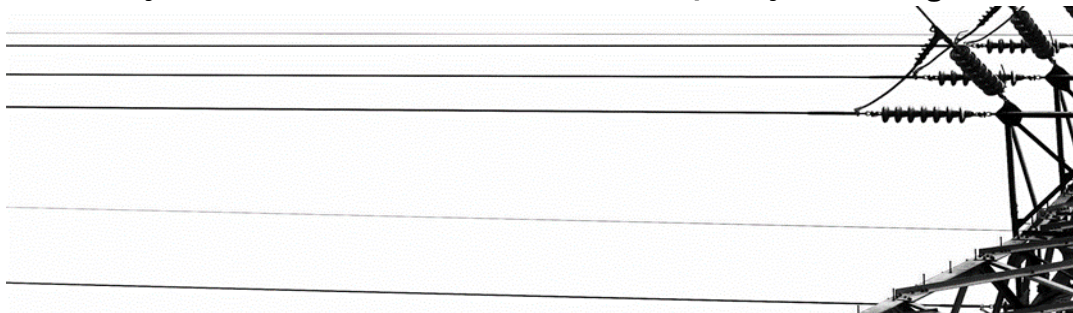


## Industry Top Trends 2022

### Utilities – Latin America

#### Electricity Demand, Prices, And Renewable Capacity Are Rising



*This report does not constitute a ratings action*

January 26, 2022

#### Authors

**Marcelo Schwarz, CFA**

Sao Paulo  
+55 11 3039 9782  
marcelo.schwarz  
@spglobal.com

**Cecilia Fullone**

Buenos Aires  
+54 11 4891 2170  
cecilia.fullone  
@spglobal.com

**Daniel Castineyra**

Mexico City  
+52 55 5081  
daniel.castineyra  
@spglobal.com

**Julyana Yokota**

Sao Paulo  
+55 11 3039 9731  
julyana.yokota  
@spglobal.com

**Melisa Casim**

Buenos Aires  
+54 11 4891 2178  
melisa.casim  
@spglobal.com

**Bruno Ferreira**

Sao Paulo  
+55 11 3039 9798  
bruno.ferreira  
@spglobal.com

**Gabriel Gomes**

Sao Paulo  
+55 11 3039 4838  
gabriel.gomes  
@spglobal.com

#### What's changed?

**We took negative rating actions only on a few utilities**, underscoring their resilience to economic downturns. Electricity demand surpassed pre-pandemic levels, and we expect it to move in line or slightly above GDP growth. Rising inflation may bring affordability issues to the tariffs, but regulatory frameworks, especially on network operations, were overall favorable for credit quality. Rising inflation and interest rates could crimp cash flows, but we don't expect credit metrics to weaken significantly.

#### What are the key assumptions for 2022?

**Electricity demand to follow economic growth.** Higher residential sales partly compensated for lower commercial and industrial sales. We expect demand growth of about 4% in 2021. Absent unforeseen events, we expect financial metrics to approach pre-COVID levels over the next few years.

**Renewables keeps growing.** Much of Latin America's capacity growth will come in the form of renewables. Despite diversifying the energy matrix, risks of relying on intermittent power sources remain.

**Prices should recover.** We expect energy prices to fall in the long term, with new renewable capacity attracting aggressive bidding. Nevertheless, as demand for electricity rises, spot prices should increase. Still, several countries remain exposed to hydrology, resulting in short-term spot price volatility.

#### What are the key risks around the baseline?

**Slow growth and high inflation.** Both factors can strain the utilities' financial standing. We have trimmed our economic assumptions for Latin America, while raising inflation expectations and therefore expected basic interest rates.

**Weakness on the sovereign front.** A significant number of ratings is linked or limited by sovereign risk. Mexico is revising the 2013 energy reform, and we don't expect Chile's new administration to make considerable regulatory changes. We'll monitor for any potential changes in energy policies following elections in Brazil and Colombia.

**Hydrology affects prices.** Despite the future green energy capacity at lower prices, hydrology should continue to bring volatility. We'll monitor reservoir levels because abundant rain or severe drought have had an acute effect on electricity spot prices.

