "Propiedad Planta y Equipos" MMUS\$ 58,1 (ver nota 13); iv) Desde activos corrientes rubro "Otros activos no financieros, corrientes" al rubro "Activos por impuestos" por MUS\$ 106 por concepto crédito donaciones.

#### 3.2 Nuevos pronunciamientos contables

Las siguientes nuevas Normas e Interpretaciones han sido emitidas pero su fecha de aplicación aún no está vigente:

#### **Nuevas Normas**

	Nuevas NIIF	Fecha de aplicación obligatoria
NIIF 9	Instrumentos Financieros	1 de Enero de 2018
NIIF 15	Ingresos procedentes de Contratos con clientes	1 de Enero de 2018
CINIIF 22	Transacciones en moneda extranjera y contraprestaciones anticipadas	1 de Enero de 2018
NIIF 16	Arrendamientos	1 de Enero de 2019

# NIIF 9 "Instrumentos Financieros"

En julio de 2014 fue emitida la versión final de NIIF 9 Instrumentos Financieros, reuniendo todas las fases del proyecto del IASB para reemplazar NIC 39 Instrumentos Financieros: Reconocimiento y Medición. Esta norma incluye nuevos requerimientos basados en principios para la clasificación y medición, introduce un modelo "más prospectivo" de pérdidas crediticias esperadas para la contabilidad del deterioro y un enfoque sustancialmente reformado para la contabilidad de coberturas. Las entidades también tendrán la opción de aplicar en forma anticipada la contabilidad de ganancias y pérdidas por cambios de valor justo relacionados con el "riesgo crediticio propio" para los pasivos financieros designados al valor razonable con cambios en resultados, sin aplicar los otros requerimientos de NIIF 9. La norma será de aplicación obligatoria para los periodos anuales que comiencen a partir del 1 de enero de 2018. Se permite su aplicación anticipada.

## NIIF 15 "Ingresos procedentes de Contratos con Clientes"

Emitida en mayo de 2014, es una nueva norma que es aplicable a todos los contratos con clientes, excepto arrendamientos, instrumentos financieros y contratos de seguros. Se trata de un proyecto conjunto con el FASB para eliminar diferencias en el reconocimiento de ingresos entre NIIF y US GAAP. Esta nueva norma pretende mejorar las inconsistencias y debilidades de NIC 18 y proporcionar un modelo que facilitará la comparabilidad de compañías de diferentes industrias y regiones. Proporciona un nuevo modelo para el reconocimiento de ingresos y requerimientos más detallados para contratos con elementos múltiples. Además requiere revelaciones más detalladas. La norma será de aplicación obligatoria para los periodos anuales que comiencen a partir del 1 de enero de 2018. Se permite su aplicación anticipada.

# CINIIF 22 Interpretación "Transacciones en Moneda Extranjera y Contraprestaciones Anticipadas"

La Interpretación aborda la forma de determinar la fecha de la transacción a efectos de establecer la tasa de cambio a usar en el reconocimiento inicial del activo, gasto o ingreso relacionado (o la parte de estos que corresponda), en la baja en cuentas de un activo no monetario o pasivo no monetario que surge del pago o cobro de la contraprestación anticipada en moneda extranjera, a estos efectos la fecha de la transacción, corresponde al momento en que una entidad reconoce inicialmente el activo no monetario o pasivo no monetario que surge del pago o cobro de la contraprestación anticipada Si existen múltiples pagos o cobros anticipados, la entidad determinará una fecha de la transacción para cada pago o cobro de la contraprestación anticipada.

Se aplicará esta Interpretación para los periodos anuales que comiencen a partir del 1 de enero de 2018. Se permite su aplicación anticipada. Si una entidad aplica esta Interpretación a periodos anteriores, revelará este hecho.

## NIIF 16 "Arrendamientos"

Emitida en enero de 2016, establece la definición de un contrato de arrendamiento y especifica el tratamiento contable de los activos y pasivos originados por estos contratos desde el punto de vista del arrendador y arrendatario. La nueva norma no difiere significativamente de la norma que la precede, NIC 17 Arrendamientos, con respecto al tratamiento contable desde el punto de vista del arrendador. Sin embargo, desde el punto de vista del arrendatario, la nueva norma requiere el reconocimiento de activos y pasivos para la mayoría de los contratos de arrendamientos. NIIF 16 será de aplicación obligatoria para los periodos anuales que comiencen a partir del 1 de enero de 2019. La aplicación temprana se encuentra permitida si ésta es adoptada en conjunto con NIIF 15 Ingresos procedentes de Contratos con Clientes.

#### Enmiendas v/o modificaciones

	Mejoras y Modificaciones	
NIIF 12	Revelaciones de intereses en otras entidades	1 de Enero de 2017
NIC 7	Estado de Flujos de Efectivo	1 de Enero de 2017
NIC 12	Impuesto a las Ganancias	1 de Enero de 2017
NIC 28	Inversiones en Asociadas y Negocios Conjuntos	1 de Enero de 2018
NIIF 10	Estados Financieros Consolidados	Por determinar

#### NIIF 12 "Revelación de intereses en otras entidades"

Las modificaciones aclaran los requerimientos de revelación de la NIIF 12, aplicables a la participación de una entidad en una subsidiaria, un negocio conjunto o una asociada que está clasificada como mantenido para la venta. Las modificaciones serán efectivas a partir del 1 de enero de 2017 y su aplicación será retrospectivamente.

## NIC 7 "Estado de flujos de efectivo"

Las modificaciones a NIC 7 Estado de Flujos de efectivo, emitidas en enero de 2016 como parte del proyecto de Iniciativa de Revelaciones, requieren que una entidad revele información que permita a los usuarios de los Estados Financieros evaluar los cambios en las obligaciones derivadas de las actividades de financiación, incluyendo tanto los cambios derivados de los flujos de efectivo y los cambios que no son en efectivo. Las modificaciones serán de aplicación obligatoria para los periodos anuales que comiencen a partir del 1 de enero de 2017. Se permite su aplicación anticipada.

# NIC 12 "Impuesto a las ganancias"

Estas modificaciones, emitidas por el IASB en enero de 2016, aclaran como registrar los activos por impuestos diferidos correspondientes a los instrumentos de deuda medidos al valor razonable. Las modificaciones serán de aplicación obligatoria para los periodos anuales que comiencen a partir del 1 de enero de 2017. Se permite su aplicación anticipada.

# NIC 28 "Inversiones en Asociadas y Negocios Conjuntos", NIIF 10 "Estados Financieros Consolidados"

Las enmiendas a NIIF 10 Estados Financieros Consolidados y NIC 28 Inversiones en Asociadas y Negocios Conjuntos (2011) abordan una inconsistencia reconocida entre los requerimientos de NIIF 10 y los de NIC 28 (2011) en el tratamiento de la venta o la aportación de bienes entre un inversor y su asociada o negocio conjunto. Las enmiendas, emitidas en septiembre de 2014, establecen que cuando la transacción involucra un negocio (tanto cuando se encuentra en una filial o no) se reconoce toda la ganancia o pérdida generada. Se reconoce una ganancia o pérdida parcial cuando la transacción involucra activos que no constituyen un negocio, incluso cuando los activos se encuentran en una filial. La fecha de aplicación obligatoria de estas modificaciones está por determinar debido a que el IASB planea una investigación profunda que pueda resultar en una simplificación de contabilidad de asociadas y negocios conjuntos. Se permite la adopción inmediata.

Las nuevas normas, interpretaciones y modificaciones de las NIIF que entraron en vigencia a partir de 1 de enero de 2016 no fueron aplicables a la Compañía o no tenían efectos significativos en su aplicación. La Administración está evaluando el impacto de la aplicación de NIIF 9, NIIF 15 y NIIF 16, sin embargo, no es posible proporcionar una estimación razonable de los efectos que estas normas tendrán hasta que la administración finalice la revisión detallada.

#### 3.3 Responsabilidad de la información y estimaciones realizadas

La información contenida en los presentes estados financieros consolidados es responsabilidad del Directorio de la Compañía, que manifiesta expresamente que se han aplicado en su totalidad las NIIF, emitidas por el "IASB" e instrucciones y normas específicas de la SVS.

En la preparación de los estados financieros se requiere el uso de estimaciones y supuestos que afectan los montos de activos y pasivos a la fecha de los estados financieros consolidados y los montos de ingresos y gastos durante el periodo reportado. Estas estimaciones están basadas en el mejor saber de la administración sobre los montos reportados, eventos o acciones.

En la preparación de los estados financieros consolidados se han utilizado estimaciones tales como:

- Vidas útiles y valores residuales de propiedades, plantas y equipos e intangibles (ver notas 3.1.f y 5.a)
- La valoración de activos para determinar la existencia de pérdidas por deterioro (ver nota 5.b)
- Hipótesis empleadas para el cálculo del valor razonable de los instrumentos financieros (ver nota 3.1.h)
- Hipótesis utilizadas en el cálculo actuarial de los pasivos y obligaciones con empleados (ver nota 3.1.m)
- Probabilidad de ocurrencia y el monto de los pasivos de monto incierto o contingentes (ver nota 3.1.n)
- Los resultados fiscales de la Compañía y sus filiales, que se declararán ante las respectivas autoridades tributarias en el futuro, que han sido de base para el registro de los distintos saldos relacionados con los impuestos sobre las ganancias en los presentes estados financieros consolidados (ver nota 3.1.l).

A pesar de que estas estimaciones se han realizado en función de la mejor información disponible en la fecha de emisión de los presentes estados financieros consolidados, es posible que acontecimientos que puedan tener lugar en el futuro obliguen a modificarlas (al alza o a la baja) en próximos ejercicios, lo que se aplicaría de forma prospectiva en el momento de conocida la variación, reconociendo los efectos del cambio de estimación en los correspondientes estados financieros consolidados futuros, de acuerdo a NIC 8.

#### 4. Gestión de Riesao

#### 4.1 Política de Gestión de Riesgos

La estrategia de Gestión de Riesgo está orientada a resguardar los principios de estabilidad y sustentabilidad de la Compañía, identificando y gestionando las fuentes de incertidumbre que la afectan o puedan afectar.

Gestionar integralmente los riesgos supone identificar, medir, analizar, mitigar y controlar los distintos riesgos incurridos por las distintas gerencias de la Compañía, así como estimar el impacto en la posición consolidada de la misma, su seguimiento y control en el tiempo. En este proceso intervienen tanto la alta dirección de Colbún como las áreas tomadoras de riesgo.

Los límites de riesgo tolerables, las métricas para la medición del riesgo y la periodicidad de los análisis de riesgo son políticas normadas por el Directorio de la Compañía.

La función de gestión de riesgo es responsabilidad de la Gerencia General así como de cada división y gerencia de la Compañía, y cuenta con el apoyo de la Gerencia de Riesgo Corporativo y la supervisión, seguimiento y coordinación del Comité de Riesgos.

#### 4.2 Factores de Riesgo

Las actividades de la Compañía están expuestas a diversos riesgos que se han clasificado en riesgos del negocio eléctrico y riesgos financieros.

#### 4.2.1 Riesgos del Negocio Eléctrico

# a. Riesgo Hidrológico

En Chile, el 48% de la capacidad instalada de Colbún es hidráulica, por lo que la Compañía está expuesta a las variables condiciones hidrológicas.

En condiciones hidrológicas secas, Colbún debe operar sus plantas térmicas de ciclo combinado con compras de gas natural o con diésel, o por defecto operar sus plantas térmicas de respaldo o bien recurrir al mercado spot.

Esta situación podría encarecer los costos de Colbún, aumentando la variabilidad de sus resultados en función de las condiciones hidrológicas. La exposición de la Compañía al riesgo hidrológico se encuentra razonablemente mitigada mediante una política comercial que tiene por objeto mantener un equilibrio entre la generación competitiva (hidráulica en un año medio a seco, y generación térmica a carbón y a gas natural costo eficiente, otras energías renovables costo eficientes y debidamente complementadas por otras fuentes de generación dada su intermitencia y volatilidad) y los compromisos comerciales. En condiciones de extremas y repetidas sequías, una eventual falta de agua para refrigeración afectaría la capacidad generadora de los ciclos combinados, cuyo impacto se puede mitigar con compras de agua de terceros y/o operando dichas unidades en ciclo abierto, además de implementar soluciones técnicas de mediano y largo plazo que se están analizando para el referido complejo.

En Perú, Colbún cuenta con una central de ciclo combinado y una política comercial orientada a comprometer a través de contratos de mediano y largo plazo, dicha energía de base. La exposición a hidrologías secas es acotada ya que sólo impactaría en caso de eventuales fallas operacionales que obliguen a recurrir al mercado spot. Adicionalmente el mercado eléctrico peruano presenta una oferta térmica eficiente y disponibilidad de gas natural local suficiente para respaldarla.

## b. Riesgo de precios de los combustibles

En Chile, en situaciones de bajos afluentes a las plantas hidráulicas, Colbún debe hacer uso principalmente de sus plantas térmicas o efectuar compras de energía en el mercado spot a costo marginal. Lo anterior genera un riesgo por las variaciones que puedan presentar los precios internacionales de los combustibles. Parte de este riesgo se mitiga con contratos cuyos precios de venta también se indexan con las variaciones de los precios de los combustibles. Adicionalmente, se llevan adelante programas de cobertura con diversos instrumentos derivados, tales como opciones call y opciones put, entre otras, para cubrir la porción remanente de esta exposición en caso de existir. En caso contrario, ante una hidrología abundante, la Compañía podría encontrarse

en una posición vendedora en el mercado spot cuyo precio estaría en parte determinado por el precio de los combustibles.

En Perú, el costo del gas natural tiene una menor dependencia de los precios internacionales, dada una importante oferta doméstica de este hidrocarburo, lo que permite acotar la exposición a este riesgo.

Al igual que en Chile, la proporción que queda expuesta a variaciones de precios internacionales es mitigada mediante fórmulas de indexación en contratos de venta de energía.

Por lo anteriormente expuesto, la exposición al riesgo de variaciones de precios de los combustibles se encuentra en parte mitigado.

#### c. Riesgo de suministro de combustibles

Respecto del suministro de combustibles líquidos, en Chile la Compañía mantiene acuerdos con proveedores y capacidad de almacenamiento propio que le permiten contar con una adecuada confiabilidad en la disponibilidad de este tipo de combustible.

Respecto al suministro de gas natural, en Chile Colbún mantiene contratos de mediano plazo con ENAP y Metrogas y en Perú la Central Fenix cuenta con contratos de largo plazo con el consorcio ECL88 (Pluspetrol, Pluspetrol Camisea, Hunt, SK, Sonatrach, Tecpetrol y Repsol) y acuerdos de transporte de gas con TGP.

En cuanto a las compras de carbón para la central térmica Santa María Unidad I, se han realizado nuevas licitaciones, invitando a importantes suministradores internacionales, adjudicando el suministro a empresas competitivas y con respaldo. Lo anterior siguiendo una política de compra temprana y una política de gestión de inventario de modo de mitigar sustancialmente el riesgo de no contar con este combustible.

## d. Riesgos de fallas en equipos y mantención

La disponibilidad y confiabilidad de las unidades de generación y de las instalaciones de transmisión de Colbún son fundamentales para el negocio. Es por esto que Colbún tiene como política realizar mantenimientos programados, preventivos y predictivos a sus equipos, acorde a las recomendaciones de sus proveedores, y mantiene una política de cobertura de este tipo de riesgos a través de seguros para sus bienes físicos, incluyendo cobertura por daño físico y perjuicio por paralización.

