S&P Global Ratings

Infrastructure Finance

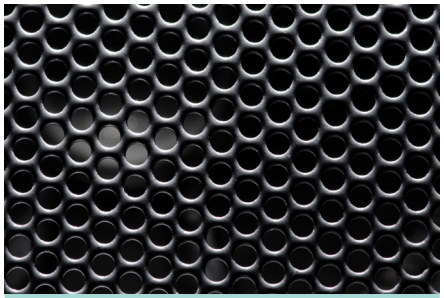
Outlook

Issue 1 2019

Thoughtful. Analytical. Consistent. Transparent.

Sustainable Finance ↘

Infrastructure as an Asset Class ↘



Disruption ↘

Political and Regulatory Risk ↘

Contents

Editorial Welcome

Karl Nietvelt guides us through a whistle-stop tour of the world's infrastructure market.

Demand for environmental, social, and governance (ESG) credentials extends beyond political and regulatory calls for an energy transition. Institutional investors are independently adopting sustainability-minded investment strategies as awareness grows about the financial risks of ignoring ESG as well as the opportunities of considering it.

Measuring sustainability goes hand in hand with assessing long-term resilience to changing market dynamics. To this end, we recently launched our ESG Evaluation, a non-ratings analysis. Our inaugural ESG Evaluation analyzes NextEra Energy Inc., an American energy company headquartered in Florida. You can read the evaluation on the dedicated ESG Evaluation website listed above.

Within ratings, we are publishing more about how ESG factors influence credit quality. Throughout May and June, we released ESG Industry Report Cards on 20 sectors, including the utility and power sectors, as well as transportation infrastructure.

Infrastructure investment across the globe

In today's uncertain times, unfavorable political environments can mean that, even with plenty of private-sector capital ready for deployment, not enough is being put to use. Successful government policies will stimulate private-sector participation, which is needed at a time of reduced fiscal leeway. For such private investments to be sustainable and accepted long-term, broader buy-in from communities is needed, convinced of a projects' social value, its price affordability and a balanced economic benefit for all stakeholders.

Latin America: After the elections

Let's first consider Mexico where power shifts have raised uncertainty about private-sector involvement, after the well-documented cancellation of the new Mexico City airport. Future projects may include the building of two runways at a military base, which could later be converted for commercial use. However, the broader strategy is unclear. The government has indicated that it will prioritize new refinery projects, a costly railway connection, and social spending, to the detriment of private involvement in energy projects.

In Brazil, the Bolsonaro administration has still temporarily shaken market confidence, leaving some investors in wait-and-see mode. Nevertheless, the administration's first 100 days saw successful auctions of 12 regional airports, 12 fuel terminals, and a railroad.

North America: Will something give?

Last year, the average American spent 97 hours in traffic, at a cost of nearly US$87 billion. The country's water systems are losing about 50 gallons per day per household through leaking pipes. Despite this, the Trump administration's US$2 trillion infrastructure plan is making little progress. Political conflicts aside, a key question is around acceptability: are Americans ready to pay more to use the nation's infrastructure?

China: A renewed stimulus

This year, infrastructure investment growth is expected to reach 8%-10%, compared with 3.8% last year. To counter trade tensions and stabilize the economy, China is lessening calls for deleveraging and has embarked on a moderate stimulus in three areas: tax cuts worth 2 trillion Chinese renminbi (RMB) (around US$300 billion); more accommodating monetary conditions; and moderate infrastructure stimulus.

Rest of Asia: A widening infra deficit

Though India and Indonesia's recent elections point to continuity, less clear are how infrastructure needs will be addressed – especially for power and airport capacity. By leading many projects, state-owned entities have become increasingly indebted – thus limiting financial headroom for renewed spending. In India, aside from sustained funding for renewables, public-private partnerships could stimulate airport privatizations.