# Ratings trends and outlook

## Utilities – Latin America

Chart 1

Ratings Distribution (Including Project Financing)

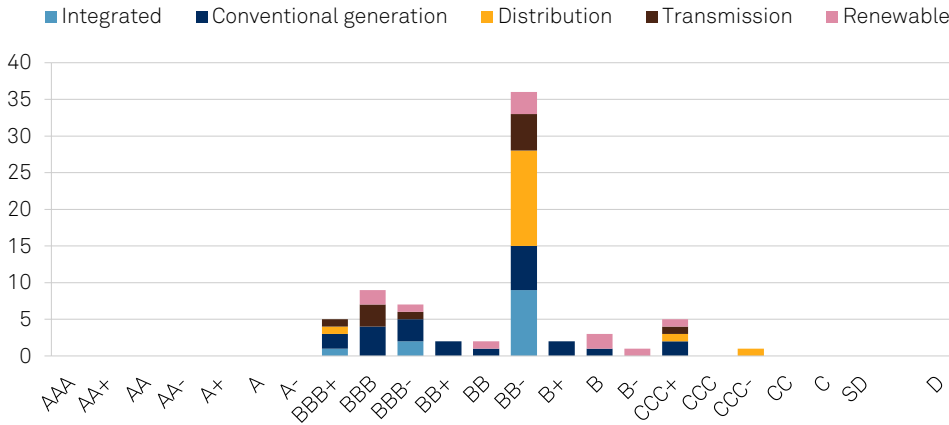


Chart 2

Ratings Outlooks (Including Project Financing)

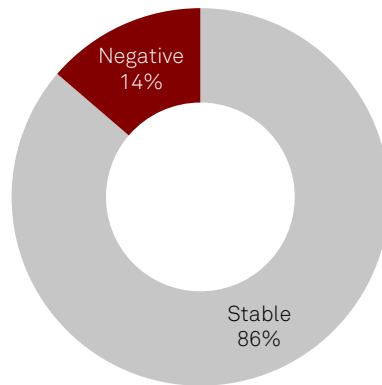
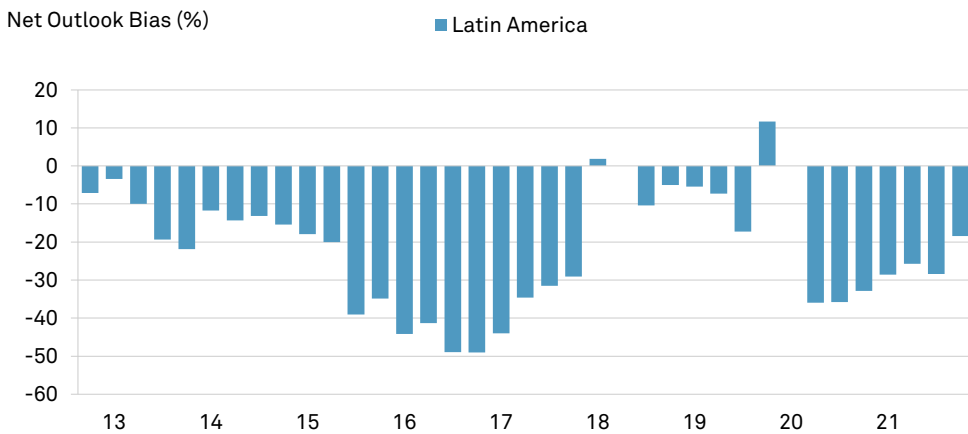


Chart 3

Net Outlook Bias (Corporates Only)



Source: S&P Global Ratings. Ratings data measured at quarter end.

# Industry credit metrics

## Utilities – Latin America

Chart 4

Debt/EBITDA (Median, Adjusted)

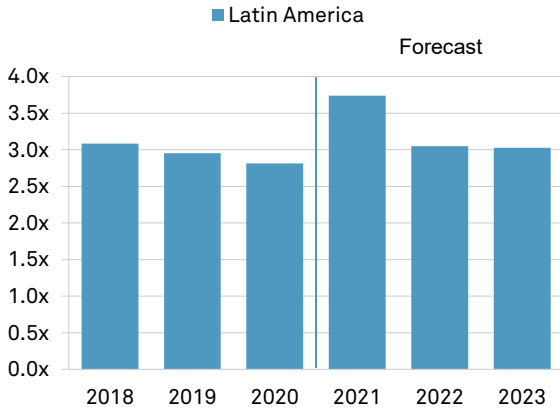


Chart 5

FFO/Debt (Median, Adjusted)