#### e. Riesgos de construcción de proyectos

El desarrollo de nuevos proyectos puede verse afectado por factores tales como: retrasos en la obtención de permisos, modificaciones al marco regulatorio, judicialización, aumento en el precio de los equipos o de la mano de obra, oposición de grupos de interés locales e internacionales, condiciones geográficas imprevistas, desastres naturales, accidentes u otros imprevistos.

La exposición de la Compañía a este tipo de riesgos se gestiona a través de una política comercial que considera los efectos de los eventuales atrasos de los proyectos. Alternativamente, se incorporan niveles de holgura en las estimaciones de plazo y costo de construcción. Adicionalmente, la exposición de la Compañía a este riesgo se encuentra parcialmente cubierta con la contratación de pólizas del tipo "Todo Riesgo de Construcción" que cubren tanto daño físico como pérdida de beneficio por efecto de atraso en la puesta en servicio producto de un siniestro, ambos con deducibles estándares para este tipo de seguros.

Las compañías del sector enfrentan un mercado eléctrico muy desafiante, con mucha activación de parte de diversos grupos de interés, principalmente de comunidades vecinas y ONGs, las cuales legítimamente están demandando más participación y protagonismo. Como parte de esta complejidad se han hecho más inciertos los plazos de tramitación ambiental, los que en ocasiones son además seguidos por extensos procesos de judicialización. Lo anterior ha resultado en una menor construcción de proyectos de tamaños relevantes. Asimismo Colbún tiene cómo política integrar con excelencia las dimensiones sociales y ambientales al desarrollo de sus proyectos. Por su parte, la Compañía ha desarrollado un modelo de vinculación social que le permita trabajar junto a las comunidades vecinas y la sociedad en general, iniciando un proceso transparente de participación ciudadana y de generación de confianza en las etapas tempranas de los proyectos y durante todo el ciclo de vida de los mismos.

## f. Riesgos regulatorios

La estabilidad regulatoria es fundamental para el sector de generación, donde los proyectos de inversión tienen largos plazos de desarrollo, ejecución y retorno de la inversión. Colbún estima que los cambios regulatorios deben hacerse considerando las complejidades del sistema eléctrico y manteniendo los incentivos adecuados para la inversión. Es importante disponer de una regulación que entregue reglas claras y transparentes que consoliden la confianza de los agentes del sector.

En Chile, la agenda energética impulsada por el gobierno contempla diversos cambios regulatorios, los que dependiendo de la forma en que se implementen podrían representar una oportunidad o riesgo para la Compañía. Son de especial relevancia los cambios que actualmente se están discutiendo en el Congreso acerca de (i) la reforma al Código de Aguas, (ii) la ley relativa al fortalecimiento de la regionalización del país, (iii) el proyecto de ley que crea el Ministerio de Pueblos Indígenas, (iv) el proyecto de ley que crea el Consejo Nacional y los Consejos de Pueblos Indígenas y (v) la Ley de Biodiversidad y Áreas Protegidas. Así también son importantes las iniciativas en el sector como (i) definición de los reglamentos necesarios para la correcta aplicación de la nueva Ley de Transmisión Eléctrica ya promulgada, (ii) la definición de la Política Energética a largo plazo para el país (2050) que ya se encuentra en su etapa de difusión y (iii) la Norma Técnica para la planificación y programación de la operación de unidades que utilicen gas natural (GNL), entre otras.

En Perú, la autoridad se encuentra realizando estudios de modificaciones regulatorias para el sector eléctrico. Algunos de los temas que se están contemplando tienen relación con: (i) Generación/Mercado Mayorista (incluir en el mercado de corto plazo a los grandes usuarios libres), (ii) Dualidad (nueva metodología para fiscalizar el performance de las unidades duales).

De la calidad de estas nuevas regulaciones y de las señales que por ello entregue la autoridad, dependerá –en buena medida– el necesario y equilibrado desarrollo del mercado eléctrico en los próximos años, tanto en Chile como en Perú.

#### g. Riesgo de variación de demanda/oferta y de precio de venta de la energía eléctrica

La proyección de demanda de consumo eléctrico futuro es una información muy relevante para la determinación del precio de mercado.

En Chile, un bajo crecimiento de la demanda, una baja en el precio de los combustibles y un aumento en el ingreso de proyectos de energías renovables variables solar y eólica determinaron durante el año 2016 una baja en el precio de corto plazo de la energía (costo marginal).

Respecto de los valores de largo plazo, la licitación de suministro de clientes regulados concluida en agosto de 2016 se tradujo en una baja importante en los precios presentados y adjudicados, reflejando la mayor dinámica competitiva que existe en este mercado y el impacto que está teniendo la irrupción de nuevas tecnologías -solar y eólica fundamentalmente- con una significativa reducción de costos producto de su masificación. Aunque se puede esperar que los factores que gatillan esta dinámica competitiva y tendencia en los precios se mantengan a futuro, es difícil determinar su alcance preciso en los valores de largo plazo de la energía.

En Perú, también se presenta un escenario de desbalance temporal entre oferta y demanda, generado principalmente por el aumento de oferta eficiente (centrales hidroeléctricas y a gas natural).

El crecimiento que se ha observado en el mercado Chileno (y potencialmente en el Peruano) de fuentes de generación renovables no convencionales como la generación solar y eólica, puede generar costos de integración y por lo tanto afectar las condiciones de operación del resto del sistema eléctrico, sobre todo en ausencia de un mercado de servicios complementarios que remunere adecuadamente los servicios necesarios para gestionar la variabilidad de las fuentes de generación indicadas.

## 4.2.2 Riesgos Financieros

Son aquellos riesgos ligados a la imposibilidad de realizar transacciones o al incumplimiento de obligaciones procedentes de las actividades por falta de fondos, como también a las variaciones de tasas de interés, tipos de cambios, quiebra de contrapartes u otras variables financieras de mercado que puedan afectar patrimonialmente a Colbún.

#### a. Riesgo de tipo de cambio

El riesgo de tipo de cambio viene dado principalmente por fluctuaciones de monedas que provienen de dos fuentes. La primera fuente de exposición proviene de flujos correspondientes a ingresos, costos y desembolsos de inversión que están denominados en monedas distintas a la moneda funcional (dólar de los Estados Unidos). La segunda fuente de riesgo corresponde al descalce contable que existe entre los activos y pasivos del Estado de Situación Financiera denominados en monedas distintas a la moneda funcional.

La exposición a flujos en monedas distintas al dólar se encuentra acotada por cuanto prácticamente la totalidad de las ventas de la Compañía se encuentra denominada directamente o con indexación al dólar. Del mismo modo, los principales costos corresponden a compras de petróleo diésel, gas natural y carbón, los que incorporan fórmulas de fijación de precios basados en precios internacionales denominados en dólares. Respecto de los desembolsos en proyectos de inversión, la Compañía incorpora indexadores en sus contratos con proveedores y recurre al uso de derivados para fijar los egresos en monedas distintas al dólar.

La exposición al descalce de cuentas contables se encuentra mitigada mediante la aplicación de una Política de descalce máximo entre activos y pasivos para aquellas partidas estructurales denominadas en monedas distintas al dólar. Para efectos de lo anterior, Colbún mantiene una proporción relevante de sus excedentes de caja en dólares y adicionalmente recurre al uso de derivados, siendo los más utilizados swaps de moneda y forwards.

#### b. Riesgo de tasa de interés

Se refiere a las variaciones de las tasas de interés que afectan el valor de los flujos futuros referenciados a tasa de interés variable, y a las variaciones en el valor razonable de los activos y pasivos referenciados a tasa de interés fija que son contabilizados a valor razonable. Para mitigar este riesgo se utilizan swaps de tasa de interés fija.

La deuda financiera de la Compañía, incorporando el efecto de los derivados de tasa de interés contratados, presenta el siguiente perfil:

Tasa de interés	31.12.2016	31.12.2015
Fija	97%	100%
Variable	3%	0%
Total	100%	100%

Al 31 de diciembre de 2016, la deuda financiera de la Compañía se encuentra denominada en un 97% a tasa fija, el 3% restante corresponde a una fracción del crédito de Fénix.

#### c. Riesgo de crédito

La Compañía se ve expuesta a este riesgo derivado de la posibilidad de que una contraparte falle en el cumplimiento de sus obligaciones contractuales y produzca una pérdida económica o financiera. Históricamente todas las contrapartes con las que Colbún ha mantenido compromisos de entrega de energía han hecho frente a los pagos correspondientes de manera correcta.

Con respecto a las colocaciones en Tesorería y derivados que se realizan, Colbún efectúa las transacciones con entidades de elevados ratings crediticios. Adicionalmente, la Compañía ha establecido límites de participación por contraparte, los que son aprobados por el Directorio y revisados periódicamente.

Al 31 de diciembre de 2016, las inversiones de excedentes de caja se encuentran invertidas en fondos mutuos (de filiales bancarias) y en depósitos a plazo en bancos locales e internacionales.

Los primeros corresponden a fondos mutuos de corto plazo, con duración menor a 90 días, conocidos como "money market".

La información sobre rating crediticio de los clientes se encuentra revelada en la nota [11.b] de los Estados Financieros.

## d. Riesgo de liquidez

Este riesgo viene dado por las distintas necesidades de fondos para hacer frente a los compromisos de inversiones y gastos del negocio, vencimientos de deuda, entre otros. Los fondos necesarios para hacer frente a estas salidas de flujo de efectivo se obtienen de los propios recursos generados por la actividad ordinaria de Colbún y por la contratación de líneas de crédito que aseguren fondos suficientes para soportar las necesidades previstas por un período.

Al 31 de diciembre de 2016, Colbún cuenta con excedentes de caja por aproximadamente US\$600 millones, invertidos en Depósitos a Plazo con duración promedio de 60 días y en fondos mutuos de corto plazo con duración menor a 90 días. Asimismo, la Compañía tiene disponibles como fuentes de liquidez adicional al día de hoy: (i) dos líneas de bonos inscritas en el mercado local por un monto conjunto de UF 7 millones, (ii) una línea de efectos de comercio inscrita en el mercado local por UF 2,5 millones y (iii) líneas bancarias no comprometidas por aproximadamente US\$150 millones.

En los próximos doce meses, la Compañía deberá desembolsar aproximadamente US\$80,7 millones por concepto de intereses y amortizaciones de deuda financiera. Éste remanente de intereses y amortizaciones menores se espera cubrir con la generación propia de flujos de caja.

Al 31 de diciembre de 2016, Colbún cuenta con clasificaciones de riesgo nacional A+ por Fitch Ratings y AA-por Humphreys, ambas con perspectivas estables. A nivel internacional la clasificación de la Compañía es BBB por Fitch Ratings y BBB- por Standard & Poor's (S&P), ambas con perspectivas estables.

Por lo anteriormente expuesto, se considera que el riesgo de liquidez de la Compañía actualmente es acotado.

Información sobre vencimientos contractuales de los principales pasivos financieros se encuentra revelada en la nota [22.c.1] de los Estados Financieros.

## 4.3 Medición del riesgo

La Compañía realiza periódicamente análisis y mediciones de su exposición a las distintas variables de riesgo, de acuerdo a lo presentado en párrafos anteriores. La gestión de riesgo es realizada por un Comité de Riesgos con el apoyo de la Gerencia de Riesgo Corporativo y en coordinación con las demás divisiones de la Compañía.

Con respecto a los riesgos del negocio, específicamente con aquellos relacionados a las variaciones en los precios de los commodities, Colbún ha implementado medidas mitigatorias consistentes en indexadores en contratos de venta de energía y coberturas con instrumentos derivados para cubrir una posible exposición remanente. Es por esta razón que no se presentan análisis de sensibilidad.

Para la mitigación de los riesgos de fallas en equipos o en la construcción de proyectos, la Compañía cuenta con seguros con cobertura para daño de sus bienes físicos, perjuicios por paralización y pérdida de beneficio por atraso en la puesta en servicio de un proyecto. Se considera que este riesgo está razonablemente acotado.

Con respecto a los riesgos financieros, para efectos de medir su exposición, Colbún elabora análisis de sensibilidad y valor en riesgo con el objetivo de monitorear las posibles pérdidas asumidas por la Compañía en caso que la exposición exista.

El riesgo de tipo de cambio se considera acotado por cuanto los principales flujos de la Compañía (ingresos, costos y desembolsos de proyectos) se encuentran denominada directamente o con indexación al dólar. La exposición al descalce de cuentas contables se encuentra mitigada mediante la aplicación de una política de descalce máximo entre activos y pasivos para aquellas partidas estructurales denominadas en monedas distintas al dólar. En base a lo anterior, al 31 de diciembre de 2016 la exposición de la Compañía frente a este riesgo se traduce en un potencial impacto de aproximadamente US\$2,7 millones por diferencia de tipo de cambio, en términos trimestrales, en base a un análisis de sensibilidad al 95% de confianza.

El riesgo de variación de tasas de interés se encuentra en gran medida mitigado, ya que el 97% de la deuda financiera se encuentra contratada a tasa fija (de manera directa y utilizando derivados). Dado lo anterior, al 31 de diciembre de 2016 la exposición de la Compañía frente a la tasa de interés variable se encuentra acotada, traduciéndose en un potencial impacto trimestral de aproximadamente US\$0,6 millones por subida de tasas de interés, en base a un análisis de sensibilidad al 95% de confianza.

El riesgo de crédito se encuentra acotado por cuanto Colbún opera únicamente con contrapartes bancarias locales e internacionales de alto nivel crediticio y ha establecido políticas de exposición máxima por contraparte

que limitan la concentración específica con estas instituciones. En el caso de los bancos, las instituciones locales tienen clasificación de riesgo local igual o superior a BBB+ y las entidades extranjeras tienen clasificación de riesgo internacional grado de inversión. Al cierre del período, la institución financiera que concentra la mayor participación de excedentes de caja alcanza un 20%. Respecto de los derivados existentes, las contrapartes internacionales de la Compañía tienen riesgo equivalente a BBB+ o superior y las contrapartes nacionales tienen clasificación local BBB+ o superior. Cabe destacar que en derivados ninguna contraparte concentra más del 21% en términos de nocional.

El riesgo de liquidez se considera bajo en virtud de la relevante posición de caja de la Compañía, la cuantía de obligaciones financieras en los próximos doce meses y el acceso a fuentes de financiamiento adicionales, entre las que se cuentan líneas comprometidas y no comprometidas de financiamiento.

#### 5. Criterios contables críticos

La administración necesariamente efectúa juicios y estimaciones que tienen un efecto significativo sobre las cifras presentadas en los estados financieros consolidados. Cambios en los supuestos y estimaciones podrían tener un impacto significativo en los estados financieros. A continuación se detallan las estimaciones y juicios críticos usados por la administración en la preparación de los presentes estados financieros consolidados:

## a. Cálculo de depreciación y amortización, y estimación de vidas útiles asociadas

Las propiedades, plantas y equipos y los activos intangibles distintos de la plusvalía con vida útil definida, son depreciados y amortizados respectivamente en forma lineal sobre sus vidas útiles estimadas. Las vidas útiles han sido estimadas y determinadas, considerando aspectos técnicos, naturaleza del bien, y estado de los mismos.

