

S&P Global Ratings

Environmental, Social, And Governance Evaluation

Colbún S.A.

Summary

Colbún S.A. is a Chile-based pure play power generator with a total installed capacity of 4,010 MW. The company is the third-largest power generator in Chile with 3,473 megawatts (MW) of installed capacity and a 15% market share in terms of generation. Colbún currently operates 17 hydro, six natural gas, one diesel, one coal (Santa Maria), and three solar power plant in Chile. Colbún also operates a 573 MW combined-cycle dual plant (gas and diesel; Fenix) in Peru. This translated into a 55% fossil fuels and 45% renewables total installed capacity by year-end 2022. Colbún serves regulated and unregulated customers. The latter represented 68% of energy sales in 2021. Colbún also operates a seawater desalination plant (2,500 cubic meters of water per day) that serves Fenix, along with a reverse osmosis plant to purify groundwater and recirculate cooling water at its Nehuenco natural gas power complex. The company has a 42% stake in Electrogás S.A., a small natural gas pipeline operator in Chile. Colbún is looking to expand its generation business across Latin America, while also diversifying into energy-intensive infrastructure business lines. Colbún is controlled by the Matte family, which holds a 50% stake. The remainder is owned by Chilean pension funds (19%), the Angelini group (10%), and others (21%).

Colbún's ESG Evaluation of 67 reflects its adequate and effective environmental and social practices compared with those of the global power generation industry. The Evaluation also reflects the company's long-term strategy, which S&P Global Ratings views as responding to future disruptions arising from domestic and global economy wide decarbonization. In our view, the company has been able to anticipate industry megatrends, such as the decentralization of power production. We believe Colbún will continue to contribute with Chile's decarbonization by introducing new renewables capacity that will help the country eliminate its dependence on coal. Colbún's governance practices are aligned with regional standards. However, the company has yet to align to international best practices, especially in terms of board independence. We expect ongoing improvements to Colbún's integrated reporting, which has a high level of transparency, exceeding Chilean standards.

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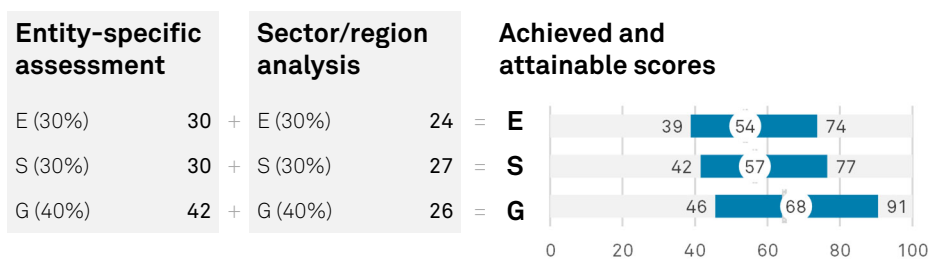
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ESG Profile Components (figures subject to rounding)



Entity within its primary sector/region

Entity's sectors/ regions versus all sectors/ regions

Min and max scores possible given sectors/regions. The gray line represents performance in line with industry standards.

ESG Profile 60


















Preparedness +7



A higher score indicates better sustainability. Figures subject to rounding.

Component Scores

Environmental Profile			Social Profile			Governance Profile		
Sector/Region Score	24/50		Sector/Region Score	27/50		Sector/Region Score	26/35	
 Greenhouse gas emissions	Good		 Workforce and diversity	Good		 Structure and oversight	Good	
 Waste and pollution	Good		 Safety management	Good		 Code and values	Good	
 Water use	Good		 Customer engagement	Good		 Transparency and reporting	Strong	
 Land use and biodiversity	Good		 Communities	Good		 Financial and operational risks	Neutral	
 General factors (optional)	None		 General factors (optional)	None		 General factors (optional)	None	
Entity-Specific Score	30/50		Entity-Specific Score	30/50		Entity-Specific Score	42/65	
E-Profile (30%)	54/100		S-Profile (30%)	57/100		G-Profile (40%)	68/100	
ESG Profile (including any adjustments)						60/100		