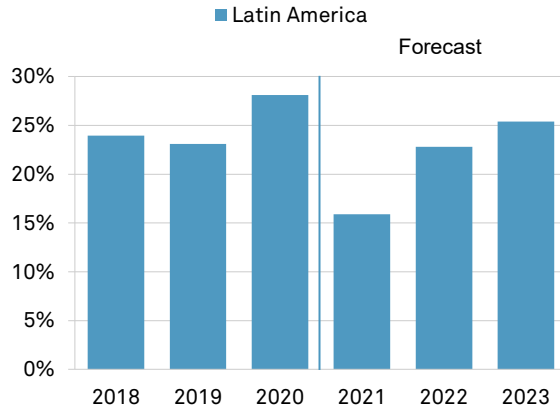


Chart 6

Cash Flow And Primary Uses

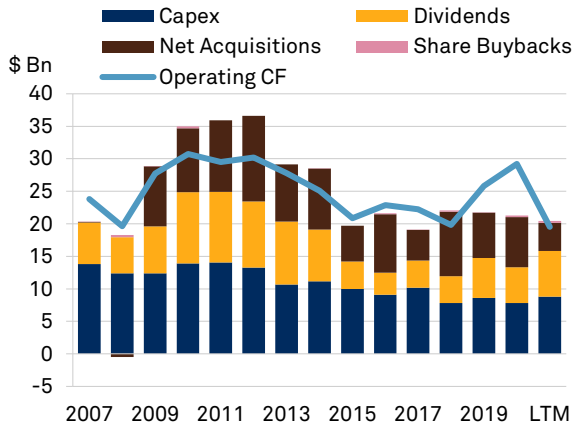
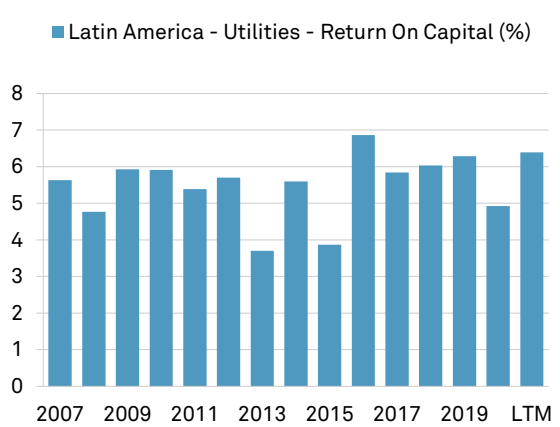


Chart 7

Return On Capital Employed



Source: S&P Global Ratings, S&P Global Market Intelligence. Most recent (2021) cash flow and ROCE figures are using last twelve months (LTM) data. All non-forecast figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

# Industry outlook

## Ratings trends and outlook

The credit quality of Latin American utilities held up better than we initially expected despite the economic shock stemming from the pandemic, and most of the rating actions on industry players were related to sovereign rating actions, such as those on utilities in Argentina, Colombia, and Mexico. Currently, about 86% of the Latin American utilities have a stable outlook. Overall, sovereign ratings continue to determine ratings on the region's largest regulated utilities. Moreover a significant portion of players, especially those in Brazil (about 45% of rated Latin American utilities), have higher stand-alone credit profiles.

## Main assumptions about 2022 and beyond

### 1. Electricity demand growing above GDP growth

Electricity demand already surpassed pre-pandemic levels across most of Latin America's major economies in 2021, and it should grow at or slightly above our GDP growth expectations, which are 2.0% in 2022 and 2.3% in 2023. Therefore, a weakening of the economic activity can reduce demand and prices in the region.

### 2. Focus on renewables

Most of the additional generation capacity in the region is coming from non-conventional renewables, and we have seen a strong growth of new solar plants, despite the recent volatility in exchange rates and global supply-chain problems that increased costs and delayed the delivery of imported equipment. We continue to expect governments to keep fostering green energy. An exception is Mexico, given that it's willing to prioritize fossil-fuel sources, stepping back from the 2013 energy reform.