Las vidas útiles estimadas al 31 de diciembre de 2016 y 2015 son las siguientes:

# (i) Vidas útiles Propiedades, planta y equipos:

El detalle de las vidas útiles de las principales Propiedades, planta y equipos se presenta a continuación:

Clases de propiedades, planta y equipos	Intervalo de años de vida útil estimada	Vida útil remanente promedio años
Edificios	30 - 50	30
Maquinarias	20 - 50	25
Equipos de Transporte	5 - 15	7
Equipos de oficina	5 - 30	28
Equipos informáticos	3 - 10	5
Arrendamientos Financieros	20	16
Otras propiedades, planta y equipo	30 - 50	32

Para mayor información, se presenta una apertura adicional por clases de planta:

Clases de centrales	Intervalo de años de vida útil estimada	Vida útil remanente promedio años
Instalaciones de generación		
Centrales hidraúlicas		
Obra civil	30 - 50	33
Equipo electromecánico	20 - 50	37
Centrales térmicas		
Obra civil	20 - 50	26
Equipo electromecánico	20 - 35	21

## (ii) Vidas útiles activos intangibles distintos de la plusvalía (con vidas útiles definidas):

Los activos intangibles de relación contractual con clientes corresponden principalmente a contratos de suministro de energía eléctrica adquiridos.

Los otros activos intangibles materiales corresponden a software, derechos, concesiones y otras servidumbres con vidas útiles definidas. Estos activos se amortizan de acuerdo a sus vidas útiles esperadas.

Activos intangibles	Intervalo de años de vida útil estimada
Relaciones Contractuales de Clientes	2 - 15
Software	1 - 15
Derechos y Concesiones	1 - 10

A la fecha de cierre de cada periodo, se evalúa si existe algún indicio de que algún activo hubiera podido sufrir una pérdida por deterioro. En caso de que exista éste se realiza una estimación del monto recuperable de dicho activo para determinar, en su caso, el monto del deterioro.

#### (iii) Activos intangibles con vidas útiles indefinidas:

La Compañía efectuó un análisis de las vidas útiles de los activos intangibles, que tienen vidas útiles indefinidas (p. ej. ciertas servidumbres y derechos de aguas, entre otros), concluyendo que no existe un límite previsible de tiempo a lo largo del cual el activo genere entradas de flujos netos de efectivo. Para estos activos intangibles se determinó que sus vidas útiles tienen el carácter de indefinidas.

# b. Deterioro de activos no financieros (tangibles e intangibles distintos de la plusvalía, excluyendo el menor valor)

A la fecha de cierre de cada año, o en aquella fecha en que se considere necesario, se analiza el valor de los activos para determinar si existe algún indicio de que dichos activos hubieran sufrido una pérdida por deterioro. En caso de que exista algún indicio se realiza una estimación del monto recuperable de dicho activo para determinar, en su caso, el importe del saneamiento necesario. Si se trata de activos identificables que no generan flujos de caja de forma independiente, se estima la recuperabilidad de la Unidad Generadora de Efectivo ("UGE") a la que el activo pertenece. A estos efectos se ha determinado que todos los activos localizados en Chile conforman una sola UGE, mientras que los activos localizados en Perú conforman otra UGE.

En el caso de las UGE a las que se han asignado activos intangibles con una vida útil indefinida, el análisis de su recuperabilidad se realiza de forma sistemática al cierre de cada ejercicio o bajo circunstancias consideradas necesarias para realizar tal análisis, excepto cuando se considera que los cálculos más recientes, efectuados en el periodo anterior, del importe recuperable de una UGE podrían ser utilizados para la comprobación del deterioro del valor de esa unidad en el periodo corriente, puesto que se cumplen los siguientes criterios:

- a) Los activos y pasivos que componen esa unidad no han cambiado significativamente desde el cálculo del importe recuperable más reciente.
- b) El cálculo del importe recuperable más reciente, dio lugar a una cantidad que excedía del importe en libros de la unidad por un margen significativo; y
- c) Basándose en un análisis de los hechos que han ocurrido y de las circunstancias que han cambiado desde que se efectuó el cálculo más reciente del importe recuperable, la probabilidad de que la determinación del importe recuperable corriente sea inferior al importe en libros corriente de la unidad, sea remota.

El monto recuperable es el mayor entre el valor justo menos los costos necesarios para la venta y el valor en uso, entendiendo por éste el valor actual de los flujos de caja futuros estimados generados por el activo o una UGE. Para el cálculo del valor recuperable del activo tangible e intangible, el valor en uso es el criterio utilizado por la Compañía.

Para estimar el valor de uso, la Compañía prepara las provisiones de flujos de caja futuros antes de impuestos a partir de los presupuestos más recientes aprobados por la Administración de la Compañía. Estos presupuestos incorporan las mejores estimaciones disponibles de ingresos y costos de las UGE utilizando la mejor información disponible a la fecha, la experiencia del pasado y las expectativas futuras.

Estos flujos se descuentan para calcular su valor actual a una tasa, antes de impuestos, que recoge el costo de capital del negocio en que se desarrolla. Para su cálculo se tiene en cuenta el costo actual del dinero y las primas de riesgo utilizadas de forma general para el negocio.

En el caso de que el importe recuperable sea inferior al valor neto en libros del activo, se registra la correspondiente provisión de pérdida por deterioro por la diferencia, con cargo al rubro "Gastos por depreciación y amortización" del Estado de Resultados Integrales.

Las pérdidas por deterioro reconocidas en un activo en ejercicios anteriores son revertidas cuando se produce un cambio en las estimaciones sobre su importe recuperable aumentando el valor del activo con abono a resultados con el límite del valor en libros que el activo hubiera tenido de no haberse realizado el saneamiento.

Al 31 de diciembre de 2016 la Compañía considera que no existen indicios significativos de deterioro del valor contable de aquellos activos tangibles e intangibles que pertenecen a las UGE definidas por la Compañía.

#### c. Valor justo de los derivados y otros instrumentos financieros

Tal como se describe en la nota 3.1, la Administración usa su criterio al seleccionar una técnica de valorización apropiada de los instrumentos financieros que no se cotizan en un mercado activo. Se aplican las técnicas de valorización usadas comúnmente por los profesionales del mercado. En el caso de los instrumentos financieros derivados, se forman las presunciones basadas en las tasas cotizadas en el mercado, ajustadas según las características específicas del instrumento. Otros instrumentos financieros se valorizan usando un análisis de la actualización de los flujos de efectivo basado en las presunciones soportadas, cuando sea posible, por los precios o tasas observables de mercado.

#### 6. Combinaciones de negocios

El 18 de diciembre de 2015, Inversiones Las Canteras S.A. filial de la Compañía adquirió el 100% de las acciones con derecho a voto de Fénix Power Perú S.A. (en adelante "Fénix"), una sociedad anónima cerrada organizada de acuerdo a las leyes de la República del Perú.

Fénix posee una central de generación termoeléctrica de 570 MW, ubicada en la localidad de Las Salinas al sur de Lima, distrito de Chilca en la provincia de Cañete. La construcción de la central termoeléctrica culminó en el año 2014 e inició su operación comercial en diciembre de 2014.

De acuerdo a NIIF 3 el periodo de medición es aquél tras la fecha de adquisición durante el cual la adquiriente puede ajustar los importes provisionales reconocidos en una combinación de negocios. Este periodo no excederá más de un año a partir de la fecha de adquisición.

Considerando la naturaleza del negocio y activos de Fénix, la medición de los activos adquiridos y pasivos asumidos fue realizada utilizando criterios de valor justo (fair value) no presentando diferencias significativas con los valores en libros de dichos activos y pasivos. Respecto a Propiedades, planta y equipos, la central Fénix cuenta con poco tiempo en operación, (2 años aproximadamente), las cuales no presentan diferencias significativas con respecto a su valor en libros.

Los activos intangibles, principalmente contratos con clientes, se valorizaron mediante el enfoque de Excess Earnings, que se basa en la teoría de que los retornos económicos, por encima de los atribuibles a los activos tangibles, se derivan de ciertos activos intangibles, descontados para el caso de Fénix Power Perú a una tasa aproximada de entre 7% y 8%.

## Activos adquiridos y pasivos asumidos

Los valores razonables de los activos adquiridos y pasivos asumidos identificables de Fénix Power Perú S.A. a la fecha de adquisición fueron los siguientes:

	Saldos al 31.12.2015		Saldos al 31.12.2016
Activos adquiridos y pasivos asumidos	Valor razonable registrado en la adquisición	Ajustes PPA	Valor razonable ajustado
	MUS\$	MUS\$	MUS\$
Activos			
Efectivo y equivalentes al efectivo (ver nota 8.c)	11.378	-	11.378
Deudores comerciales y otras cuentas por cobrar	29.464	-	29.464
Otros activos no financieros, corrientes	14.424	-	14.424
Inventarios	3.896	-	3.896
Otros activos no financieros, no corrientes	17.035	-	17.035
Propiedades, planta y equipo	735.538	-	735.538
Activos intangibles distintos de la plusvalía	3.541	-	3.541
Activos por impuestos diferidos	2.743	-	2.743
Total activos	818.019	-	818.019
Pasivos			
Otros pasivos financieros, corrientes	15.684	-	15.684
Cuentas por pagar comerciales y otras cuentas por pagar, corrientes	3.184	-	3.184
Cuentas por pagar a entidades relacionadas	224.095	-	224.095
Otras Provisiones	2.232	-	2.232
Otros pasivos financieros, no corrientes	361.929	-	361.929
Cuentas por pagar comerciales y otras cuentas por pagar, no corrientes	25.186	-	25.186
Provisiones por beneficios a los empleados, no corrientes	890	-	890
Otros pasivos no financieros, no corrientes	6.046	-	6.046
Total pasivos	639.246	-	639.246
Activos netos totales identificables al valor razonable	178.773	-	178.773
Ganancia procedente de combinación de negocios / Plusvalía	(1.672)	5.672	4.000
Contraprestación transferida	177.101	5.672	182.773

Antes del 31 de diciembre de 2016, y dentro del periodo de medición inicial, se ha reconocido un goodwill (plusvalía) por MMUS\$ 4,0 el cual se origina, por un pago adicional establecido en las cláusulas de ajuste de precio del acuerdo de compra de la inversión en Fénix Power Perú. Al 31 de diciembre de 2015 se determinó una ganancia por MMUS\$ 1,6 la que a la fecha de estos estados financieros consolidados fue compensada con el goodwill reconocido.

Producto de este ajuste se generan los siguientes efectos en los estados financieros al 31 de diciembre de 2015:

Impacto en el patrimonio (incremento/disminución del patrimonio neto)	31 de Diciembre, 2015 MUS\$
Plusvalía	4.000
Total activos	4.000
Cuentas por pagar comerciales y otras cuentas por pagar, corrientes	5.672
Total pasivos	5.672
Ganancias (pérdidas) acumuladas	(853)
Participaciones no controladoras	(819)
Impacto neto en patrimonio	(1.672)

Impacto en el estado de resultado (incremento/disminución en el resultado)	<b>31 de Diciembre,</b> <b>2015</b> MUS\$	
Ganancias (pérdidas) acumuladas	(853)	
Participaciones no controladoras	(819	
Importe neto en el resultado del ejercicio	(1.672)	
Ganancia atribuible a		
Ganancia atribuible a los propietarios de la controladora	(853)	
Ganancia atribuible a participaciones no controladoras	(819)	

El cambio no tiene impacto en el estado de flujos de efectivo.

## 7. Operaciones por segmentos

El negocio básico de Colbún es la generación y venta de energía eléctrica. Para ello cuenta con activos que producen dicha energía, la que es vendida a diversos clientes con los cuales se mantienen contratos de suministros y a otros sin contrato de acuerdo a lo estipulado en las regulaciones vigentes.

El sistema de control de gestión de Colbún analiza el negocio desde una perspectiva de un mix de activos hidráulicos/térmicos que producen energía eléctrica para servir a una cartera de clientes. En consecuencia, la asignación de recursos y las medidas de desempeño se analizan en términos agregados.

Sin perjuicio de lo anterior, la gestión interna considera criterios de clasificación para los activos y para los clientes, para efectos meramente descriptivos pero en ningún caso de segmentación de negocio de acuerdo a los criterios establecidos en NIIF 8.

Algunos de estos criterios de clasificación son, por ejemplo, la tecnología de producción: plantas hidroeléctricas (que a su vez pueden ser de pasada o de embalse) y plantas térmicas (que a su vez pueden ser a carbón, de ciclo combinado, de ciclo abierto, etc.). Los clientes, a su vez, se clasifican siguiendo conceptos contenidos en la regulación eléctrica chilena en clientes libres, clientes regulados y mercado spot, y en clientes regulados y clientes no regulados de acuerdo a la regulación eléctrica peruana (ver nota 2).

En general no existe una relación directa entre cada una de las plantas generadoras y los contratos de suministro, sino que éstos se establecen de acuerdo a la capacidad total de Colbún, siendo abastecidos en cada momento con la generación más eficiente propia o de terceros comprando energía en el mercado spot a otras compañías generadoras. Una excepción a lo anterior es el caso de Codelco en Chile, que cuenta con dos contratos de suministro suscritos con la Compañía. Uno de estos contratos es cubierto con todo el parque generador y el otro tiene preferencialmente su suministro sobre la base de la producción de Santa Maria I.

Colbún es parte del sistema de despacho del SIC en Chile y del sistema de despacho SEIN en Perú. La generación de cada una de las plantas en estos sistemas está definida por su orden de despacho, de acuerdo a la definición de óptimo económico en el caso de ambos sistemas.

La regulación eléctrica en los dos sistemas en que Colbún participa contempla una separación conceptual entre energía y potencia, pero no por tratarse de elementos físicos distintos, sino para efectos de tarificación económicamente eficiente. De ahí que se distinga entre energía que se tarifica en unidades monetarias por unidad de energía (KWh, MWh, etc.) y potencia que se tarifica en unidades monetarias por unidad de potencia – unidad de tiempo (KW-mes).

Dado que Colbún S.A. opera en dos sistemas eléctricos, en el Sistema Interconectado Central en Chile, y en el Sistema Eléctrico Interconectado Nacional en el Perú, para efectos de la aplicación de la NIIF 8 la información por segmentos se ha estructurado siguiendo la distribución geográfica por país.