Preparedness Summary

Like the global power generation industry, the long-term resilience of Colbún's business depends on its response to trends such as the climate transition. Colbún is also exposed to the decentralization of electricity generation, and the need to supply electricity to a growing population. In our view, the company's plans to establish a low-carbon, diversified power generation business bolsters its long-term resilience. The company has a track record of anticipating industry trends, as seen in its early entrance into the Chilean unregulated power market and offering of ancillary energy services. In our view, the board and senior management are conscious of the social and natural capital risks involved in the company's long-term strategy and have established practices and a culture at Colbún that try to mitigate such risks, which is uncommon in the region.

Capabilities

Awareness	Excellent
Assessment	Good
Action plan	Excellent

Embeddedness

Culture	Good
Decision-making	Good

Preparedness Opinion (Scoring Impact)

Strong (+7)

ESG Evaluation

67

Note: Figures are subject to rounding.

Environmental Profile

54/100

Sector/Region Score (24/50)

Colbún is a pure power generator with assets in Chile (85%) and Peru (15%), both of which are vulnerable to natural disasters and water scarcity, the latter of which has become a particular concern for Chile's central region in the past few years. As of 2022, Colbún's installed capacity consisted of renewables (mainly hydropower plants), gas and coal assets. Large hydropower operators can be exposed to water scarcity, and reservoir construction and operations can cause a severe biodiversity loss. For the broader power sector, climate risks, including exposure to climate hazards and the energy transition, are the most material environmental risks.

Entity-Specific Score (30/50)

Note: Figures are subject to rounding.



Greenhouse gas emissions

Good



Waste and pollution

Good



Water use

Good



Land use and biodiversity

Good



General factors

None

Colbún's greenhouse gas (GHG) emissions intensity (scopes 1 and 2) of 0.37 tons of carbon dioxide equivalent per megawatt hour generated (tCO₂e/MWh) in 2021 was slightly above the industry average of 0.33 tCO₂e/MWh. The company's GHG emissions intensity rose by 27% in 2021 from 2020 due to prolonged drought conditions that increased dispatch of Colbún's fossil-fuel-powered plants. In our view, Colbún faces a challenge to reduce its GHG emissions, given Chile's high exposure to water stress. However, we expect that Colbún will balance this by installing at least 2 gigawatts (GW) of new wind and solar power generation by 2030, contributing to the decarbonization of Chile's power grid. These projects underscore the company's goal to reduce its intensity to 0.24 tCO₂e/MWh by 2030, which is within the Transition Pathway Initiative projected range for the sectors below 2°C pathway. On the other hand, Colbún's plan to phase out its only active coal plant (350 MW) by 2040 will occur later than those of peers in Chile and others in more advanced economies. While the company's GHG inventory is verified as best practice, Colbún has yet to account for scope 3 emissions from its sourcing of natural gas.

Colbún has adequate control, in line with those of peers, of its air pollutant emissions and coal ash generation.

Even though the company doesn't maintain air pollutant reduction targets, its fossil-fuel-powered plants have operated below Chile's regulatory limits, which informs the score. Colbún expects to increase the reuse of coal ash from 61% to 98% by 2025, while its peers in advanced economies have achieved 100%. Its current nitrogen oxides (NO_x) intensity (tons/MWh generated) is slightly higher than those of industry peers that have cleaner generation mixes, but we expect improvement in coming years due to Colbún's investments in low NO_x burners.

Colbún faces significant challenges to manage its very high exposure (90% of assets) to water scarcity risks.

While the exposure is much higher than those of global power generators, we view a strong regulatory framework in Chile requiring Colbún to deliver minimum levels of freshwater to other users, such as local farmers living adjacent to the Maule reservoir or in the Aconcagua region. Such stakeholder mitigation, combined with the company's plan of decreasing its share of generation from hydropower **by doubling its total installed capacity with unconventional renewables (wind and solar) generation**, informs our view of the company's adequate management of its very high-water stress exposure.