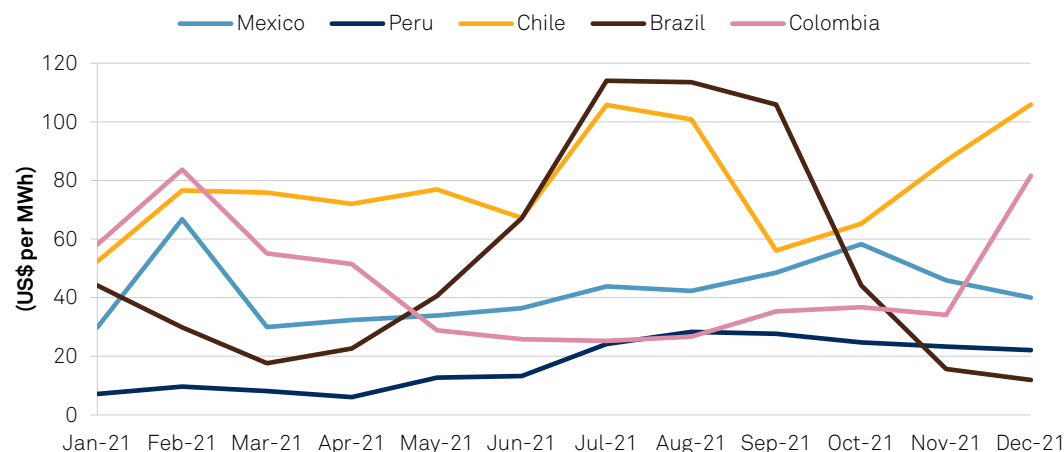
### 3. Rising spot prices, except in Brazil

We expect electricity prices to increase in Latin America this year, recovering from the lower levels in part of 2021, despite the additional capacity coming at very competitive prices (see chart 8). We expect a different trend in Brazil, given that the heavy rainy season--from November to April--is reducing spot prices from the very high levels last year, during which drought-like conditions required the dispatch of costly thermo plants.

As the largest utilities that we rate in Latin America continue to invest heavily, not only in regulated networks but also in wind and solar plants, we expect most of the new capacity addition in the region to come from non-conventional renewables. Argentina's RenovAr program, which started in 2017, already met the target of 879 megawatts (MW) in additional non-conventional renewables, and several new projects should enter operations in 2022. Nevertheless, the still weak regulatory framework remains an obstacle in attracting new investment in the segment.

Chart 8

**Energy Spot Prices In Latin America**



Source: S&P Global Ratings.

Integrated energy groups that we rate in Brazil have a combined \$20 billion capex plan for the next four to five years, (60%-65%) of which is for the distribution segment, and the remainder for the transmission and new generation projects, especially onshore wind and solar farms. During 2021, Brazil's installed capacity increased 4.3% to 181.5 gigawatts (GW), with two-thirds coming from renewables. The government held an emergency auction in October 2021, in which it contracted 1,221 MW in new capacity that prioritized gas-fired thermo plants due to the drought. Eight new auctions are planned for 2022. Earlier this year, the new regulatory framework for distributed generation was enacted, through which consumers will have to pay the tariff for the use of the distribution system, known as TUSD. While there will be a transition period with gradual increases in TUSD, we expect this segment to continue growing above the broader electricity sector's average. Empresa de Pesquisa Energética estimates that distributed energy will grow from an installed capacity of 6.0 GW - 7.0 GW in 2021 to 37 GW by 2031.

As part of Chile's plan to generate 70% of electricity from clean energy sources by 2030, the system added a record 4 GW of new non-conventional renewable capacity in 2021 from 1.45 GW in 2020. For 2022-2023, we expect annual additions of 4.5 GW. Most of new capacity should be deployed by the large integrated groups, but there's also an increasing pipeline of projects from smaller players, particularly under the Pequeños Medios de Generacion Distribuïda regime.

Colombia continues to encourage non-conventional renewable investments to diversify its energy matrix, which is currently almost 70% hydro. In October 2019, the country conducted auctions with longer tenors: 15-year power purchase agreements (PPAs) compared with the existing ones of up to five years, which will add about 720 MW in 2022 and 1,500 MW in 2023 in both solar and wind.