# El cuadro siguiente presenta información por área geográfica:

	31.12.2016						
	Pai	País				Total de la	
Información a revelar sobre segmentos de operación	Chile	Perú	Segmentos sobre los que debe informarse	Segmentos de operación	·	entidad por segmentos de operación	
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	
Estado de Situación Financiera							
Activos							
Efectivo y equivalentes al efectivo	571.111	22.609	593.720	593.720		593.72	
Otros activos financieros, corrientes	74.285		74.285	74.285		74.28	
Otros activos no financieros, corrientes	26.211 135.075	979 64.084	27.190 199.159	27.190 199.159		27.19 199.15	
Deudores comerciales y otras cuentas por cobrar  Cuentas por cobrar a entidades relacionadas, corrientes	2,792	64.084	2.792	2.792		2.79	
Inventarios	40.282	4.832	45.114	45.114		45.11	
Activos por impuestos	928	4.436	5.364	5.364		5.36	
Activos corrientes totales	850.684	96.940	947.624	947.624	-	947.62	
Otros activos financieros, no corrientes	224	5.153	5.377	5.377		5.37	
Otros activos no financieros, no corrientes	41.711	4.087	45.798 263	45.798 263		45.79 26	
Cuentas por cobrar a entidades relacionadas, no corrientes  Inversiones contabilizadas utilizando el método de la participación	260.946		260.946	260.946		38.57	
Activos intangibles distintos de la plusvalía	134.266	3.863	138.129	138.129		138.12	
Plusvalía	154.200	4.000	4.000	4.000		4.00	
Propiedades, planta y equipos	4.913.177	722,650	5.635.827	5.635.827	-	5,635,82	
Activos por impuestos diferidos	4.345	2.659	7.004	7.004	-	7.00	
Activos no corrientes totales	5.354.932	742.412	6.097.344	6.097.344	(222.370)	5.874.974	
CTIVOS	6.205.616	839.352	7.044.968	7 044 968	(222.370)	6.822.59	
Patrimonio Neto y Pasivos	0.200.020	005.002	7.01.1300	710 1 11500	(222.570)	0.022.000	
Otros pasivos financieros, corrientes	49.099	3.945	53.044	53.044	-	53.04	
Cuentas por pagar comerciales y otras cuentas por pagar, corrientes	188.319	19.626	207.945	207.945	-	207.94	
Cuentas por pagar a entidades relacionadas	32,339	-	32,339	32,339		32.33	
Otras provisiones	5.161	2,232	7.393	7.393		7.39	
Pasivos por impuestos	32,493	112	32,605	32.605		32.60	
Provisiones por beneficios a los empleados, corrientes	13.391	1.605	14.996	14.996		14.99	
					-		
Otros pasivos no financieros, corrientes	11.260	473	11.733	11.733		11.73	
asivos corrientes totales	332.062	27.993	360.055	360.055	-	360.05	
Otros pasivos financieros, no corrientes	1.298.049	358.939	1.656.988	1.656.988	-	1.656.98	
Cuentas por pagar comerciales y otras cuentas por pagar, no corrientes	3.217	15.743	18.960	18.960	-	18.96	
Pasivos por impuestos diferidos	956.988	860	957.848	957.848	-	957.84	
Provisiones por beneficios a los empleados, no corrientes	27.508	-	27.508	27.508	-	27.50	
Otros pasivos no financieros, no corrientes	11.407	-	11.407	11.407	-	11.40	
asivos no corrientes totales	2.297.169	375.542	2.672.711	2.672.711	-	2.672.71	
atrimonio							
Capital emitido	1.282.793	219.635	1.502.428	1.502.428	(219.635)	1.282.793	
Ganancias (pérdidas) acumuladas	1.510.514	882	1.511.396	1.511.396	(882)	1.510.51	
Primas de emisión	52,595	-	52,595	52,595	- (/	52.59	
Otras reservas	730,483	1.853	732.336	732,336	(1.853)	730.48	
atrimonio atribuible a los propietarios de la controladora	3.576.385	222,370	3.798.755	3.798.755		3.576.38	
Participaciones no controladoras	-	213,447	213,447	213,447		213.447	
Patrimonio Total	3.576.385	435.817	4.012.202		(222.370)	3.789.832	
PATRIMONIO Y PASIVOS	6.205.616	839.352	7.044.968	7.044.968	(222.370)	6.822.598	

# Continuación

			31.1	2.2016		
	Paí	s				Total de la
Información a revelar sobre segmentos de operación	Chile	Perú	Segmentos sobre los que debe informarse	Segmentos de operación	·	entidad por segmentos de operación
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
stado de Resultados Integrales						
Ingresos de actividades ordinarias						
Ingresos de actividades ordinarias	1.219.514	216.726	1.436.240	1.436.240	-	1.436.24
Total ingresos de actividades ordinarias procedentes de clientes externos y ransacciones con otros segmentos de operación de la misma entidad	1.219.514	216.726	1.436.240	1.436.240	-	1.436.24
Materias primas y consumibles utilizados	(580.246)	(144.341)	(724.587)	(724.587)	-	(724.587
Gastos por beneficios a los empleados	(61.919)	(5.894)	(67.813)	(67.813)	-	(67.813
Gasto por depreciación y amortización	(195.754)	(32.164)				(227.918
Otros gastos por naturaleza	(31.531)	(10.559)	(42.090)	(42.090)	-	(42.090
Otras ganancias (pérdidas)	(13.571)	(4.006)	(17.577)	(17.577)	-	(17.57)
Ingresos financieros	9.479	575	10.054	10.054	-	10.054
Costos financieros	(88.777)	(14.663)	(103.440)	(103.440)	-	(103.440
Participación en las ganancias (pérdidas) de asociadas y negocios conjuntos que se	0.010	_	0.010	0.010	(2.505)	E 41
contabilicen utilizando el método de la participación	8.919	-	8.919	8.919	(3.505)	5.414
Diferencias de cambio	2.099	1.327	3.426	3.426	-	3.426
Resultados por unidades de reajuste	(55)	-	(55)	(55)	-	(55
Ganancia (pérdida) procedente de operaciones continuadas	268.158	7.001	275.159	275.159	(3.505)	271.65
Gasto por impuesto a las ganancias	(66.729)	(185)	(66.914)	(66.914)	-	(66.914
Ganancia (pérdida)	201.429	6.816	208.245	208.245	(3.505)	204.74
ianancia atribuible a						
ianancia atribuible a los propietarios de la controladora	201.429	3.505	204.934	204.934	(3.505)	201.429
Sanancia atribuible a participaciones no controladoras	-	3.311	3.311	3.311	-	3.311
Sanancia	201.429	6.816	208.245	208.245	(3.505)	204.74
stados de Flujos de Efectivo						
Flujos de efectivo procedentes de (utilizados en) actividades de operación	494.408	23.442	517.850	517.850	-	517.85
Flujos de efectivo procedentes de (utilizados en) actividades de inversión	(76.980)	(9.078)			-	(86.058
Flujos de efectivo procedentes de (utilizados en) actividades de financiación	(705.868)	(35.147)				(741.015

	31.12.2015					
	Paí	País				Total de la
Información a revelar sobre segmentos de operación	Chile	Perú	Segmentos sobre los que debe informarse	Segmentos de operación	Eliminación de importes	entidad por segmentos d operación
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
stado de Situación Financiera						
Activos						
Efectivo y equivalentes al efectivo	851.587	43.920	895.507	895.507	- 1	895.5
Otros activos financieros, corrientes	185.393	-	185.393	185.393	-	185.3
Otros activos no financieros, corrientes	27.732	538	28.270	28.270	-	28.2
Deudores comerciales y otras cuentas por cobrar	117.256	47.691	164.947	164.947		164.9
Cuentas por cobrar a entidades relacionadas, corrientes	2.590		2.590	2.590		2.5
Inventarios	36.058 8.740	3.861	39.919 8.740	39.919 8.740		39.9 8.7
Activos por impuestos						
ctivos corrientes totales	1.229.356	96.010	1.325.366	1.325.366	-	1.325.3
Otros activos financieros, no corrientes	212		212	212		2
Otros activos no financieros, no corrientes	32.262	-	32.262	32.262		32.2
Cuentas por cobrar a entidades relacionadas, no corrientes	280	-	280	280		2
Inversiones contabilizadas utilizando el método de la participación	247.919		247.919	247.919		36.0
Activos intangibles distintos de la plusvalía	87.803	3.537		91.340		91.3
Plusvalía Propiedades, planta y equipos	4.926.371	4.000 734.392		4.000 5.660.763		5.660.7
Activos por impuestos diferidos	4.409	2.513		6.922		5.000.7
ctivos no corrientes totales	5.299.256	744.442	6.043.698	6.043.698	(211.907)	5.831.7
ACTIVOS	6.528.612	840.451	7.369.063	7.369.063	(211.907)	7.157.1
Patrimonio Neto y Pasivos						
Otros pasivos financieros, corrientes	91.371	362.014	453.385	453.385	-	453.3
Cuentas por pagar comerciales y otras cuentas por pagar, corrientes	133.290	41.143	174.433	174.433	-	174.4
Cuentas por pagar a entidades relacionadas	30.252	-	30.252	30.252	-	30.2
Otras provisiones	13,269	2,232	15.501	15.501	-	15.5
Pasivos por impuestos	23,878	167	24.045	24.045	-	24.0
Provisiones por beneficios a los empleados, corrientes	10.236	1.001	11.237	11.237		11.2
Otros pasivos no financieros, corrientes	4.302	346		4.648		4.6
asivos corrientes totales	306.598	406.903	713.501	713.501	-	713.5
Otros pasivos financieros, no corrientes	1.766.573	15.683	1.782.256	1.782.256	-	1.782.2
Cuentas por pagar comerciales y otras cuentas por pagar, no corrientes	3.217	3.205	6.422	6.422	-	6.4
Pasivos por impuestos diferidos	955.107	849	955.956	955.956	-	955.9
Provisiones por beneficios a los empleados, no corrientes	23,001	-	23.001	23.001	-	23.0
Otros pasivos no financieros, no corrientes	10.603	-	10.603	10.603	-	10.6
·						
asivos no corrientes totales	2.758.501	19.737	2.778.238	2.778.238	-	2.778.2
atrimonio						
Capital emitido	1.282.793	213.600	1.496.393	1.496.393	(213.600)	1.282.7
Ganancias (pérdidas) acumuladas	1.412.537	(2.546)	1.409.991	1.409.991	1.693	1.411.6
Primas de emisión	52.595	-	52.595	52.595	-	52.5
Otras reservas	715.588	-	715.588	715.588	-	715.5
atrimonio atribuible a los propietarios de la controladora	3.463.513	211.054	3.674.567	3 674 567	(211.907)	3.462.6
Participaciones no controladoras	3.403.313	202,758	202.757,54	202.758	(211.507)	202.7
·					(044.00=)	
atrimonio Total	3.463.513	413.811	3.877.324	3.877.324	(211.907)	3.665.4
ATRIMONIO Y PASIVOS	6.528.612	840.451	7.369.063		(211.907)	7.157.1

# Continuación

	31.12.2015							
	Pa	ís				Total de la		
Información a revelar sobre segmentos de operación	Chile	Perú (1)	Segmentos sobre los que debe informarse	Segmentos de operación	Eliminación de importes	entidad por segmentos de operación		
Fate de de Danille des Tatannelles	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$		
Estado de Resultados Integrales								
Ingresos de actividades ordinarias								
Ingresos de actividades ordinarias	1.307.633	6.223	1.313.856	1.313.856	-	1.313.856		
Total ingresos de actividades ordinarias procedentes de clientes externos y transacciones con otros segmentos de operación de la misma entidad	1.307.633	6.223	1.313.856	1.313.856	-	1.313.856		
Materias primas y consumibles utilizados	(641.146)	(4.788)				(645.934		
Gastos por beneficios a los empleados	(55.911)	(171)	(56.082)	(56.082)	-	(56.082		
Gasto por depreciación y amortización	(193.730)	(1.217)				(194.947		
Otros gastos por naturaleza	(28.525)	22	(28.503)	,		(28.503		
Otras ganancias (pérdidas)	(3.013)	1.793	(1.220)		-	(1.220		
Ingresos financieros	5.474	43	5.517	5.517	-	5.517		
Costos financieros	(85.170)	(5.366)	(90.536)	(90.536)	-	(90.536		
Participación en las ganancias (pérdidas) de asociadas y negocios conjuntos que se	4.927	_	4.927	4.927	1.693	6.620		
contabilicen utilizando el método de la participación	4.927		4.927	4.927	1.093	0.020		
Diferencias de cambio	(10.658)	(502)	(11.160)	(11.160)	-	(11.160		
Resultados por unidades de reajuste	2.425	-	2.425	2.425	-	2.425		
Ganancia (pérdida) procedente de operaciones continuadas	302.306	(3.963)	298.343	298.343	1.693	300.036		
Gasto por impuesto a las ganancias	(98.500)	(1.103)	(99.603)	(99.603)	-	(99.603		
Ganancia (pérdida)	203.806	(5.066)	198.740	198.740	1.693	200.433		
Ganancia atribuible a								
Ganancia atribuible a los propietarios de la controladora	203.806	(1.693)	202.113	202.113	1.693	203.806		
Ganancia atribuible a participaciones no controladoras	-	(3.373)	(3.373)	(3.373)	-	(3.373		
Ganancia	203.806	(5.066)	198.740	198.740	1.693	200.433		
Estados de Flujos de Efectivo								
Flujos de efectivo procedentes de (utilizados en) actividades de operación	682.470	35.618	718.088	718.088	-	718.088		
Flujos de efectivo procedentes de (utilizados en) actividades de inversión	99.675	(66)	99.609	99.609	-	99.609		
Flujos de efectivo procedentes de (utilizados en) actividades de financiación	(166.560)	(3.010)	(169.570)	(169.570)	-	(169.570		

<sup>(1)</sup> Resultado por 12 días de diciembre 2015.

## Información sobre productos y servicios

	Enero - Diciembre			
Segmentos de ventas	2016	2015		
	MUS\$	MUS\$		
Ventas de energía	1.058.575	981.605		
Ventas de potencia	190.918	153.020		
Otros ingresos	186.747	179.231		
Total ventas	1.436.240	1.313.856		

## Información sobre ventas a clientes principales

	Er	nero - D	iciembre		
Clientes principales	2016		2015		
	MUS\$	%	MUS\$	%	
Chile					
CGE Distribución S.A.	334.798	23%	293.825	22%	
Corporación Nacional del Cobre Chile	336.014	23%	296.758	23%	
Enel Distribución Chile S.A. (ex Chilectra S.A.)	209.945	15%	202.844	15%	
Sociedad Austral del Sur S.A.	89.748	6%	75.969	6%	
Anglo American S.A.	84.046	6%	90.059	7%	
Otros	164.963	12%	348.178	27%	
Subtotal	1.219.514	85%	1.307.633	100%	
Perú <sup>(*)</sup>					
Luz del Sur	103.255	7%	4.655	0%	
Empresa de Distribución Electrica de Lima Norte S.A.	21.974	2%	-	0%	
Electronoroeste S.A.	7.326	1%	-	0%	
Hidrandina S.A.	5.305	0%	-	0%	
Electrocentro	-	0%	1.187	0%	
Electrodunas	-	0%	187	0%	
Otros	78.866	5%	194	0%	
Subtotal	216.726	15%	6.223	0%	
Total ventas	1.436.240	100%	1.313.856	100%	

 $<sup>^{(*)}</sup>$  Para el ejercicio 2015 corresponde a ingresos por 12 días de la filial Fénix Power Perú.

# 8. Clases de efectivo y equivalentes al efectivo

# a. Composición del rubro

La composición del rubro al 31 de diciembre de 2016 y 2015, es la siguiente:

Efectivo y equivalentes al efectivo	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Efectivo en caja	53	52
Saldos bancos	21.706	44.842
Depósitos a Plazo	459.522	770.796
Otros Instrumentos Líquidos	112.439	79.817
Total	593.720	895.507

El saldo en bancos incluye los fondos del fideicomiso de la filial Fénix Power S.A. por MMUSD 15,7. En tanto al 31 de diciembre de 2015 este valor era de MMUSD 19,4.

Los Depósitos a Plazo vencen en un plazo inferior a tres meses desde la fecha de adquisición y devengan el interés de mercado para este tipo de inversiones de corto plazo.

Los Otros Instrumentos Líquidos corresponden a fondos mutuos de renta fija en pesos, euros y dólares, de muy bajo riesgo, los cuales se encuentran registrados al valor de la cuota respectiva a la fecha de cierre de los

presentes estados financieros consolidados.

Adicionalmente a estos instrumentos al 31 de diciembre de 2016 y 2015, la Compañía presenta otros Depósitos a Plazo que tenían vencimientos en un plazo superior a tres meses desde su adquisición, los cuales se presentan en la Nota 9.