Colbún views biodiversity protection as a priority, but we have yet to see the achievement of its no net loss target. Although we have yet to see Colbún's progress in reaching this target, we view its monitoring of biodiversity-related metrics (i.e., population density of plant and animal species in areas of operation) before and during the operation of its projects as advanced.

Social Profile

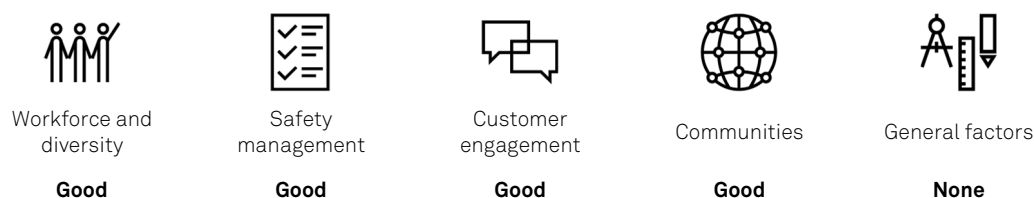
57/100

Sector/Region Score (27/50)

The sector's most material social factors are connected to safety risks and community relationships, especially during the project development phase. Strikes, low gender diversity, and skill shortages related to the energy transition also pose risks. Colbún's Chilean and Peruvian operations are exposed to pushback or protest as assets are located in remote areas, where native communities live, or in areas with high inequality. An updated proposal for Chile's new constitution, including new water-rights related proposals, is under discussion. However, if approved, we believe it is unlikely to affect Colbún's hydro operations.

Entity-Specific Score (30/50)

Note: Figures are subject to rounding.



Colbún's commitment to engage with, and create value for, local communities is strong, but pushback remains.

The company has a comprehensive community manual to resolve any conflict, provide any emergency response training, and guide its social investments. Colbún maintains early consultation and active engagement with local communities, which we view positively. However, as other Chilean hydropower operators, Colbún remains exposed to community activism. Unlike best practice, Colbún has yet to have the social impact of the design (identification), construction and operation of its projects externally audited and monitored annually. Nevertheless, we believe the company has taken a proactive approach to manage community-related risks. For example, in 2022, despite the likely regulatory approval, Colbún decided to not complete its San Pedro hydro plant in light of community concerns.

Despite Colbún's strong health and safety (H&S) management practices, safety metrics have deteriorated in the past two years.

All of Colbún's Chilean operations have their H&S management system audited according to international standards, which we view positively. We expect that to apply to Fenix soon. Another strong feature is the inclusion of safety goals in executives' performance goals. Colbún had one fatality in 2019-2021, lower than the industry average of four. However, its lost time injury frequency rate per million hours worked by contractors of 3.46 in 2021 remained above the industry average of 1.88, and we don't expect an improvement in 2022. This is due to the higher dispatch of higher-risk assets and lower average number of safety training hours in 2021. We could revise downward this score if we see a worsening trend in 2023.

Colbún has well-established practices to manage social risk from its contractors, which represented 60% of its workforce in 2021. Colbún has a robust internal procedure to screen contractors on safety and human rights criteria and monitor contractors' compliance to its policies, which is a stronger feature than industry standards.

Also, Colbún is one of the few players encouraging contractors' diversity but has yet to report on it. Meanwhile, for its direct employees, the company's gender diversity metrics (20% in 2021) are in line with those of regional peers. However, it still remains lower than the sector median of 23%. The company expects to reach 25% by 2025; we view its actions to recruit and retain female employees positively. Total turnover rates remained in line with the industry average (7%), impacted by changes to the company's structure (i.e., sale of its transmission division in 2021). Voluntary turnover remains low (below 3.5%), given the increasing workforce satisfaction rate (87% in 2020).