**Credit metrics and financial policy**

The operating performance of Latin America's utilities is gradually recovering, and electricity demand has already surpassed the 2019 level. Sluggish economic growth and rising inflation remain a risk. While the interest-rate increases will raise debt service payments, especially in Brazil where basic rates jumped from 2% in 2020 to 9.25% at the end of 2021 (likely reaching 11.25% by the end of 2022), we don't expect credit metrics to deteriorate. In our view, the liquidity positions that utilities accumulated in 2020-2021 provide a cushion. In addition, they have flexibility to curb heavy investment plans (especially in networks and renewables), positioning them to withstand the potentially worsening business and macroeconomic conditions.

## Key risks or opportunities around the baseline

### 1. Slower economic growth amid high inflation

Electricity demand in the region historically moves in tandem with GDP growth, while tariffs in the regulated sector are generally linked to local inflation, and in some cases, to the U.S. consumer price index. Over the last few quarters, we have revised downwards our macroeconomic expectations for Latin America. We now expect the six largest economies in the region to grow 2.0%-2.5% over the next few years, while central banks should keep raising basic interest rates that should peak in 2022 to contain inflationary pressures (see table 1). If higher inflation persists and given the regulatory lag in cost recoveries, rated utilities could face higher working capital needs.

### 2. Political and regulatory risk

Lower disposable income, stemming from still subdued economic activity, and higher inflation can increase political pressure on rising energy bills, especially in general election years, which is the case for Brazil and Colombia in 2022. Overall, while we will monitor the situation, we don't expect government interventions, as generally we consider regulations in the region to be supportive of the utilities' credit quality. We expect continuity of the regulatory framework in Chile despite election of the new administration at the end of last year. Argentina's tariff adjustments should remain discretionary, as has been the case since 2020. Finally, regulatory framework can weaken in Mexico, as the government proposes a state-led reform of the electricity industry.

### 3. Hydrology

Although the expansion of renewable sources of energy is pushing down energy prices, dry conditions have historically prompted issuers in the region to purchase thermal power to meet their obligations. In countries that are highly dependent on hydropower generation--Brazil, Chile, Colombia, and Peru--hydrology and electricity prices tend to be negatively correlated (when rainfall levels are plentiful, electricity prices drop). Therefore, we expect average electricity prices in Brazil to fall from the 2021 level, given hydrology conditions are improving since the beginning of the rainy season that started in November, while we will continue to monitor the situation in Chile. Conversely, in countries where thermal plants play an important role, international oil and gas prices have the greatest impact on energy prices. Our 2022 pricing assumptions for WTI and Henry Hub are \$70 per barrel and \$3.50 per million British thermal units (BTU), respectively.

Table 1

#### Latin America: GDP Growth, Inflation, And Interest Rates (%)

|                                    | 2021f      |           |          | 2022f      |           |          | 2023f      |           |          | 2024f      |           |          |
|------------------------------------|------------|-----------|----------|------------|-----------|----------|------------|-----------|----------|------------|-----------|----------|
|                                    | GDP        | CPI       | Interest | GDP        | CPI       | Interest | GDP        | CPI       | Interest | GDP        | CPI       | Interest |
|                                    | Growth     | Inflation | Rate     | Growth     | Inflation | Rate     | Growth     | Inflation | Rate     | Growth     | Inflation | Rate     |
| Argentina                          | 7.5        | 48.2      | 38.00    | 2.1        | 47.2      | 39.00    | 2.1        | 42.5      | 37.00    | 2.0        | 34.0      | 35.00    |
| Brazil                             | 4.8        | 8.2       | 9.25     | 0.8        | 7.7       | 11.25    | 2.0        | 4.0       | 8.00     | 2.3        | 3.3       | 7.00     |
| Chile                              | 11.4       | 4.5       | 3.75     | 2.0        | 5.2       | 4.50     | 2.8        | 3.2       | 4.00     | 3.0        | 3.0       | 3.50     |
| Colombia                           | 9.2        | 3.5       | 3.00     | 3.5        | 4.1       | 4.50     | 3.0        | 3.4       | 4.00     | 3.2        | 3.1       | 4.00     |
| Mexico                             | 5.8        | 5.6       | 5.25     | 2.8        | 5.4       | 6.00     | 2.3        | 3.7       | 6.00     | 2.1        | 3.1       | 5.50     |
| Peru                               | 13.5       | 3.9       | 2.50     | 3.0        | 4.5       | 4.00     | 4.0        | 2.5       | 3.50     | 3.7        | 2.0       | 3.00     |
| <b>LatAm's 6 largest economies</b> | <b>6.6</b> | <b>-</b>  | <b>-</b> | <b>2.0</b> | <b>-</b>  | <b>-</b> | <b>2.3</b> | <b>-</b>  | <b>-</b> | <b>2.4</b> | <b>-</b>  | <b>-</b> |