Europe: Politics and "core-plus"

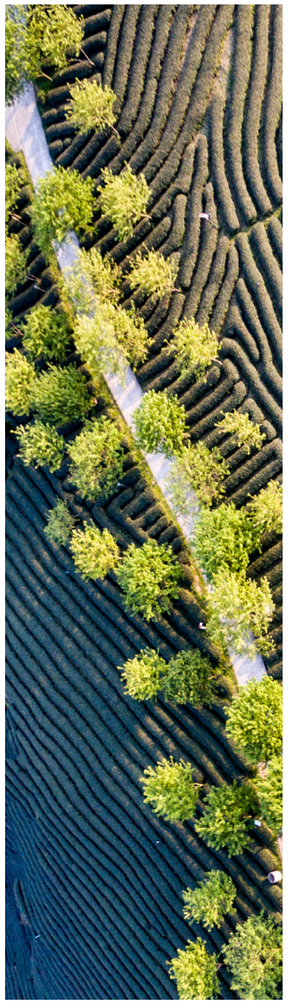
Shifting political sentiment remains high on the agenda since populist movements gained momentum in recent European parliamentary elections. Albeit remote, the risk of water utility nationalizations in the U.K. and Italy still linger. For the U.K., rethinking the future of private finance initiatives could fall down the agenda amid the possibility of a hard Brexit this October.

Limited public spending to stimulate infrastructure works has diverged the asset class into "core" and "core-plus" (including fiber networks, student accommodations, single-franchise rolling stock). That said, major investment in renewables and network upgrades continue.

Mergers and acquisitions involving airports and utilities remain of market intrigue, such as Vinci S.A.'s recent acquisition of Gatwick Airport. By contrast, the partial privatization of Aéroport de Paris could take much longer to conclude after a potential public consultation procedure or, put differently, after assessing the interests of every stakeholder – in other words, ESG!

Read our ESG Industry Report Cards:

https://www.spglobal.com/en/capabilities/esg-evaluation



Visit our Infrastructure Hub

www.spratings.com/en_US/infrastructure

Evaluating ESG Through A Different Lens

Following the launch of our ESG Evaluation, Corinne Bendersky explains how we assess and score an entity's environmental, social, and governance (ESG) risk exposure and preparedness under the new framework.

With growing market interest in the impact of an entity on its natural and social environment and the quality of its governance, we have launched our newest analytical offering: the ESG Evaluation. The Evaluation is a cross-sector, relative analysis of an entity's capacity to operate successfully in the future and is grounded in how ESG factors could affect stakeholders, potentially leading to a material direct or indirect financial impact.

Our ESG Evaluation draws on insights from S&P Global Ratings' network of credit analysts, and data and information from Trucost and S&P Global Market Intelligence, as well as public bodies and non-governmental organizations such as the U.N. Principles of Responsible Investment. Importantly, it captures information from face-to-face meetings with an entity's senior management to produce a final ESG Evaluation score and report.

Our view of an entity's "stakeholders" goes beyond shareholders to include employees, the local community, government, regulators, customers, lenders, borrowers, policyholders, voters, members, suppliers, among others.

ESG Profile

To create an entity's ESG Profile, we assess the exposure of its operations to observable ESG risks and opportunities, accounting for its governance structure in mitigating risks and capitalizing on opportunities. The ESG Profile analysis starts with a global assessment of ESG-related exposure by sector and location using our newly-launched ESG Risk Atlas. We combine this assessment with the results of a diagnostic review which is initiated by our analytical team and completed by the entity itself. Then we then look at 12 separate ESG factors for their potential to lead to a material financial impact on the entity, either directly or indirectly, if not mitigated.

The final ESG Profile score is the combination of our assessment of three profiles: Environmental, Social, and Governance and is ranked on a 100-point scale.

ESG Preparedness

Second, we assess the entity's long-term Preparedness – namely its capacity to anticipate and adapt to a variety of long-term plausible disruptions. These disruptions are not limited to environmental and social scenarios, but could also include other relevant factors, such as technological or regulatory changes. This reflects our view that high-quality corporate governance includes the full spectrum of current and potential risks and opportunities an entity faces.

Face-to-face meetings with an entity's senior management helps inform our assessment of its awareness and assessment of long-term risks and opportunities, as well as associated long-term planning. We consider the extent to which management has embedded environmental, social, along with other long-term strategic considerations and potential scenarios into their decision-making and how evident this is in the entity's culture.