Colbún has maintained strong customer's net promoter score (NPS) at 70. However, Colbún's NPS target setting and remuneration-linked incentives that could support the maintenance of the strong NPS, is nascent. Nevertheless, we view positively that Colbún offers value-added services to help clients achieve decarbonization targets through its subsidiary, Efizity. We will track the company's net promoter score as it expands into other business lines.

Governance Profile

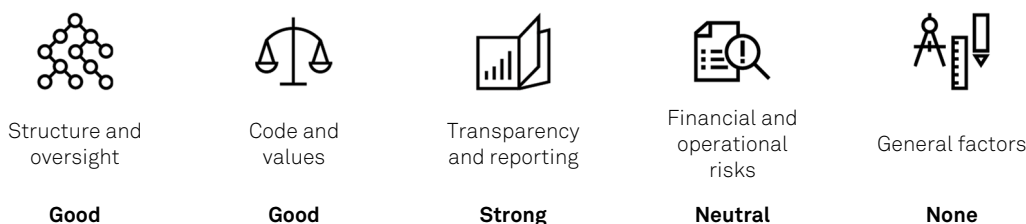
68/100

Sector/Region Score (26/35)

Colbún is headquartered in Chile, which is one of the few Latin American members of the Organization for Economic Co-operation and Development. Chile doesn't have a corporate governance code but it has established disclosure of corporate practices on a comply-or-explain basis. While Chile has relatively high governance standards characterized by a stable political system, strong rule of law, and a robust judiciary, the same isn't entirely applicable for Peru, where Colbún also operates. Family ownership of corporate entities is common in Chile.

Entity-Specific Score (42/65)

Note: Figures are subject to rounding.



Colbún's governance features an effective board composition and practices that align with those of regional peers. We note that the company is controlled by a Chilean family. While family members have had long tenures on the board or of executive positions in the past, which is common in the region, the board's average tenure is three years, shorter than regional practices. The nine-member board includes split chairman and CEO roles and **three independent directors, according to our criteria.** We consider the board's 33% independence level to be slightly lower than a regional average of 39% for listed companies but in line with other family-owned companies. On the other hand, Colbún's board attendance is 99%, and gender diversity (female members make up 33%) remained higher than the regional peer average of 16% in 2021. Members have extensive industry expertise with a few members having diverse backgrounds, including sustainability, and in particular, expertise in water risks. In our view, the current board and executives' composition is aligned with Colbún's strategic objective to help decarbonize Chile's power generation grid and explore sustainable growth opportunities in energy-intensive infrastructure businesses.

Colbún's values framework and policies are robust and meet regional standards. Its policy to combat fraud, corruption, and bribery applies to majority-owned investments. In the case of Electrogas, internal audits are executed to verify the solidity of internal controls and to enable Colbún to cooperate with them in strengthening such controls, if necessary. The company has a whistleblower hotline to report behavior that could violate corporate policies. However, unlike best practices, this isn't managed by an independent third party, which could impair its success. Finally, the total executive compensation is well balanced; we understand the recently appointed CEO's remuneration structure is in line with the previous one (maximum of 60% is fixed). Up to 60% of the company's executive annual cash bonuses are tied to Colbún ESG targets **and its renewables growth and business diversification strategic plan,** in line with advanced regional practices. However, for some targets, the ambitiousness could be stronger, and remuneration linked to long-term goals doesn't exist, unlike international practices.

Colbún's nonfinancial reporting is more advanced than those of regional peers. Colbún has been reporting sustainability data in its annual integrated reports for several years, which are verified under limited assurance since 2015, in line with international practices. The report is aligned with Global Reporting Initiative Standards and Sustainability Accounting Standards Board standards. Also, Colbún is a Carbon Disclosure Project (CDP) Climate respondent since 2010. As evidence of its advanced practices, for example, Colbún is one of the few global hydropower operators that reports on methane emissions from its reservoirs.