# b. Detalle por tipo de moneda

El detalle de efectivo y equivalentes al efectivo, por tipo de moneda, considerando el efecto de derivados, es el siguiente:

	31.12	.2016	31.12.2015		
Moneda	Moneda de origen MUS\$	Moneda con derivado <sup>(1)</sup> MUS\$	Moneda de origen MUS\$	Moneda con derivado <sup>(1)</sup> MUS\$	
EUR	516	516	440	440	
CLP	435.370	135.370	220.942	134.145	
PEN	17.359	17.359	25.192	25.192	
USD	140.475	440.475	648.933	735.730	
Total	593.720	593.720	895.507	895.507	

<sup>(1)</sup> Considera el efecto de forward de tipo de cambio suscritos para redenominar a dólares ciertos Depósitos a Plazo en pesos.

# c. Adquisición de subsidiarias

Adquisición de subsidiarias	<b>31.12.2015</b> MUS\$
Efectivo y equivalentes al efectivo pagado por entidades adquiridas	(213.600)
Efectivo y equivalentes al efectivo recibido desde entidades adquiridas (1)	11.378
Total Neto (2)	(202.222)

<sup>(1)</sup> Corresponde a saldo de efectivo de Fénix Power Perú (ver nota 6)

## 9. Otros activos financieros

La composición del rubro al 31 de diciembre de 2016 y 2015, es la siguiente:

	Corr	iente	No corriente		
	31.12.2016 31.12.2015	31.12.2016	31.12.2015		
	MUS\$	MUS\$	MUS\$	MUS\$	
Depósitos a Plazo (1)	73.277	185.269	-	-	
Instrumentos Derivados cobertura (2) (Ver nota 14.1)	1.008	124	5.153	-	
Inversión en el CDEC	-	-	224	212	
Total	74.285	185.393	5.377	212	

<sup>&</sup>lt;sup>(1)</sup> Al 31 de diciembre de 2016 y 2015 las inversiones en depósitos a plazo que fueron clasificadas en este rubro, tienen un plazo promedio de inversión original menor a seis meses y el plazo remanente de vencimiento era de 60 días promedio. Los flujos de efectivo relacionados a estas inversiones se presentan en el Estado de Flujos de Efectivo como actividades de inversión en otras entradas (salidas) de efectivo.

<sup>(2)</sup> Ver Estado de Flujos de Efectivo Consolidado

<sup>(2)</sup> Corresponde al mark-to-market positivo actual de los derivados de cobertura vigentes al cierre de cada periodo.

#### 10. Deudores comerciales y otras cuentas por cobrar

La composición del rubro al 31 de diciembre de 2016 y 2015, es la siguiente:

	Corri	ente	
Rubro	31.12.2016	31.12.2015	
	MUS\$	MUS\$	
Deudores comerciales con contrato	161.672	123.967	
Deudores varios (1)	37.487	40.980	
Total	199.159	164.947	

(1) Al 31 de diciembre de 2016 el saldo corriente considera los impuestos por recuperar (Impuesto general a las ventas (IGV) e impuesto específico) por MUS\$ 21.658, garantía fiduciaria por MUS\$ 8.988, garantía por colateral JP Morgan por MUS\$ 4.161, y otros menores por MUS\$ 2.680. En tanto al 31 de diciembre de 2015 el saldo correspondiente a impuestos por recuperar fue de MUS\$ 36.313 y otros menores por MUS\$ 4.667. La Compañía estima que el periodo de recuperación de estos activos es de 12 meses.

El periodo medio de cobro a clientes es de 30 días.

Las contrapartes comerciales de Colbún corresponden a empresas de primer nivel en términos de calidad crediticia y empresas distribuidoras que por su regulación y/o comportamiento histórico no muestran signos de deterioro o atrasos importantes en los plazos de pago.

Considerando la solvencia de los deudores, la regulación vigente y en concordancia con la política de incobrables declarada en nuestras políticas contables (ver nota 3.1.h.1.6), la Compañía ha estimado que existe evidencia de deterioro en algunas cuentas por cobrar de la subsidiaria Fénix Power Perú S.A. por la cual ha constituido una provisión de incobrabilidad que en opinión de la Administración cubre adecuadamente el riesgo de pérdida de valor de éstas cuentas por cobrar.

Los valores razonables de deudores comerciales y otras cuentas por cobrar no difieren de su valor contable.

Al 31 de diciembre de 2016 y 2015, el análisis de deudores comerciales, es el siguiente:

a) Estratificación de cartera de los deudores comerciales: por antigüedad.

			Saldos al 3	1.12.2016			
Facturado	<b>Al Día</b> MUS\$	<b>1-30 días</b> MUS\$	<b>31-60</b> MUS\$	<b>61-90</b> MUS\$	<b>91-más</b> MUS\$	<b>Total</b> MUS\$	
Deudores comerciales Regulados	5.858	4.752	30	28	12.838	23.506	
Deudores comerciales Libres	148	552	-	-	-	700	
Otros deudores comerciales	1.881	674	463	29	121	3.168	
Provisión de deterioro	-	-	-	-	(11.187)	(11.187)	
Subtotal	7.887	5.978	493	57	1.772	16.187	
			Saldos al 3	31.12.2016			
Facturas por emitir	<b>Al Día</b> MUS\$	<b>1-30 días</b> MUS\$	<b>31-60</b> MUS\$	<b>61-90</b> MUS\$	<b>91-más</b> MUS\$	<b>Total</b> MUS\$	
Deudores comerciales Regulados	89.987	-	-	-	-	89.987	
Deudores comerciales Libres	48.912	-	-	-	-	48.912	
Otros deudores comerciales	6.586	-	-	-	-	6.586	
Subtotal	145.485	-	-	-	-	145.485	
Total Deudores Comerciales	153.372	5.978	493	57	1.772	161.672	
Nº de clientes (no auditado)	46	173	105	97	133		

			Saldos al 3	1.12.2015			
Facturado	<b>Al Día</b> MUS\$	1-30 días MUS\$	<b>31-60</b> MUS\$	<b>61-90</b> MUS\$	<b>91-más</b> MUS\$	<b>Total</b> MUS\$	
Deudores comerciales Regulados	-	1.656	5	2	5.585	7.248	
Deudores comerciales Libres	-	-	-	-	-	-	
Otros deudores comerciales	-	774	237	17	-	1.028	
Provisión de deterioro	-	-	-	-	(5.463)	- 5.463	
Subtotal	- 2.430 242 19 122 2.81						
	Saldos al 31.12.2015						
Facturas por emitir	<b>Al Día</b> MUS\$	1-30 días MUS\$	<b>31-60</b> MUS\$	<b>61-90</b> MUS\$	<b>91-más</b> MUS\$	<b>Total</b> MUS\$	
Deudores comerciales Regulados	79.608	-	-	-	-	79.608	
Deudores comerciales Libres	35.167	-	-	-	-	35.167	
Otros deudores comerciales	6.379	-	-	-	-	6.379	
Subtotal	121.154	-	-	-	-	121.154	
Total Deudores Comerciales	121.154	2.430	242	19	122	123.967	
Nº de clientes (no auditado)	32	140	44	72	10		

# b) Clientes en cobranza judicial

No existen deudores comerciales y otras cuentas por cobrar registradas en la contabilidad que se encuentren en cobranza judicial.

## 11. Instrumentos financieros

# a. Instrumentos financieros por categoría

Las políticas contables relativas a instrumentos financieros se han aplicado a las categorías que se detallan a continuación:

## a.1 Activos

31 de diciembre de 2016	Efectivo y equivalentes al efectivo	Mantenidos al vencimiento	Préstamos y cuentas por cobrar (1)	Activos a valor razonable con cambios en resultados MUS\$	Derivados de cobertura	<b>Total</b> MUS\$
	MUS\$	MUS\$	14022	MUS\$	MUS\$	MUS\$
Efectivo en caja y saldos banco (ver nota 8)	21.759	-	-	-	-	21.759
Depósitos a Plazo y Otros Instrumentos Líquidos (ver nota 8)	-	459.522	-	112.439	-	571.961
Deudores comerciales y cuentas por cobrar (ver nota 10)	-	-	177.501	-	-	177.501
Cuentas por cobrar a entidades relacionadas (ver nota 12.b.1)	-	-	3.055	-	-	3.055
Instrumentos financieros derivados (ver nota 14.1)	-	-	-	-	6.161	6.161
Otros activos financieros (ver nota 9)	-	73.501	-	-	-	73.501
Total	21.759	533.023	180.556	112.439	6.161	853.938
				Activos a		
31 de diciembre de 2015	Efectivo y equivalentes al efectivo	Mantenidos al vencimiento	Préstamos y cuentas por cobrar (1)	valor razonable con cambios en resultados MUS\$	Derivados de cobertura	Total MUS\$
	equivalentes al efectivo	al vencimiento	y cuentas por cobrar	razonable con cambios en resultados	de cobertura	
31 de diciembre de 2015  Efectivo en caja y saldos banco (ver nota 8)  Depósitos a Plazo y Otros Instrumentos Líquidos (ver nota 8)	equivalentes al efectivo	al vencimiento	y cuentas por cobrar (1) MUS\$	razonable con cambios en resultados	de cobertura MUS\$	MUS\$
Efectivo en caja y saldos banco (ver nota 8) Depósitos a Plazo y Otros Instrumentos Líquidos (ver nota 8)	equivalentes al efectivo MUS\$	al vencimiento MUS\$	y cuentas por cobrar (1) MUS\$	razonable con cambios en resultados MUS\$	de cobertura MUS\$	MUS\$ 44.894
Efectivo en caja y saldos banco (ver nota 8) Depósitos a Plazo y Otros Instrumentos Líquidos (ver nota 8) Deudores comerciales y cuentas por cobrar (ver nota 10)	equivalentes al efectivo MUS\$ 44.894	al vencimiento MUS\$ - 770.796	y cuentas por cobrar (1) MUS\$	razonable con cambios en resultados MUS\$	de cobertura MUS\$	MUS\$ 44.894 850.613
Efectivo en caja y saldos banco (ver nota 8) Depósitos a Plazo y Otros Instrumentos Líquidos (ver nota 8) Deudores comerciales y cuentas por cobrar (ver nota 10) Cuentas por cobrar a entidades relacionadas (ver nota 12.b.1)	equivalentes al efectivo MUS\$ 44.894	al vencimiento  MUS\$  - 770.796	y cuentas por cobrar (1) MUS\$ - - 128.634	razonable con cambios en resultados MUS\$ - 79.817	de cobertura MUS\$	MUS\$ 44.894 850.613 128.634
Efectivo en caja y saldos banco (ver nota 8) Depósitos a Plazo y Otros Instrumentos Líquidos (ver nota 8) Deudores comerciales y cuentas por cobrar (ver nota 10)	equivalentes al efectivo MUS\$ 44.894 - -	al vencimiento  MUS\$  - 770.796	y cuentas por cobrar (1) MUS\$ - - 128.634 2.870	razonable con cambios en resultados MUS\$	de cobertura MUS\$	MUS\$ 44.894 850.613 128.634 2.870

 $<sup>^{(1)}</sup>$  Al 31 de diciembre de 2016 no considera los impuestos por recuperar MUS\$ 21.658. En tanto al 31 de diciembre de 2015 el saldo correspondiente a impuestos por recuperar fue de MUS\$ 36.313 corriente.

# a.2 Pasivos

Otros pasivos financieros	Derivados de cobertura	Total
MUS\$	MUS\$	MUS\$
1.690.057	-	1.690.057
15.451	-	15.451
-	4.524	4.524
226.905	-	226.905
32.339	-	32.339
1.964.752	4.524	1.969.276
	pasivos financieros MUS\$ 1.690.057 15.451 - 226.905 32.339	Derivados de cobertura

31 de diciembre de 2015	Otros pasivos financieros	Derivados de cobertura	Total
	MUS\$	MUS\$	MUS\$
Préstamos que devengan interés (ver nota 22.a)	2.177.968	-	2.177.968
Obligaciones por leasing	16.025	-	16.025
Instrumentos financieros derivados (ver nota 14.1)	-	41.648	41.648
Cuentas por pagar comerciales (ver nota 23)	180.855	-	180.855
Cuentas por pagar a entidades relacionadas (ver nota 12.b.2)	30.252	-	30.252
Total	2.405.100	41.648	2.446.748

# b. Calidad crediticia de Activos Financieros

La calidad crediticia de los activos financieros que todavía no han vencido y que tampoco han sufrido pérdidas por deterioro se puede evaluar en función de la clasificación crediticia ("rating") otorgada a las contrapartes de la Compañía por agencias de clasificación de riesgo de reconocido prestigio local e internacional.

Calidad crediticia de Activos Financieros	31.12.2016	31.12.2015
Calidad crediticia de Activos Financieros	MUS\$	MUS\$
Clientes con clasificación de riesgo local		
AAA	40.958	27.377
AA+	15.466	1
AA	56.277	23.685
AA-	267	-
A+	36	50.067
A	-	26
Total	113.004	101.156
Clientes sin clasificación de riesgo local		
Total	48.668	22.811
Caja en bancos y depósitos bancarios a corto plazo Mercado	Local	
AAA	231.337	258.438
AA+	102.717	32.679
AA	86.204	100.297
AA-	14.942	80
A+o inferior	20.457	6.907
Total	455.657	398.401
Caja en bancos y depósitos bancarios a corto plazo Mercado	Internacion	al <sup>(*)</sup>
BBB- o superior	98.901	602.558
Total	98.901	602.558
Activos Financieros derivados Contraparte Mercado Interna	cional <sup>(*)</sup>	
A o Superior	1.008	124
Total	1.008	124

<sup>(\*)</sup> Clasificación de riesgo internacional

#### 12. Información sobre partes relacionadas

Las operaciones entre la Compañía y sus subsidiarias dependientes, que son partes relacionadas, forman parte de las transacciones habituales de la Sociedad en cuanto a su objeto y condiciones, y han sido eliminadas en el proceso de consolidación. La identificación de vínculo entre la Controladora, subsidiarias y asociadas se encuentra detallada en la nota 3.1 letra b. y c.

## a. Accionistas mayoritarios

La distribución de los accionistas de la Compañía al 31 de diciembre de 2016 es la siguiente:

Nombre de los Accionistas	Participación %
Minera Valparaíso S.A. (*)	35,17
Forestal Cominco S.A. (*)	14,00
Antarchile S.A.	9,58
AFP Habitat S.A. (**)	4,85
AFP Provida S.A. (**)	4,61
Banco de Chile por cuenta de terceros	4,55
AFP Capital S.A. (**)	3,87
AFP Cuprum S.A. (**)	3,69
Banco Itaú por cuenta de inversionistas	3,38
Banco Santander - JP Morgan	1,53
Otros accionistas	14,77
Total	100

<sup>(\*)</sup> Sociedades pertenecientes al grupo controlador (grupo Matte)

## b. Saldo y transacciones con entidades relacionadas

Las operaciones por cobrar, pagar y transacciones con entidades relacionadas fueron realizadas en términos y condiciones de mercado y se ajustan a lo establecido en el artículo Nº 44 de la Ley Nº 18.046, sobre Sociedades Anónimas. La Compañía no registra provisión por cuentas por cobrar de dudoso cobro, ya que dichas obligaciones son pagadas dentro de los plazos establecidos (menos de 30 días) o corresponden a pagos de Dividendos que han provisionado las entidades relacionadas (caso Electrogas S.A.).