Our Preparedness opinion of an entity is expressed as one of the following: Best In Class; Strong; Adequate; Emerging; or Low.

Quantifying and qualifying ESG

The final score is an aggregate of the "ESG Profile" and "ESG Preparedness" scores, which are then ranked on a 100-point scale. A higher ranking expresses our view that the entity is more likely to be sustainable, based on active management of ESG-related risks and opportunities, relatively strong governance, and the entity's ability to adapt to change and take advantage of long-term disruptive opportunities. We may also raise or lower the ESG Evaluation score to reflect a risk or opportunity not fully captured under the individual Profile or Preparedness factors, or to ensure comparability with the ESG Evaluation of other entities.

Additionally, we will monitor the score to account for new data, updated strategies, and events that affect the entity, subject to materiality.

"Our view of an entity's "stakeholders" goes beyond shareholders to include employees, the local community, government, regulators, customers, lenders, borrowers, policyholders, voters, members, suppliers, among others."

ESG Risk Atlas

This online infographic charts exposure to environmental and social exposure for more than 30 sectors and incorporates exposure to natural disasters, corporate governance standards, and ESG-related regulations to provide country scores.

For more information, please visit:

https://www.spglobal.com/en/research-insights/articles/navigating-the-esg-risk-atlas

Visit our ESG Evaluation page:

https://www.spglobal.com/en/capabilities/esg-evaluation

FAQ: ESG Evaluation And Credit Ratings

Michael Wilkins addresses some of the most pertinent questions around our ESG Evaluation and how it ties in with our consideration of ESG factors in credit ratings.

"ESG considerations have always been captured in our credit rating analysis, often through competitive position, financial metrics, and management and governance, among others."

Q: Which types of issuers can be assessed under the ESG Evaluation?

A: Our analytical approach has applicability beyond corporate entities and can currently assess comparable non-profit sectors including utilities and transportation-related entities. In the near term, we intend to make the ESG Evaluation product available to banks, asset managers, multilateral lending institutions, as well as other public finance enterprise sectors including hospitals, water, and sewer entities. We also believe, with continued testing and uptake, the ESG Evaluation framework could be applied to the insurance, social housing and education sectors in the future. National, regional and local governments are currently outside the scope of ESG Evaluations.

Q: How does the ESG Evaluation differ from credit ratings?

A: Our credit ratings are our opinion of an issuer's ability and willingness to meet its financial obligations in full and on time. As a result, when an ESG factor is material enough to influence our opinion of industry risk, competitive position, management and governance, or our cash flow and leverage forecasts, ESG analysis becomes relevant. However, ESG risks in a credit rating can be materially offset by a very strong balance sheet and cash flow.

That said, analysis of ESG factors will always have an influence unless an E, S, or G factor is unlikely to ever have a financial impact on an entity in the future. We may conclude that some longer-term and less certain or less direct risks and opportunities are material for the ESG Evaluation, but not so much for the credit rating. The ESG Evaluation is not a credit rating, a measure of credit risk or a component of our credit rating methodology. Rather, the information we gather for an ESG Evaluation can inform our credit analysis of rated entities.

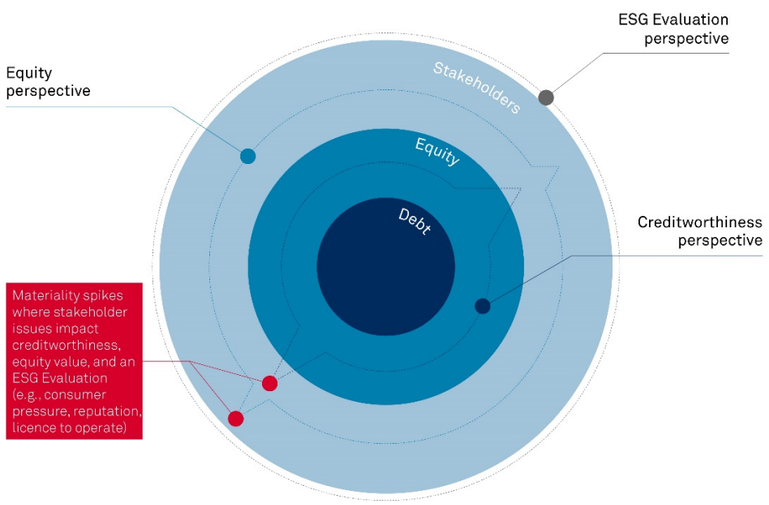
Q: Can an issuer with a high credit rating also have a relatively low ESG Evaluation score?