CPI inflation data are annual averages. Interest rates are central bank policy interest rates at year-end. f—Forecast.  
Source: S&P Global Economics.

# Country highlights

## Argentina

- Argentina's regulatory framework remains weak. Since April 2020, tariff adjustments for the entire utilities chain have been discretionary. For power generation, tariffs are denominated in domestic currency with no inflation adjustment (except for those with PPAs, which is a small portion). Electricity distribution companies are not paying to the wholesale market administrator, Compañía Administradora del Mercado Mayorista Eléctrico (CAMMESA), to compensate for the lack of adjustments. We expect discretionary adjustments to continue, given Argentina's high inflation, which reduces cash-flow predictability.
- The ability of corporate issuers to refinance their outstanding bonds in the market appears increasingly hampered by the uncertainties stemming from the country's fragile economy amid the ongoing negotiations between the government and the IMF to restructure sovereign debt.
- In 2021, demand grew on average 4%, and we expect it to rise 3%-4% in 2022 and 2023. However, demand could take a hit if tariffs remain frozen, which either will weaken or won't affect credit metrics of the companies we rate.
- Currency depreciation was and will continue to be a considerable issue for Argentine utilities, given that their debt is mostly denominated in dollars while they generate cash flows in pesos. We expect the currency to depreciate 36% in 2022 and 38% in 2023. The central bank also limited access to the foreign exchange market in 2020 and 2021, and further restrictions in 2022 would hamper the capacity of corporate entities to service their debts.

## Brazil

- Energy demand increased 4% in 2021 after the 1.4% drop in 2020 due to the pandemic. The country also experienced in 2021 one of its worst droughts. Brazil's largest water storage region, the Southeast subsystem, was at just 16% of its capacity in October 2021. However, reservoir levels are recovering following the heavy rains in recent months.
- The drought required most of the country's expensive thermal plants to dispatch, increasing energy costs for distributors while the tariff flag mechanism--which anticipates revenues that would otherwise be compensated only in the next tariff adjustment of each distributor--wasn't enough to offset the drought's effect. Despite pressured credit metrics, the distributors that we rate are generally part of larger groups that have adequate liquidity and that benefit from ample access to banks and credit markets. Still, on Dec. 13, 2021, the government approved a new financial support package to the energy segment to mitigate the increase in energy tariffs in 2022 and to compensate for the distributors' higher working capital needs. Due to the drought, the companies that we rate accumulated about R\$ 9.5 billion of regulatory assets by Sept. 30, 2021 (versus a negative R\$325 million in December 2020). We expect negotiations between the government, the electricity regulator, National Agency for Electrical Energy (ANEEL), and the distributors to conclude in the first quarter of 2022. We assume a gradual improvement of credit metrics this year, as better hydrology should allow the National System Operator to no longer require dispatch from expensive thermo plants, which would lower the system's operating costs.
- Power generators, usually sell energy through long-tenor, take-or-pay contracts with solid counterparties in the regulated and free markets. Most of integrated groups that operate hydroelectric power plants either have hedges that protect operations from dry weather conditions or maintain a portion of their capacity uncontracted, which works as a natural hedge. On the other hand, rated generators that purchase energy to fulfill contract requirements faced higher energy costs, but these entities had cushion on their balance sheets and adequate liquidity. As reservoirs recover, we expect generators to benefit from lower energy prices on the spot market. In addition, hydro-



based generators' operations should return to normalize, given that the level of reservoirs impact the level of productivity and safety of turbines' operations.