# b. 1. Cuentas por cobrar a entidades relacionadas

		País	Naturaleza de la	Tipo de	Corri	iente	No corriente		
RUT						<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
96.806.130-5	Electrogas S.A.	Chile	Asociada	Dólar	2.380	2.527	-	-	
96.853.150-6	Papeles Cordillera S.A.	Chile	Grupo empresarial común	Pesos	40	40	263	280	
96.529.310-8	CMPC Tissue S.A.	Chile	Grupo empresarial común	Pesos	13	13	-	-	
77.017.930-0	Transmisora Eléctrica de Quillota Ltda.	Chile	Negocio Conjunto	Pesos	11	10	-	-	
96.731.890-6	Cartulinas CMPC S.A.	Chile	Grupo empresarial común	Pesos	348	-	-	-	
				Total	2.792	2.590	263	280	

## b. 2. Cuentas por pagar a entidades relacionadas

		País	Naturaleza de la	Tipo de	Corri	Corriente		
RUT	Sociedad	origen	relación	Moneda	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$		
77.017.930-0	Transmisora Eléctrica de Quillota Ltda.	Chile	Negocio conjunto	Pesos	197	-		
96.565.580-8	Cía. Leasing Tattersall S.A.	Chile	Director Común	Pesos	202	56		
99.520.000-7	Compañía de Petróleos de Chile Copec S.A.	Chile	Director Común	Pesos	2.282	227		
96.806.980-2	Entel PCS Comunicaciones S.A.	Chile	Director Común	Pesos	28	24		
90.412.000-6	Minera Valparaíso S.A.	Chile	Accionista mayoritario	Dólar	21.194	21.419		
79.621.850-9	Forestal Cominco S.A.	Chile	Accionista mayoritario	Dólar	8.436	8.526		
				Total	32.339	30.252		

No existen garantías, otorgadas o recibidas por las transacciones con partes relacionadas.

<sup>(\*\*)</sup> Corresponde a la participación consolidada por cada Administradora de Fondos de Pensión

## b. 3 Transacciones más significativas y sus efectos en resultado

							Enero -	Diciembre	
						2	016	2015	
Rut	Sociedad	País origen	Naturaleza de la relación	Tipo de moneda			Efecto en resultados (cargo) abono MUS\$	Monto MUS\$	Efecto en resultados (cargo) abono MUS\$
77.047.020.0		61.11		Pesos	Peaje uso de instalaciones	2.502	(2.103)	2.225	(1.871)
//.01/.930-0	Transmisora Eléctrica de Quillota Ltda.	Chile	Negocio conjunto	UF	Ingresos por servicios prestados	132	111	131	110
76.652.400-1	Centrales Hidroeléctricas de Aysén S.A.	Chile	Negocio conjunto	Pesos	Aportes de Capital (1)	3.323	-	3.906	-
				Dólar	Servicio de transporte de gas	9.167	(7.703)	9.608	(8.073)
96 806 130-5	Electrogas S.A.	Chile	Asociada	Dólar	Servicio de transporte de diesel	1.094	(919)	1.150	(969)
30.000.130 3 Electrogas 3.A.	00	Asociada	Dólar	Dividendo declarado (2)	2.380	-	2.527	-	
				Dólar	Dividendo recibido (2)	8.682	-	7.550	-
96.853.150-6	Papeles Cordillera S.A.	Chile	Director común en matriz	Pesos	Arriendo reserva de capacidad	37	31	414	348
97.080.000-K	Banco Bice	Chile	Director común	Pesos	Gastos por servicios recibidos	28	(24)	26	(22)
96.731.890-6	Cartulinas CMPC S.A.	Chile	Director común en matriz	Pesos	Servidumbre	1.118	939	1.185	996
79.621.850-9	Forestal Cominco S.A.	Chile	Accionista mayoritario	Dólar	Dividendos (3)	15.072	-	16.229	-
	Minera Valparaíso S.A.	Chile	Accionista mayoritario	Dólar	Dividendos (3)	37.865	-	40.770	-
	Compañía de Petróleos de Chile Copec S.A.	Chile	Director común	Pesos	Servicio de Abastecimiento de diésel	45.163	(34.071)	46.093	(35.028)
96.565.580-8	Cía. Leasing Tattersall S.A.	Chile	Director común	Pesos	Arriendo de vehículos (4)	1.460	(1.227)	1.385	(1.213)
96.806.980-2	Entel PCS Telecomunicaciones S.A.	Chile	Director común	Pesos	Servicios de telefonía	418	(351)	409	(353)
96.697.410-9	Entel Telefonía Local S.A.	Chile	Director común	Pesos	Servicios de telefonía	54	(45)	69	(57)
76.115.889-9	MR Consult Limitada	Chile	Socio Principal	Pesos	Servicio de Asesoría	121	(121)	89	(89)
4.523.287-5	Arturo Mackenna	Chile	Director	Pesos	Servicio de Asesoría	28	(28)	-	-

# (1) Aportes a Centrales Hidroeléctricas de Aysén S.A.

- Con fecha 08 de julio de 2016 Colbún realizó tercer aporte de capital a Centrales Hidroeléctricas de Aysén S.A. por MM\$ 441 (MUS\$ 664), según lo acordado en la junta extraordinaria de accionistas de Hidroaysén con fecha 04 de diciembre de 2015.
- Con fecha 08 de marzo de 2016 Colbún realizó segundo aporte de capital a Centrales Hidroeléctricas de Aysén S.A. por MM\$ 1.813 (MUS\$ 2.660), según lo acordado en la junta extraordinaria de accionistas de Hidroaysén con fecha 04 de diciembre de 2015.
- Con fecha 2 de marzo de 2015, Colbún realizó el segundo y último aporte de capital por MM\$ 1.715 (MUS\$ 2.753), según lo acordado en la 18º junta extraordinaria de accionistas de Hidroaysén con fecha 22 de octubre de 2014.
- (2) Dividendos declarados por y recibidos de Electrogas S.A.
  - En marzo 2016, Electrogas S.A. declaró un dividendo provisorio con cargo a la utilidad del 2015 por MMUS\$ 14,3 de los cuales a Colbún le corresponde el 42,5%.
  - En mayo 2016, se recibe un pago por MUS\$ 5.950 quedando un saldo pendiente de cobro de MUS\$ 2.732.
  - En septiembre de 2016, se recibe el saldo pendiente del dividendo por MUS 2.732.
  - En diciembre de 2016, Electrogas acordó un dividendo provisorio a cuenta del resultado 2016 por MUS\$ 5.600, correspondiéndole a Colbún la suma de MUS\$ 2.380.
- (3) Dividendos declarados y pagados a Minera Valparaíso S.A. y Forestal Cominco S.A.
  - En Sesión de Directorio de fecha 20 de diciembre de 2016, se acordó la distribución de un dividendo provisorio con cargo a las utilidades del ejercicio 2016, pagadero en dinero ascendente a la cantidad total de MUS\$ 45.760, el cual se pagó con fecha 9 de enero de 2017.

- Corresponde al dividendo definitivo acordado en Junta de Accionistas de fecha 22 de abril de 2016 y pagado con fecha 05 de mayo de 2016. Corresponde al dividendo provisorio acordado en Sesión de Directorio de fecha 22 de diciembre de 2015 y pagado con fecha 12 de enero
- de 2016.
- Corresponde al dividendo definitivo acordado en Junta de Accionistas de fecha 24 de abril de 2015 y pagado con fecha 6 de mayo de 2015.
- Corresponde al dividendo provisorio acordado en Sesión de Directorio de fecha 25 de noviembre de 2014 y pagado con fecha 6 de enero
- (4) Entidad relacionada a través de Director Común hasta abril de 2016.

## c. Administración y Alta Dirección

Los miembros de la Alta Dirección y demás personas que asumen la gestión de Colbún, así como los accionistas o las personas naturales o jurídicas a las que representan, no han participado al 31 de diciembre de 2016 y 2015, en transacciones inhabituales y/o relevantes de la Sociedad.

La Compañía es administrada por un Directorio compuesto por 9 miembros, los que permanecen por un periodo de 3 años con posibilidad de ser reelegidos.

En Sesión Extraordinaria del Directorio celebrada el día 22 de marzo de 2016, el Directorio tomó conocimiento de la renuncia presentada a su cargo por la Sra. Vivianne Blanlot S. la que se hizo efectiva a contar de esta misma fecha.

En Junta Ordinaria de Accionistas celebrada con fecha 22 de abril de 2016, se renovó el directorio de la Sociedad, resultando elegidas las señoras María Ignacia Benítez Pereira, Vivianne Blanlot Soza y Luz Granier Bulnes, y los señores Bernardo Larraín Matte, Arturo Mackenna Íñiguez, Eduardo Navarro Beltrán, Jorge Matte Capdevila, Juan Eduardo Correa García y Francisco Matte Izquierdo. Las señoras María Ignacia Benítez Pereira y Luz Granier Bulnes fueron elegidas en calidad de directoras independientes.

En Sesión del Directorio celebrada el día 30 de noviembre de 2016, el Directorio tomó conocimiento de la renuncia presentada a su cargo por el Sr. Eduardo Navarro B. la que se hizo efectiva a contar del 01 de diciembre de 2016; a partir de esta fecha asume como Director el Sr. Andrés Lehuedé Bromley.

#### d. Comité de Directores

De conformidad con lo dispuesto en el Artículo 50 bis de la Ley N°18.046 sobre Sociedades Anónimas, Colbún y subsidiarias cuenta con un Comité de Directores compuesto de 3 miembros, que tienen las facultades contemplados en dicho artículo.

El 22 de abril de 2016 en Sesión de Extraordinaria de Directorio, se designó como Presidente del Directorio a Bernardo Larraín Matte y como Vicepresidente a Vivianne Blanlot Soza. Se designaron como integrantes del Comité de Directores a don Juan Eduardo Correa García, y a las señoras Luz Granier Bulnes y María Ignacia Benítez Pereira.

## e. Remuneración y otras prestaciones

En conformidad a lo establecido en el Artículo 33 de la Ley Nº18.046 de Sociedades Anónimas, la remuneración del Directorio es determinada en la Junta General Ordinaria de Accionistas de la Compañía.

El detalle de los montos pagados al 31 de diciembre de 2016 y 2015 que incluye a los miembros del Comité de Directores, se presenta a continuación:

#### e.1 Remuneración del Directorio

			Ener	o - Diciembi	re		
			2016		2015		
Nombre	Cargo	de Colbún	Remuneración Variable <sup>(2)</sup>	Directores	de Colbún	Directores	
		MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	
Bernardo Larraín Matte (1)	Presidente	132	128	-	92	-	
Vivianne Blanlot Soza (1)	Vice-presidente	66	64	5	46	15	
Juan Eduardo Correa García (1)	Director	66	64	18	46	-	
Luz Granier Bulnes (1)	Director	66	48	22	34	11	
Arturo Mackenna Íñiguez (1)	Director	66	64	-	46	-	
Eduardo Navarro Beltrán	Director	60	64	-	46	-	
María Ignacia Benítez Pereira (1)	Director	54	-	18	-	-	
Jorge Matte Capdevila (1)	Director	54	-	-	-	-	
Francisco Matte Izquierdo (1)	Director	54	-	-	-	-	
Luis Felipe Gazitua Achondo	Director	16	64	5	46	15	
Eliodoro Matte Larraín	Director	16	64	-	46	-	
Juan Hurtado Vicuña	Director	16	64	-	46	-	
Sergio Undurraga Saavedra	Director	-	16	-	12	4	
Andrés Lehuedé Bromley (1)	Director	6	-	-	-	-	
		672	640	68	460	45	

<sup>(1)</sup> Directores vigentes al 31 de diciembre de 2016

En Junta de Ordinaria de Accionistas celebrada con fecha 22 de abril de 2016 se acordó el pago de una remuneración variable anual igual al 0,75% de las utilidades provenientes del ejercicio 2016. Al 31 de diciembre de 2016 se provisionaron MUS\$ 875 por este concepto.

# e.2 Gastos en Asesoría del Directorio

En los ejercicios terminados al 31 de diciembre de 2016 y 2015, el Directorio no realizó gastos por asesorías.

# e.3 Remuneración de los miembros de la Alta Dirección que no son Directores

Nombre	Cargo
Thomas Keller Lippold	Gerente General
Juan Eduardo Vásquez Moya	Gerente División Negocios y Gestión de Energía
Carlos Luna Cabrera	Gerente División Generación
Sebastián Moraga Zúñiga	Gerente División Finanzas y Administración
Eduardo Lauer Rodríguez	Gerente División Ingeniería y Proyectos
Juan Pablo Schaeffer Fabres	Gerente División Desarrollo Sustentable
Rodrigo Pérez Stiepovic	Gerente Legal
Paula Martínez Osorio	Gerente de Organización y Personas
Sebastián Fernández Cox	Gerente de Desarrollo
Heraldo Alvarez Arenas	Gerente de Auditoría Interna

Las remuneraciones devengadas por el personal clave de la gerencia, ascienden a:

	Enero - Diciembre				
Concepto	2016 MUS\$	2015 MUS\$			
Beneficios a los empleados a corto plazo	5.360	4.561			
Beneficios por terminación	10	107			
Total	5.370	4.668			

 $<sup>^{(2)}</sup>$  Remuneración variable proveniente del ejercicio 2015 y pagada con fecha 5 de mayo de 2016.

## e.4 Cuentas por cobrar y pagar y otras transacciones

Al 31 de diciembre de 2016 y 2015 no existen cuentas por cobrar y pagar entre la Compañía y sus Directores y Gerencias.

#### e.5 Otras transacciones

No existen otras transacciones entre la Compañía y sus Directores y Gerencias del Grupo.

## e.6 Garantías constituidas por la Compañía a favor de los Directores

Durante los ejercicios terminados al 31 de diciembre de 2016 y 2015, la Compañía no ha realizado este tipo de operaciones.

## e.7 Planes de incentivo a los principales ejecutivos y gerentes

La Compañía tiene para toda su plana ejecutiva, bonos fijados en función de la evaluación de su desempeño individual y cumplimiento de metas a nivel divisional y corporativo.

## e.8 Indemnizaciones pagadas a los principales ejecutivos y gerentes

Durante el ejercicio terminado al 31 de diciembre de 2016 no se pagaron indemnizaciones, en tanto al 31 de diciembre de 2015 se realizaron pagos por MUS\$ 155.

#### e.9 Cláusulas de garantía: Directorio y Gerencia de la Compañía

La Compañía no tiene pactado cláusulas de garantía con sus directores y gerencia.

## e.10 Planes de retribución vinculados a la cotización de la acción

La Compañía no mantiene este tipo de operación.

# 13. Inventarios

La composición del rubro al 31 de diciembre de 2016 y 2015, es el siguiente:

Clases de inventarios	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Repuestos para Mantenimiento (1)	21.259	19.395
Carbón	15.603	15.750
Existencias en tránsito (2)	6.462	1.233
Petróleo	4.863	5.927
Gas Line Pack	274	274
Provisión obsolescencia (3)	(3.347)	(2.660)
Total	45.114	39.919

<sup>(1)</sup> Al 31 de diciembre de 2016 se reclasificaron Repuestos para Mantenimiento al activo No Corriente dentro del rubro Propiedad, Planta y Equipos determinado en base a la rotación de las existencias por MMUS\$ 69,9. En tanto al 31 de diciembre de 2015 se reclasificaron MMUS\$ 58,1 por este concepto.

No existen inventarios entregados en prenda para garantía de cumplimiento de deudas.

<sup>(2)</sup> Corresponde a existencia de carbón para uso en el Complejo Santa María Unidad I.

<sup>(3)</sup> Corresponde a la estimación por deterioro sobre el stock de repuestos.