A: Yes. For example, consider a large oil and gas company. With strong financial metrics, a broad geographic footprint, and some vertical integration, it could easily be rated investment grade. The same company, however, could have a relatively low ESG score if it has a weak trajectory of carbon emissions and safety track record, past accounting irregularities, a lack of long-term climate change scenario planning. The opposite could also be true.

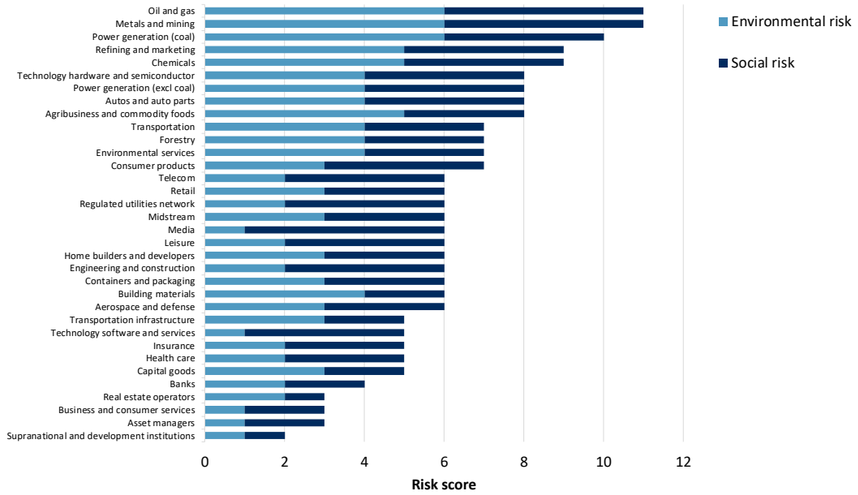
Q: How can I see how ESG factors affect credit ratings?

A: Since the start of the year, we have begun to disclose ESG sections in our credit rating reports as part of our efforts to increase transparency. ESG considerations have always been captured in our credit rating analysis, often through competitive position, financial metrics, and management and governance, among others. For utilities, generation and transport infrastructure, we just published ESG related report cards, which summarizes the key ESG factors that are material to the credit ratings in the sector. Additionally, each report will provide extracts of the ESG sections from our analyses of up to 30 to 50 companies.

ESG Evaluation Perspective, Creditworthiness Perspective and Equity Perspective



Sector Risk Atlas



We use our ESG Risk Atlas both in the ESG Evaluation and for illustrative purposes for ESG in ratings to rank the industries in terms of E and S exposure (see "The ESG Risk Atlas: Sector And Regional Rationales And Scores," published May 13, 2019). The Risk Atlas provides a relative ranking of industries in terms of exposure to environmental and social risks (and opportunities) on a 1 to 6 scale with a 1 score representing relatively low exposure, and a 6 score representing relatively high exposure (see chart above).

Q: Are there any types of companies (tobacco or mining companies, for instance) that will automatically score poorly under an ESG Evaluation?

A: While we omit any moral or ethical judgment from our analysis, society's judgments can be impactful, and the potential impacts of social movements against certain products or even whole industries are meant to be captured in our ESG Risk Atlas. Consequently, entities in highly exposed industries may start off with a weak sector score, meaning they'd be predisposed to a weaker overall ESG Evaluation score, if they scored in line with broader industry standards (see chart above).