- We expect transmission lines to continue benefiting from relatively high inflation, to which revenues are adjusted, while cash generation remains predictable, given that these entities don't face volume or price risks.

## Chile

- The Chilean energy sector continues transitioning rapidly to renewable sources from conventional thermal energy. It has set a target of 70% of electricity from clean energy sources by 2030, and it plans to phase out completely its coal plants by 2040 and achieve carbon neutrality by 2050. However, a legislation is under discussion to move up the target date for the disconnection of coal plants in the country. So far, in the next five years, Chile plans to shut down eight of its 28 coal plants, cutting coal-fired generation share of energy mix to about 15% from 35% currently. The remaining ones will work as back-up facilities, excluded from daily dispatch, but will make the system more reliable.
- While investment plans for renewable capacity keep increasing, thermoelectric output still represented 55% of the energy generation in 2021, given that the severe drought lowered energy generated by hydro plants. Although we still view hydrology as a key risk for the country, we believe that the increase in non-conventional renewable capacity will also lift the system's ability to withstand adverse weather conditions. Relative to electricity prices that averaged \$75 per megawatt hour (MWh) during 2021, following very weak hydrology conditions, we now believe spot prices will hover at \$45/MWh - \$50/MWh in the next two years, above our previous forecasts of \$40/MWh.
- Chile's large energy players continue to build the majority of new capacity: Enel Chile S.A. is constructing 2.3 GW of new renewable capacity, followed by AES Andres S.A. (2.4 GW), Engie Energia Chile S.A. (1.3 GW), and Colbun S.A. (1.0 GW) to be completed in the next three years. We continue to expect these companies to keep conservative debt levels, with average net debt to EBITDA at about 3x in 2022 and 2023, despite sizable capex.

## Colombia

- Energy demand grew 6% on average in 2021 compared with 2020 and is already 2% higher than pre-pandemic levels, in line with economic recovery. Given that hydrology was favorable for most of the year, electricity spot prices dropped to \$47/MWh. While the 2.4 GW hydro plant Ituango gradually enters into operations in 2022, we expect demand to continue to grow in the 3%-4% range and spot prices to recover to the \$60/MWh area. Prices should react to the new long-term PPAs at higher prices, amid normal hydrological conditions (absent El Niño or La Niña climatic phenomenon).
- In terms of tariffs, electricity distribution companies are receiving full payments from final consumers. The economic relief implemented at the beginning of the pandemic that included frozen tariffs, already ended. It had no significant impact on the electricity sector's working capital needs and cash flows.
- While general elections--the first round to take place in May 2022 and the second one, if needed, in June 2022--can bring some volatility, we don't expect significant changes for the power industry.

## Mexico

- Amid the economic recovery in 2021 after the pandemic's peak in 2020, energy demand grew around 4% last year, causing energy demand to be 0.4% higher than pre-pandemic levels. Prices jumped to an average of \$42/MWh in 2021 from \$28/MWh in 2020. In addition, the increase in prices was boosted by the unusually high natural gas prices in 2021 because of the extreme winter conditions in Texas in February 2021, causing prices to peak at \$67/MWh. For 2022, we expect the trend in energy demand to continue upwards and in line with Mexico's economic growth of 2%-3%.



We expect prices to average \$45/MWh in the next 12-24 months. Our forecast incorporates growth in electricity demand, pass-through of the high inflation during 2021, and higher fossil fuel prices, given the system's dependence on imports.

- One of the main risks we envision for the Mexican power market is the weakening of the regulatory framework. The proposed electricity sector reform, currently under discussion, aims to strengthen the role of the state-owned utility, Comisión Federal de Electricidad (CFE), change in the dispatch order and revision of existing PPAs, among others. These factors could increase volatility in power prices, intermittencies in the network system, and prevent incentives for private companies to start new renewable projects, among other implications. However, it's currently uncertain if the reform would be implemented and in what manner, given that its discussion among market players will start in the first quarter of 2022 and approved, if, after mid-year elections. Moreover, we expect that the main points of the reform, if it passes, would be softened, because it could face legal challenges not only in Mexico but also internationally. For example, we don't expect the government would terminate existing PPAs unilaterally and without any sort of compensation. We'll monitor the reform's trajectory and analyze its possible implications to credit quality once there's more certainty about how it will be implemented and fit in with existing regulations.
- Although government policy continues to be reluctant in incentivizing the development of new renewable capacity, such generation continues increasing year-over-year. During 2021, renewable energy rose to about 24% of total generation from 20% and 18% in 2020 and 2019, respectively. However, this level is below the 30% target for 2021. We continue to expect that new renewable capacity will enter the system through private companies in the next 12-24 months, while the bulk of CFE's investments will be for combined-cycle power plants.