Preparedness Opinion

Strong
(+7)

Preparedness

Low

Emerging

Adequate

Strong

Best in class

Our expectation is that Colbún will continue to execute its long-term strategy of generating most of its electricity from renewables, contributing to the decarbonization of Chile's power grid. By 2030, Colbún should have up to 70% of its net installed capacity from low-carbon renewable sources (solar, wind, and high-power density hydro). In addition, the company is looking for new growth opportunities: geographical expansion of its generation division across Latin America and investments in energy-intensive infrastructure businesses such as seawater desalination and the related water transportation, green hydrogen, and waste-to-energy facilities. This supports our view that the company is better positioned than regional peers and in line with its advanced global peers in regard to the energy transition. We believe its innovations and research collaborations in green technologies will allow Colbún to remain at the forefront of the low-carbon transition in the region.

Colbún maintains good awareness of the potential future disruptions. Both the board and senior management, including the recently appointed CEO, previously the president of Chile's Association for Renewable Energies (ACERA), are well aware of the challenges to decarbonize Chile's grid, including the need for grid upgrades and interconnections. In addition, the company thoroughly assesses its growth opportunities, which positively differentiates its long-term strategy from those of regional peers. Colbún's assessment includes an analysis of demand and need for water desalination and waste-to-energy facilities in Chile and the mapping of potential partners and/or offtakes. The assessment takes accounts and sets mitigation actions for the challenges to develop such projects, which include social considerations for waste-to-energy facilities in Chile. We believe the active assessment supports its timely and effective execution of new projects. On the other hand, the company still needs to fully consider the challenges in developing green hydrogen in Chile in light of low freshwater availability in certain regions, and low grey or desalinated water treatment capacity projections for green hydrogen use.

Colbún's 2030 plan to double its installed capacity is supported by a record of successful execution of new projects from an operational, social, and environmental perspective. Out of the planned 4 GW, Horizonte (the largest wind farm in Latin America with an installed capacity of approximately 312 MW) will be completed in 2024. Also in 2024, 1.3 GW should come online from the Intipacha and Jardín solar plants, which have received the approved environmental impact assessments and are close to signing power purchase agreements (PPAs) to start construction. In 2025, 516 MW is expected to come from the Los Junquillos (360 MW) wind and Celda Solar (156 MW) solar plants, which are currently in the feasibility stage. The remaining 1.4 GW are in early stages of development. The same applies to the company's water desalination, green hydrogen, and waste-to-energy investments.

We expect Colbún to continue leverage on its internal data and analytic capabilities and external sources to address new trends and growth opportunities. This dual approach has translated into strategic decisions that have anticipated regional trends. For example, Colbún acquired Efizity in 2020, when customers' demand for on-site renewable generation or other decarbonization services was scarce.

Colbún has cultivated a culture of agility and collaboration, which serves as an enabler of its strategy. Colbún has maintained and attracted a motivated workforce despite social unrest in Chile. We believe this is evident in a comprehensive talent development roadmap for its workforce, which includes the company's health and safety, diversity, environment, and efficiency strategic objectives as part of its direct employee's incentive and contractors' hiring structure. In addition, we believe the company's agile culture could help execute its geographical expansion and diversification strategy.

Climate-Related Financial Disclosure

TCFD Recommendations Alignment Assessment:

Not adopted	Partially adopted	Adopted
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We assessed to what extent Colbún has adopted the Financial Stability Board’s Taskforce on Climate-related Financial Disclosures’ (TCFD) recommendations. We don't assess the quality of the entity’s disclosure or the climate-change scenario assumptions, if any, but rather comment on the number of disclosures made, based on the TCFD’s suggested disclosure list.

Based on the entity’s publicly available information, including its answers to the Carbon Disclosure Project (CDP) Climate questionnaire and its integrated report, in our opinion, Colbún S.A. has partially adopted the TCFD recommended disclosures.