#### Costo de inventarios reconocidos como gasto

Los consumos reconocidos como gastos durante los ejercicios terminados al 31 de diciembre de 2016 y 2015 respectivamente, se presentan en el siguiente detalle:

	Enero - D	iciembre
Costo inventario	2016	2015
	MUS\$	MUS\$
Consumos almacén	9.935	10.360
Petróleo (ver nota 28)	41.330	44.073
Gas Line Pack (ver nota 28)	262.823	253.413
Carbón (ver nota 28)	63.381	77.637
Total	377.469	385.483

#### 14. Instrumentos derivados

La Compañía, siguiendo la política de gestión de riesgos financieros descrita en la Nota 4, realiza contrataciones de derivados financieros para cubrir su exposición a la variación de tasas de interés, moneda (tipo de cambio) y precios de combustibles.

Los derivados de tasas de interés son utilizados para fijar o limitar la tasa de interés variable de obligaciones financieras y corresponden a swaps de tasa de interés.

Los derivados de moneda se utilizan para fijar la tasa de cambio del dólar respecto al Peso (CLP), Unidad de Fomento (U.F.), Soles Peruanos (PEN) y Euro (EUR), producto de inversiones u obligaciones existentes en monedas distintas al dólar. Estos instrumentos corresponden principalmente a Forwards y Cross Currency Swaps.

Los derivados sobre precios de combustibles se emplean para mitigar el riesgo de variación de ingresos por venta y costos de la producción de energía de la Compañía producto de un cambio en los precios de combustibles utilizados para tales efectos. Los instrumentos utilizados corresponden principalmente a opciones y forwards.

Al 31 de diciembre de 2016, la Compañía clasifica todas sus coberturas como "Cobertura de flujos de efectivo".

# 14.1 Instrumentos de Cobertura

El detalle de este rubro al 31 de diciembre de 2016 y 2015, que recoge la valorización de los instrumentos financieros a dichas fechas, es el siguiente:

		Corri	iente	No Corriente		
Activos de Cobert	ura	31.12.2016	31.12.2015	31.12.2016	31.12.2015	
		MUS\$	MUS\$	MUS\$	MUS\$	
Cobertura de tipo de cambio	Cobertura flujo de caja	103	-	-	-	
Cobertura de tasa de interés Cobertura flujo de caja		-	-	5.153	-	
Cobertura de precio de combustibles Cobertura flujo de caja		905	124	-	-	
Total (ver nota 9)		1.008	124	5.153	-	
		Corri	iente	No Corriente		
Pasivos de Cobert	tura	31.12.2016	31.12.2015	31.12.2016	31.12.2015	
		MUS\$	MUS\$	MUS\$	MUS\$	
Cobertura de tipo de cambio Cobertura flujo de caja		1.034	3.604	2.918	34.256	
Cobertura de tasa de interés Cobertura flujo de caja		572	1.179	-	2.609	
	Total (ver nota 22.a)	1.606	4.783	2.918	36.865	

El detalle de la cartera de instrumentos de cobertura de Colbún S.A. es el siguiente:

Instrumento de	Valor Ra Instrumento		Subus santa Subisata	Biassa Cubiasta	Tipo de
cobertura	31.12.2016	31.12.2015	Subyacente Cubierto	Riesgo Cubierto	cobertura
	MUS\$	MUS\$			
Forwards de moneda	2	(1.401)	Desembolsos Futuros Proyecto	Tipo de Cambio	Flujo de caja
Forwards de moneda	-	353	Dividendos	Tipo de Cambio	Flujo de caja
Forwards de moneda	100	(217)	Inversiones Financieras	Tipo de Cambio	Flujo de caja
Swaps de tasa de interés	4.939	(1.079)	Préstamos Bancarios	Tasa de interés	Flujo de caja
Swaps de tasa de interés	-	(2.215)	Obligaciones con el Público (Bonos)	Tasa de interés	Flujo de caja
Cross Currency Swaps	(4.309)	(37.089)	Obligaciones con el Público (Bonos)	Tipo de Cambio	Flujo de caja
pciones de Petróleo 905		124	Compras de Petróleo	Precio del Petróleo	Flujo de caja
Total 1.637 (4		(41.524)			

En relación a las coberturas de flujo de caja presentadas al 31 de diciembre de 2016, la Compañía no ha reconocido ganancias o pérdidas por inefectividad de las coberturas.

### 14.2 Jerarquía de valor razonable

El valor razonable de los instrumentos financieros reconocidos en el Estado de Situación Financiera, ha sido determinado siguiendo la siguiente jerarquía, según los datos de entrada utilizados para realizar la valoración:

- Nivel 1: Precios cotizados en mercados activos para instrumentos idénticos.
- Nivel 2: Precios cotizados en mercados activos para activos o pasivos similares u otras técnicas de valoración para las cuales todos los inputs importantes se basen en datos de mercado que sean observables.
- Nivel 3: Técnicas de valoración para las cuales todos los inputs relevantes no estén basados en datos de mercado que sean observables.
- Al 31 de diciembre de 2016, el cálculo del valor razonable de la totalidad de los instrumentos financieros sujetos a valoración se ha determinado en base al Nivel 2 de la jerarquía antes presentada.

### 15. Inversiones en subsidiarias

Los estados financieros consolidados incorporan los estados financieros de la Compañía Matriz y las sociedades controladas. A continuación se incluye información detallada de las subsidiarias al 31 de diciembre de 2016 y 2015.

				31.12.201	6		
Subsidiaria	Activos Corrientes	Activos No Corrientes	Pasivos Corrientes	Pasivos No Corrientes	Patrimonio	Ingresos Ordinarios	Importe de Ganancia (pérdida) neta
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Empresa Eléctrica Industrial S.A.	811	14.861	3.685	8.833	3.154	6.077	1.303
Sociedad Hidroeléctrica Melocotón Ltda.	685	6.040	148	146	6.431	3.212	2.493
Río Tranquilo S.A.	1.589	47.003	2.997	15.159	30.436	21.330	11.527
Termoeléctrica Nehuenco S.A.	265	4.345	2.003	20.002	(17.395)	8.278	432
Termoeléctrica Antilhue S.A.	164	41.048	1.318	18.880	21.014	4.800	1.403
Colbún Transmisión S.A.	3.148	96.731	14.079	20.576	65.224	25.562	14.897
Colbún Desarrollo S.P.A.	160	-	-	-	160	-	-
Inversiones SUD S.P.A.	10	-	-	-	10	-	-
Inversiones Andinas S.P.A.	10	-	-	-	10	-	-
Colbún Perú S.A.	198	222.173	1	-	222.370	-	3.428
Inversiones Las Canteras S.A.	390	436.087	10	860	435.607	-	6.758
Fenix Power Perú S.A.	96.363	735.358	27.992	374.682	429.047	216.727	7.130

				31.12.201	5		
Subsidiaria	Activos Corrientes	Activos No Corrientes	Pasivos Corrientes	Pasivos No Corrientes	Patrimonio	Ingresos Ordinarios	Importe de Ganancia (pérdida) neta
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Empresa Eléctrica Industrial S.A.	622	12.742	2.962	8.507	1.895	4.689	(2.799)
Sociedad Hidroeléctrica Melocotón Ltda.	3	4.557	478	144	3.938	3.504	1.788
Río Tranquilo S.A.	1.612	58.088	3.427	11.754	44.519	14.633	(1.060)
Termoeléctrica Nehuenco S.A.	225	4.409	1.750	20.488	(17.604)	7.693	(4.384)
Termoeléctrica Antilhue S.A.	90	43.455	1.735	18.065	23.745	4.800	(308)
Colbún Transmisión S.A.	2.787	113.452	1.201	21.851	93.187	26.084	8.841
Colbún Desarrollo S.P.A.	160	-	-	-	160	-	-
Inversiones SUD S.P.A.	10	-	-	-	10	-	-
Inversiones Andinas S.P.A.	10	-	-	-	10	-	-
Colbún Perú S.A.	15	211.893	1	-	211.907	-	(1.693)
Inversiones Las Canteras S.A.	7.908	421.613	13.197	862	415.462	-	(5.212)
Fenix Power Perú S.A. (*)	94.289	781.884	394.236	63.652	418.285	6.224	(6.855)

 $<sup>^{(*)}</sup>$  Considera ingresos ordinarios e importe de ganancia (pérdida) neta por 12 días de diciembre 2015.

Ver nota 3.1.b.

### 16. Inversiones contabilizadas utilizando el método de la participación

## a. Método de participación

A continuación se presenta un detalle de las sociedades contabilizadas por el método de la participación y los movimientos en las mismas al 31 de diciembre de 2016 y 2015:

			Porcentaje de participación					Rese	rva patrimo	onio	
Tipo de relación	Sociedad	Número de acciones		Saldo al	Adiciones	Resultado devengado	Dividendos	de	Reserva Derivados de cobertura	Ajuste patrimonio coligada	Total
			31.12.2016	12.2016 01.01.2016				CONVENSION	cobcituit		31.12.2016
			%	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Asociada	Electrogas S.A.	175.076	42,50%	16.968	-	7.640	(8.458)	-	899	-	17.049
Negocio conjunto	Centrales Hidroeléctricas de Aysén S.A.	8.731.996	49,00%	8.201	3.323	(3.106)	-	827	-	-	9.245
Negocio conjunto	Transmisora Eléctrica de Quillota Ltda.	-	50,00%	10.843	-	880	-	559	-	-	12.282
			Totales	36.012	3.323	5.414	(8.458)	1.386	899	-	38.576

								Rese	rva patrimo	onio	
Tipo de relación	Sociedad	Número de acciones	Porcentaje de particpación 31.12.2015	Saldo al	Adiciones	Resultado devengado	Dividendos	de	Reserva Derivados de cobertura	Ajuste tasa impuesto Ley N° 20.780 <sup>(1)</sup>	Total 31.12.2015
			%	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Asociada	Electrogas S.A.	175.076	42,50%	17.351	-	8.388	(7.889)	-	(882)	-	16.968
Negocio conjunto	Centrales Hidroeléctricas de Aysén S.A.	8.731.996	49,00%	12.120	3.906	(3.563)	-	(2.725)	-	(1.537)	8.201
Negocio conjunto	Transmisora Eléctrica de Quillota Ltda.	-	50,00%	10.644	-	1.795	-	(1.596)	-	-	10.843
			Totales	40.115	3.906	6.620	(7.889)	(4.321)	(882)	(1.537)	36.012

## b. Información financiera de las inversiones asociadas y negocios conjuntos

A continuación se incluye información al 31 de diciembre de 2016 y 2015 de los estados financieros de asociadas y negocios conjuntos en las que la Compañía tiene participación:

		31.12.2016										
Tipo de relación	Sociedad	Activo Corriente	Activo no corriente	Pasivo Corriente	Pasivo no corriente	Ingresos Ordinarios	Gastos Ordinarios	Ganancias (Pérdidas)				
		MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$				
Asociada	Electrogas S.A.	13.933	60.928	14.099	20.649	35.679	(3.048)	17.977				
Negocio conjunto	Centrales Hidroeléctricas de Aysén S.A.	1.291	22.644	4.965	102	29	(6.042)	(6.399)				
Negocio conjunto	Transmisora Eléctrica de Quillota Ltda.	9.465	18.021	254	2.667	4.176	(1.010)	1.780				

		31.12.2015										
Tipo de relación	Sociedad	Activo Corriente	Activo no corriente	Pasivo Corriente	Pasivo no corriente	_	Gastos Ordinarios	Ganancias (Pérdidas)				
		MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$				
Asociada	Electrogas S.A.	13.808	65.959	17.177	22.667	35.964	(2.949)	19.737				
Negocio conjunto	Centrales Hidroeléctricas de Aysén S.A.	708	21.346	4.633	80	9	(5.820)	(7.271)				
Negocio conjunto	Transmisora Eléctrica de Quillota Ltda.	7.471	17.151	650	2.492	4.017	(919)	3.590				

#### Información adicional

#### i) Electrogas S.A.:

Empresa dedicada al transporte de gas natural y otros combustibles. Cuenta con un gasoducto entre el "City Gate III" ubicado en la comuna de San Bernardo en la Región Metropolitana y el "Plant Gate" ubicado en la comuna de Quillota - Quinta Región, y un gasoducto desde "Plant Gate" a la zona de Colmo, comuna de Concón. Sus principales clientes son la Compañía Eléctrica de Tarapacá S.A., Colbún S.A., Empresa de Gas Quinta Región (Gasvalpo), Energas S.A. y Refinería de Petróleos de Concón (RPC).

Colbún participa de un 42,5% en la propiedad de esta Sociedad en forma directa.

#### ii) Centrales Hidroeléctricas de Aysén S.A. (HidroAysén):

Sin perjuicio de la natural incertidumbre sobre los plazos y contenidos de las resoluciones de las instancias judiciales a las cuales HidroAysén ha recurrido, así como de los lineamientos, condiciones o eventuales reformulaciones que los procesos que está conduciendo el gobierno sobre política energética de largo plazo, y de planificación territorial de cuencas determinen en relación al desarrollo del potencial hidroeléctrico de Aysén; Colbún S.A. ha reiterado su convencimiento de que los derechos de aguas vigentes, las solicitudes de derechos de agua adicionales, la resolución de calificación ambiental, las concesiones, los estudios de terreno, la ingeniería, las autorizaciones y los inmuebles del proyecto, son activos adquiridos y desarrollados por la empresa durante los últimos ocho años al amparo de la institucionalidad vigente y conforme a estándares internacionales técnicos y ambientales.

Colbún S.A. ha ratificado que el desarrollo del referido potencial hidroeléctrico presenta beneficios para el crecimiento del país y que la opción de participar en él representa para la empresa una fuente potencial de generación de valor de largo plazo.

Colbún participa en un 49% de la propiedad de HidroAysén S.A.

### iii) Transmisora Eléctrica de Quillota Ltda.:

Empresa creada por Colbún S.A. y San Isidro S.A. (hoy Compañía Eléctrica de Tarapacá S.A.), en junio de 1997, con el objeto de desarrollar y operar en conjunto las instalaciones necesarias para evacuar la potencia y la energía generadas por sus respectivas centrales hasta la Subestación Quillota de propiedad de Transelec S.A.

Transmisora Eléctrica de Quillota Ltda. es propietaria de la subestación San Luis, ubicada junto a las centrales de ciclo combinado Nehuenco y San Isidro, además de la línea de alta tensión de 220 KV que une dicha subestación con la subestación Quillota del SIC.

Colbún participa de un 50% en la propiedad de esta sociedad.