## Peru

- After a sharp contraction in 2020, Peru's economy bounced back, and we estimate it to have expanded 13.5% in 2021 and electricity demand 10%. We expect demand for 2022 to grow in line with our assumptions for Peru's GDP growth (3%). Hydro power represents 40% of the total 13.3 GW installed capacity, and last year supplied 57% of the energy consumption.
- New regulation on the calculation of marginal costs became effective in July 2021. It considers that all the supply-chain costs (including fixed costs related to transportation and distribution) must now be included to determine the variable costs of gas. Previously, the calculation reflected just the variable portion of the gas supply. As a result, the average marginal cost of the Santa Rosa node during the first six months of 2021 reached \$9.5/MWh, while the average for July - November reached \$25.7/MWh. We now expect spot prices to range from \$26/MWh to \$30/MWh in 2022.
- Given that PPA contracts are three to four years, cash flows and profitability margins of those generators that are net buyers are likely to slip until contracts are renegotiated, while the operating performance of generators with low contracted positions and higher exposure to sales on the spot market should improve.
- Nevertheless, we don't expect this regulatory change to weaken the industry players' credit quality. Although Orazul Energy Peru S.A. and Fenix Power Peru S.A. are net sellers in the spot market, both companies are highly contracted. While Nautilus Inkia Holdings SCS (through Kallpa) is a net buyer, impact shouldn't be material given its large scale, and geographic and asset diversification.

## Related Research

- [Economic Outlook Latin America Q1 2022: High Inflation And Labor Market Weakness Will Keep Risks Elevated In 2022](#), Nov. 29, 2021

Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

No content (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of S&P Global Market Intelligence or its affiliates (collectively, S&P Global). The Content shall not be used for any unlawful or unauthorized purposes. S&P Global and any third-party providers, as well as their directors, officers, shareholders, employees or agents (collectively S&P Global Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Global Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for the results obtained from the use of the Content, or for the security or maintenance of any data input by the user. The Content is provided on an "as is" basis. S&P GLOBAL PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Global Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. S&P's opinions, analyses and rating acknowledgment decisions (described below) are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P does not act as a fiduciary or an investment advisor except where registered as such. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives. Rating-related publications may be published for a variety of reasons that are not necessarily dependent on action by rating committees, including, but not limited to, the publication of a periodic update on a credit rating and related analyses.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P reserves the right to assign, withdraw, or suspend such acknowledgement at any time and in its sole discretion. S&P Parties disclaim any duty whatsoever arising out of the assignment, withdrawal, or suspension of an acknowledgment as well as any liability for any damage alleged to have been suffered on account thereof.

S&P Global keeps certain activities of its divisions separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions of S&P Global may have information that is not available to other S&P Global divisions. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

S&P Global may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P Global reserves the right to disseminate its opinions and analyses. S&P Global's public ratings and analyses are made available on its Web sites, [www.standardandpoors.com](http://www.standardandpoors.com) (free of charge), and [www.capitaliq.com](http://www.capitaliq.com) (subscription), and may be distributed through other means, including via S&P Global publications and third-party redistributors. Additional information about our ratings fees is available at [www.standardandpoors.com/usratingsfees](http://www.standardandpoors.com/usratingsfees).

Australia: S&P Global Ratings Australia Pty Ltd holds Australian financial services license number 337565 under the Corporations Act 2001. S&P Global Ratings' credit ratings and related research are not intended for and must not be distributed to any person in Australia other than a wholesale client (as defined in Chapter 7 of the Corporations Act).

STANDARD & POOR'S, S&P and RATINGSDIRECT are registered trademarks of Standard & Poor's Financial Services LLC.

**[spglobal.com/ratings](http://spglobal.com/ratings)**