The company provides a high-level description of the responsibilities of the board of directors, executive committee, and various divisions in overseeing Colbún’s exposure to climate-related risks. The company discloses the potential financial impact of climate related risks and opportunities within short, medium, and long-term time horizons. However, this is mostly done qualitatively rather than quantitatively. The latter is recommended by the TCFD in its guidance. Apart from its backwards looking hydrological conditions analysis, the company does not disclose any climate-related scenario analysis to illustrate the potential quantitative impact of climate risks on its strategy. On the other hand, Colbún does provide a description of its identification, assessment, and management of climate-related risks, done through a company-wide integrated risk management system. The company also provides a general description of its processes to identify and rank the materiality of climate-related risks (potential impact on EBITDA) as well as the main measures to manage its exposure. Colbún discloses its scope 1, 2, and 3 emissions. However, it does not provide a disclosure of scope 3 emissions of material categories such as category 3. A carbon intensity target, rather than an absolute metric, is used to manage its exposure to climate-related risks and is included in its remuneration policy. The company discloses that an internal carbon price, aligned to Chile’s carbon tax for power generation, is used to quantify climate risks of its investments. Colbún also discloses investment opportunities related to climate: carbon credits of its renewable projects.

Governance	Strategy	Risk management	Metrics and targets
Description of the board’s oversight of climate-related risks and opportunities.	Description of the climate-related risks and opportunities identified over the short, medium, and long term.	Description of the organization’s processes for identifying and assessing climate-related risks.	Disclosure of the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
Adopted	Adopted	Adopted	Adopted
Description of management’s role in assessing and managing climate-related risks and opportunities.	Description of the impact of climate-related risks and opportunities on the organization’s businesses, strategy and financial planning.	Description of the organization’s processes for managing climate-related risks.	Disclosure of scope 1, 2 and, if appropriate, 3 GHG emissions, and the related risks.
Adopted	Partially adopted	Adopted	Adopted
	Description of the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Description of how processes for identifying, assessing and managing climate-related risks are integrated into the organization’s overall risk management.	Description the targets used by the organization to manage climate-related risks and opportunities and performance against targets.
	Partially adopted	Adopted	Adopted

Sector And Region Risk

Primary sector(s)	Power
Primary operating region(s)	Chile Peru

Sector Risk Summary

Our sector score is a weighted average of scores for the sectors that represent more than 10% of Colbún's net installed capacity. The weighted average is based on a breakdown of the following sectors: Renewables power generation (45%) and gas or diesel power generation (45%) and coal power generation (10%).

Environmental exposure

The primary environmental risk facing power generators stems from the sector's production of greenhouse gas emissions, accounting for about 40% of global emissions (source: IEA). This implies governments are likely to increasingly regulate these emissions as they seek to stem the effects of anthropogenic climate change. The magnitude of this risk varies sharply depending on generation type, ranging from coal-fired, which faces an existential threat in many parts of the world, to renewable energy, which is seen as necessary for energy transition. The sector faces also growing risks around waste and pollution, with coal generation again highly exposed due to its creation of coal ash and particulates, both of which have come under increased regulatory scrutiny and can be costly to remediate, while nuclear generation leads to vast stores of radioactive waste that can't be easily, quickly, or inexpensively disposed; other subsectors still face pollution risks but are less exposed in the near term. Conventional generators also rely heavily on access to water as a cooling fluid. In water-stressed regions, generators may face difficulty or increased costs procuring water, especially as climate change creates longer and more severe droughts. As power generation is a broad sector grouping, certain subsectors face bespoke risks. Nuclear power is carbon-free, but carries significant low-probability, high-impact event risk that can have wide-ranging and enduring reputational consequences. The safe and permanent disposal of radioactive nuclear waste is another highly complex and difficult environmental problem yet to be solved. As for renewable projects, hydropower may have near-zero emissions during the use phase but occupies more land than other generation types, sometimes in areas of high biodiversity. Large hydro-power plants can mean the forced resettlement of local communities. Wind and solar also occupy a significant amount of land, and, over time, will likely increasingly rely on battery technology, which creates indirect exposure to environmentally-taxing metals extraction. These projects can also create substantial non-recyclable waste at the end of their lives.