# 17. Activos intangibles distintos de la plusvalía

# a. Detalle por clases de intangibles

A continuación se presenta el detalle al 31 de diciembre de 2016 y 2015:

	Activos Intangibles, Neto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
	Derechos Emisión Material Particulado	9.582	7.701
Derechos no	Concesiones	96	87
generados	Derechos de Agua	18.510	18.418
internamente	Servidumbres	58.118	57.844
	Activos intangibles relacionados con clientes	46.539	3.315
Licencias	Software	5.284	3.975
	Total	138.129	91.340
	Activos Intangibles, Bruto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
	Derechos Emisión Material Particulado	9.582	7.701
Derechos no	Concesiones	113	98
generados	Derechos de Agua	18.522	18.426
internamente	Servidumbres	59.273	58.796
	Activos intangibles relacionados con clientes	46.815	3.315
Licencias	Software	12.889	10.347
	Total	147.194	98.683
	Amortización Acumulada	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
	Concesiones	(17)	(11)
Derechos no generados	Derechos de Agua	(12)	(8)
internamente	Servidumbres	(1.155)	(952)
	Activos intangibles relacionados con clientes	(276)	-
Licencias	Software	(7.605)	(6.372)
	Total	(9.065)	(7.343)

### b. Movimiento de intangibles

La composición y movimiento del activo intangible al 31 de diciembre de 2016 y 2015 ha sido la siguiente:

		Derechos no ger	nerados inte	rnamente		Licencias	
Movimientos ejercicio 2016	Derechos Emisión Material Particulado	Concesiones	Derechos de Agua	Servidumbres	Activos intangibles relacionados con clientes	Software	Intangibles, Neto
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Saldo inicial al 01.01.2016	7.701	87	18.418	57.844	3.315	3.975	91.340
Adiciones	-	15	96	1.548	43.500	690	45.849
Desapropiaciones	-	-	-	(1.099)	-	(228)	(1.327)
Amortización Acumulada Desapropiaciones	-	-	-	-	-	63	63
Traslados desde Obras en Ejecución	1.881	-	-	-	-	2.108	3.989
Gastos por Amortización (ver nota 30)	-	(6)	(4)	(175)	(276)	(1.324)	(1.785)
Saldo final al 31.12.2016	9,582	96	18.510	58.118	46,539	5.284	138.129

	Derech	os no generados	internament	e		Licencias	
Movimientos ejercicio 2015	Derechos Emisión Material Particulado	Concesiones	Derechos de Agua	Servidumbres	Activos intangibles relacionados con clientes	Software	Intangibles, Neto
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Saldo inicial al 01.01.2015	7.701	2	17.647	55.880	-	4.158	85.388
Adiciones	-	87	775	477	-	658	1.997
Adquisiciones realizadas mediante combinaciones de negocios (ver nota 6)	-	-	-	-	3.315	226	3.541
Adiciones en curso	-	-	-	1.662	-	-	1.662
Gastos por Amortización (ver nota 30)	-	(2)	(4)	(175)	-	(1.067)	(1.248)
Saldo final al 31.12.2015	7.701	87	18.418	57.844	3.315	3.975	91.340

La administración de la Compañía, de acuerdo a lo explicado en nota 5.b, en su evaluación considera que no existe deterioro del valor contable de los activos intangibles. La Compañía no posee activos intangibles que estén afectados como garantías al cumplimiento de obligaciones.

A continuación se presenta el detalle de propiedades, plantas y equipos al 31 de diciembre de 2016 y 2015:

Clases de Propiedad, Planta y Equipos, Neto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Terrenos	296.368	288.393
Edificios, Contrucciones e Instalaciones	230.010	237.900
Maquinarias	2.227.372	2.317.244
Equipos de Transporte	591	485
Equipos de oficina	3.394	3.640
Equipos informáticos	1.620	1.227
Construcciones en proceso	558.480	438.170
Arrendamientos Financieros	12.064	13.012
Otras propiedades, planta y equipo	2.305.928	2.360.692
Total	5.635.827	5.660.763
Clases de Propiedades, Plantas y Equipos, Bruto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Terrenos	296.368	288.393
Edificios, Contrucciones e Instalaciones	279.186	277.139
Maquinarias	2.892.049	2.865.477
Equipos de Transporte	1.581	1.514
Equipos de oficina	8.666	8.540
Equipos informáticos	7.925	6.904
Construcciones en proceso	560.724	439.729
Arrendamientos Financieros	15.154	15.376
Otras propiedades, planta y equipo	2.932.782	2.900.656
Total	6.994.435	6.803.728
Clases de Depreciación Acumulada y Deterioro del Valor de Propiedades, Plantas y Equipos	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Edificios, Contrucciones e Instalaciones	(49.176)	(39.239)
Maguinarias	(664.677)	(548.233)
Equipos de Transporte	(990)	(1.029)
Equipos de oficina	(5.272)	(4.900)
Equipos informáticos	(6.305)	(5.677)
Construcciones en proceso	(2.244)	(1.559)
Arrendamientos Financieros	(3.090)	(2.364)
Otras propiedades, planta y equipo	(626.854)	(539.964)
Total	(1.358.608)	(1.142.965)

# b. Movimiento de propiedades, plantas y equipos

La composición y movimiento de propiedad, planta y equipos, neto al 31 de diciembre de 2016 y 2015, ha sido la siguiente:

Movimientos ejercicio 2016	Terrenos	Edificios, Contrucciones e Instalaciones	Maquinarias	Equipos de Transporte	Equipos de oficina	Equipos Informáticos	Construcciones en proceso	Arrendamientos Financieros	Otras propiedades, planta y equipo	Propiedades, plantas y equipos, Neto
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Saldo inicial al 01.01.2016	288.393	237.900	2.317.244	485	3.640	1.227	438.170	13.012	2.360.692	5.660.763
Adiciones	8.262	108	2.493	218	19	314	195.607		12.188	219.209
Adiciones en curso	180	-	-	-	-	-	-	-	-	180
Desapropiaciones	(467)	-	(21.032)	(194)	-	-	(2.778)	(222)	-	(24.693)
Depreciación Acumulada Desapropiaciones	-	-	10.975	200	-	-	-	-	-	11.175
Pérdidas por deterioro de valor reconocidas en el resultado del periodo	-	-	-	-	-	-	(685)	-	-	(685)
Traslados desde Obras en Ejecución	-	1.939	45.154	-	107	707	(71.834)	-	19.938	(3.989)
Traslados entre Activos	-	-	(43)	43	-	-	-	-	-	-
Depreciación Acumulada Traslados entre Activos	-	-	21	(21)	-	-	-	-	-	-
Gastos por Depreciación (ver nota 30)	-	(9.937)	(127.440)	(140)	(372)	(628)	-	(726)	(86.890)	(226.133)
Total Movimiento	7.975	(7.890)	(89.872)	106	(246)	393	120.310	(948)	(54.764)	(24.936)
Saldo final al 31.12.2016	296.368	230.010	2.227.372	591	3.394	1.620	558.480	12.064	2.305.928	5.635.827

Movimientos ejercicio 2015	Terrenos	Edificios, Contrucciones e	Maquinarias	Equipos de Transporte	Equipos de oficina	Equipos Informáticos	Construcciones en proceso	Arrendamientos Financieros	Otras propiedades, planta y	Propiedades, plantas y equipos, Neto
	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$	MUS\$
Saldo inicial al 01.01.2015	288.068	141.577	1.782.798	346	3.896	1.091	358.925	-	2.379.505	4.956.206
Adiciones	-	-	3	-	17	656	105.985	-	58.165	164.826
Adquisiciones realizadas mediante combinaciones de negocios (ver nota 6)	34	101.961	608.148	187	154	74	3.523	13.041	8.416	735.538
Desapropiaciones	(52)	(25)	(430)	-	(28)	(64)	-	-	-	(599)
Depreciación Acumulada Desapropiaciones	-	2	526	-	19	62	-	-	-	609
Pérdidas por deterioro de valor reconocidas en el resultado del periodo	-	-	(40)	-	-	-	(1.559)	-	(519)	(2.118)
Traslados desde obras en Ejecución	343	1.394	24.953	-	1	-	(28.704)	-	2.013	-
Gastos por Depreciación (ver nota 30)		(7.009)	(98.714)	(48)	(419)	(592)		(29)	(86.888)	(193.699)
Total Movimiento	325	96.323	534.446	139	(256)	136	79.245	13.012	(18.813)	704.557
Saldo final al 31.12.2015	288.393	237.900	2.317.244	485	3.640	1.227	438.170	13.012	2.360.692	5.660.763

#### c. Otras revelaciones

i) La Compañía no posee Propiedades, planta y equipos que estén afectadas como garantías al cumplimiento de obligaciones, con excepción de la filial Fénix Power Perú que cuenta con garantías otorgadas en favor del Banco Scotiabank Perú S.A. como banco agente junto a otros acreedores bajo un contrato de crédito suscrito en febrero de 2016.

Los activos entregados en garantía al 31 de diciembre de 2016 son los siguientes:

Activos	Costo Neto MUS\$
Terrenos	28
Maquinarias	464.989
Otros activos fijos	6.863
Total	471.880

**ii)** Colbún y subsidiarias tienen formalizadas pólizas de seguros para cubrir los posibles riesgos a los que están sujetos los diversos elementos de sus Propiedades, planta y equipos, así como las posibles reclamaciones que se le puedan presentar por el ejercicio de su actividad, entendiendo que dichas pólizas cubren de manera suficiente los riesgos a los que están sometidos.

Adicionalmente, a través de los seguros tomados por la Compañía, está cubierta la pérdida de beneficios que podría ocurrir como consecuencia de un siniestro.

iii) La Compañía mantenía al 31 de diciembre de 2016 y 2015, compromisos de adquisición de bienes del activo fijo relacionados de contratos de construcción por un importe de MUS\$19.895 y MUS\$65.724, respectivamente. Las compañías con las cuales opera son: ABB S.A., Siemens S.A., Andritz Chile Limitada, Power Machines Agencia en Chile, Sociedad O.G.M. Mecánica Integral S.A., Cobra Chile Servicios S.A., Autotrol Chile S.A., Abengoa Chile S.A., ENV Obras Civiles y Montajes SPA, Soenco Soluciones Geotecnicas Limitada, Vigaflow S A., Power Machines, Andritz Hydro S.R.L., L + M AG y Siemens Energy, Inc.

iv) Los costos por intereses capitalizados acumulados (NIC 23) al 31 de diciembre de 2016 y 2015, han sido los siguientes:

	Enero - Di	Enero - Diciembre		
Concepto	2016	2015		
Costos por préstamos				
Costos por préstamos capitalizados	(2.399)	-		
Costos por préstamos reconocidos como gasto	(19.751)	(9.189)		
Total costos por préstamos incurridos	(22.150)	(9.189)		
Costos por intereses				
Costos por intereses capitalizados	(7.481)	(7.292)		
Gastos por intereses	(81.921)	(80.378)		
Total costos por intereses incurridos	(89.402)	(87.670)		
Tasa de capitalización de costos por préstamos susceptibles de capitalización	4,78%	5,08%		

Ver Nota 31

### v) Arrendamientos operativos

La Compañía al 31 de diciembre de 2016 y 2015, mantiene arrendamientos implícitos operativos correspondientes a:

- Contratos por Líneas de Transmisión (Alto Jahuel-Candelaria 220 KV y Candelaria-Minero 220 KV), efectuados entre la Compañía y Corporación Nacional del Cobre de Chile. Dichos contratos tienen una duración de 30 años.
- Contratos de Peaje Adicional (Líneas de Transmisión Subestación Polpaico con la Subestación Maitenes), efectuados entre la Compañía y Anglo American Sur. Dicho contrato tienen una duración de 21 años
- 3. Contrato de Suministro de Energía y Potencia Eléctrica entre Colbún y Corporación Nacional del Cobre de Chile. El contrato tiene una duración de 30 años.

Los cobros futuros estimados derivados de dichos contratos son los siguientes:

31 de diciembre de 2016	Hasta un año MUS\$	Entre uno y cinco años MUS\$	Más de cinco años MUS\$	Total MUS\$
Pagos mínimos de arrendamientos por cobrar bajo arrendamientos operativos no cancelables	115.870	463.476	2.535.964	3.115.310
Total	115.870	463.476	2.535.964	3.115.310
		F-4	14'	
31 de diciembre de 2015	Hasta un año MUS\$	Entre uno y cinco años MUS\$	Más de cinco años MUS\$	Total MUS\$
31 de diciembre de 2015  Pagos mínimos de arrendamientos por cobrar bajo arrendamientos operativos no cancelables	año	cinco años	años	

### vi) Arrendamiento financiero

Al 31 de diciembre de 2016, las Propiedades, Planta y equipo incluyen MUS\$ 12.064, correspondiente al valor neto contable de activos que son objeto de contratos de arrendamiento financiero. En tanto al 31 de diciembre de 2015 incluían MUS\$ 13.012 por este concepto.

Los activos en leasing provienen de la filial Fénix y corresponden a un contrato firmado con Consorcio Transmantaro S.A. (en adelante CTM), en el cual CTM se obliga a brindar el servicio de operación y mantenimiento de la línea de transmisión de aproximadamente 8 kilómetros de la subestación Chilca a la planta térmica de Fénix. Dicho contrato tiene una duración de 20 años y devenga intereses a una tasa anual de 12%. Adicionalmente, CTM se obliga a construir las instalaciones para la prestación del servicio de transmisión.

El valor presente de los pagos futuros derivados de dichos contratos es el siguiente:

31 de diciembre de 2016	Hasta un año MUS\$	Entre uno y cinco años MUS\$	Más de cinco años MUS\$	Total MUS\$
Bruto	2.362	11.040	34.710	48.112
Intereses	1.982	9.071	21.608	32.661
Valor presente (ver nota 22.a)	380	1.969	13.102	15.451

31 de diciembre de 2015	Hasta un año MUS\$	Entre uno y cinco años MUS\$	Más de cinco años MUS\$	<b>Total</b> MUS\$
Bruto	2.354	12.918	23.177	38.449
Intereses	2.012	8.920	11.492	22.424
Valor presente (ver nota 22.a)	342	3.998	11.685	16.025

# vii) Información adicional requerida por taxonomía XBRL

## 1. Desembolsos reconocidos en el curso de su construcción

Desembolsos reconocidos en el curso de su construcción, Bruto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Construcciones en proceso	141.736	82.679
Total	141.736	82.679

# 2. Activos depreciados en su totalidad todavía en uso

Activos depreciados en su totalidad todavía en uso, Bruto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$	
Edificios	62	20	
Maquinaria	35.186	23.918	
Equipos de transporte	452	403	
Equipos de oficina	3.730	3.381	
Equipos informáticos	5.325	4.341	
Otras propiedades, planta y equipo	8.949	4.734	
Total	53.704	36.797	

Activos depreciados en su totalidad todavía en uso, Depreciación acumulada y Deterioro de valor	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Edificios	(62)	(20)
Maquinaria	(35.186)	(23.918)
Equipos de transporte	(452)	(403)
Equipos de oficina	(3.730)	(3.380)
Equipos informáticos	(5.325)	(4.341)
Otras propiedades, planta y equipo	(8.949)	(4.675)
Total	(53.704)	(36.737)

## viii) Detalle de Otras propiedades, planta y equipos

Al 31 de diciembre de 2016 y 2015 el detalle de Otras propiedades, planta y equipos es la siguiente:

Otras Propiedades Plantas y Equipos, Neto	<b>31.12.2016</b> MUS\$	<b>31.12.2015</b> MUS\$
Obras civiles	1.909.843	1.960.720
Subestaciones	157.618	166.655
Líneas transmisión	140.218	146.834
Repuestos L/P clasificado como activos fijos	98.238	86.469
Otros activos fijos	11	14
Saldo Otras Propiedades Plantas y Equipos, Neto	2.305.928	2.360.692
	31.12.2016	21 12 2015
Otras Propiedades Plantas y Equipos, Bruto	MUS\$	MUS\$
Obras civiles	2.462.776	2.438.905
Subestaciones	205.041	204.513
Líneas transmisión	165.284	169.326
Repuestos L/P clasificado como activos fijos	98.238	86.469
Otros activos fijos	1.443	1.443
Total Otras Propiedades Plantas y Equipos, Bruto	2.932.782	2.900.656
Depreciación Acumulada y Deterioro del Valor de	31.12.2016	31 12 2015
Otras Propiedades Plantas y Equipos	MUS\$	MUS\$
Obras civiles	(552.933)	(478.185)
Subestaciones	(47.423)	(37.858)
Líneas transmisión	(25.066)	(22.492)
Otros activos fijos	(1.432)	(1.429)
Total Depreciaciones y Deterioro del Valor	(626.854)	(539.964)