Social exposure

Safety management is a critical risk for generators; safety metrics have generally improved in the sector, but there is still exposure to financial and reputational liability stemming from workplace fatalities, as well as to major accidents, notably for coal and nuclear facilities, that spill beyond the generating facilities. These are less common but can weaken a company's social license to operate, and can damage a company's community standing. Generators sometimes face community backlash on environmental grounds, while plant closures can also be highly disruptive to communities. One of the more acute social risks that generators face relates to the workforce. As energy transition takes hold globally, and generation types transform in response to regulation, required skills will also change; consequently, generators with limited age diversity face some

exposure and costs associated with reskilling workforces. Unlike regulated utilities in the U.S., the need for direct customer engagement is comparatively low, in part because generators have historically produced a commoditized product. However, as end-users increasingly vet generation for its environmental footprint, this relationship will become more central to generators' decision making. This risk could become more pronounced, too, for integrated utilities, as well as for pure generators who are acquiring retail operations. While utilities are the direct guarantors of reliability and affordability to customers, they are also unable to ensure this without strong and efficient operating performances by generators, who can often be penalized, financially, for an inability to perform.

Regional Risk Summary

Chile

Chile is one of South America's most stable and prosperous economies with strong political consensus on key economic policies. It enjoys good rule of law and high institutional effectiveness. It is one of only four Latin American members of the OECD following a two-year compliance period with the organization's mandate. Corporate governance reforms tend to be driven by regulatory initiatives. There is no corporate governance code, but various laws and regulations outline governance rules (for example, The Corporations Act). Chile's Comisión para el Mercado Financiero is the main regulator. In 2015, it instituted the disclosure of information regarding corporate governance standards on a comply-or-explain basis. However, governance requirements still lag international markets. Ownership concentration is high, and pyramidal ownership structures common. Regulations require local pension funds (Administradoras de Fondos de Pensiones [AFPs]) to consider governance when making investment decisions and be active owners. Over the years, AFPs have helped improve governance practices. Chile ranks much better than most Latin American countries on corruption, at 27 of 180 on Transparency International's 2021 Corruption Perceptions Index.

Peru

Peru has relatively stable and independent economic institutions, despite political instability over the past few years. The Peruvian Regulator (Superintendencia del Mercado de Valores) published a Code of Good Corporate Governance in 2013 that applies to companies listed on the Lima Stock Exchange (Bolsa de Valores de Lima, BVL). However, the code's recommendations are mostly principles-based and lack specifics. Since 2015, issuers have been required to publish a sustainability report as well as a report on their governance practices. Despite these improvements, boards usually lack independence, and the quality of transparency and reporting is low, notably for related-party transactions. While the BVL is one of the oldest in Latin America (1860) it is also one of the smallest, and most Peruvian companies are private and family-owned. In 2009, the BVL joined the Latin American Integrated Market, or Mercado Integrado Latinoamericano, formed with the stock exchanges of Colombia and Chile. Peruvian companies still lag global peers in terms of board diversity but in 2019 the BVL committed to reach 30% female participation on corporate boards by 2030. The country ranks 105 of 180 on Transparency International's 2021 Corruption Perceptions Index, which is in the lower half for South American countries.

Related Research

- [“The ESG Risk Atlas: Sector And Regional Rationales And Scores,”](#) published July 22, 2020
- [“Our Updated ESG Risk Atlas And Key Sustainability Factors: A Companion Guide,”](#) published July 22, 2020
- [“Environmental, Social, And Governance Evaluation: Analytical Approach,”](#) published December 15, 2020
- [“How We Apply Our ESG Evaluation Analytical Approach: Part 2,”](#) published June 17, 2020

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