However, within each sector, some entities will fare worse and better than average, and the latter will mitigate some of the industry's exposures and score better.
This can be due to:

- Outperformance on key metrics against industry standards (for instance, a utility that has lower greenhouse gas emissions because it has closed coal plants).
- Highly effective governance (for instance, very high levels of transparency and disclosure).
- Relatively effective preparedness (for instance, a tobacco company that is pursuing acquisitions in less exposed industries).

Q: As this is a monitored evaluation, what could cause S&P Global Ratings to adjust a published ESG Evaluation score?

A: We will monitor the company or entity and related events and their impact on the ESG Evaluation to determine if it has a material impact on our analytical rationale or the score.

First, when we receive new data, whether through the publicly available corporate sustainability report or through privately furnished information, we may update the ESG Evaluation if we believe the changes are significant to our analysis. Second, we'll keep close watch over events that can affect the ESG Evaluation score. A major ESG-related event could prompt a review, and often the outcome could be negative. An event that is unlikely to lead to a financial impact, may not prompt a review.

Q: Have there been any ESG Evaluations published, to date?

A: Yes, on 17 June, 2019, we published our inaugural ESG Evaluation, analyzing NextEra Energy Inc.

Although it faces significant exposure to environmental issues, the U.S.-based energy holding company, in our view, has fostered an effective culture to contend with ESG-related risks, and has been more proactive than peers in decarbonizing its fleet. The company received an ESG Evaluation score of 86/100.

"While we omit any moral or ethical judgment from our analysis, society's judgments can be impactful, and the potential impacts of social movements against certain products or even whole industries are meant to be captured in our ESG Risk Atlas."

Further information can be found on the Capital IQ portal in the research pieces entitled "FAQ: How We Apply Our ESG Evaluation Analytical Approach" and "Our Approach To ESG In Ratings"

Further information on the NextEra Energy Inc. ESG Evaluation can be found on the ESG Evaluation website.

When U.S. Public Finance Ratings Change, ESG Factors Are Often The Reason

Kurt Forsgren details the findings of our two-year study into the prevalence of ESG factors in rating actions for U.S. Public Finance ratings.

"ESG factors were primary credit drivers in 34% of the total 3,315 USPF rating actions."

S&P Global Ratings recently performed a two-year review of Environmental, Social, and Governance (ESG) factors in our criteria and how they influenced, positively or negatively, the credit profile of our U.S. public finance (USPF) entities. These include local governments and states, as well as health care, housing, higher education, charter school, utility, transportation, and public power enterprises.

Our findings? ESG factors were primary credit drivers in 34% of the total 3,315 USPF rating actions. Digging deeper, we found that Governance and management issues, at 67%, were the most likely factor to lead to a rating action across sectors, although some sectors (such as public power, utilities, and transportation) were more sensitive to environmental issues as well. Social issues were a factor in about 28% of the rating actions we took. We believe this overall distribution could change as transparency and disclosure practices of rated issuers improve.

The methodology

Our methodology consisted of reviewing over 3,300 credit rating actions posted to RatingsDirect® from January 1, 2017, to December 31, 2018. We excluded rating actions following bond defeasances and withdrawals if at the issuer's request. We included withdrawals related to insufficient disclosures and lack of timely information, which we consider a reflection of poor management and governance. We then analyzed the remainder using natural language processing tools to identify words or phrases relating to ESG factors, complemented by qualitative interpretation of the results.

We excluded several key credit factors, such as rating actions resulting from changes in financial performance, changes in non-socioeconomic indicators, and changes because of new criteria implementation.

Governance: the key factor

Over the time period, we identified approximately one or more ESG factors in 34% of 3,315 rating actions. Of these, governance was the dominant one (67% of a rating actions), followed by social (28%) and environmental (5%) factors. ESG-led rating actions were slightly more negative than positive, with 44% (or 495) being positive rating actions and 56% (or 621) negative. Overall, the split between positive and negative factors was relatively balanced.

Of the 10 most frequently-cited credit factors for a rating action, most were Governance-related. Our view of governance includes institutional framework, oversight and board structure, corruption, transparency and disclosure. We consider management practices and policies to be important governance indicators. We view this as a relevant feature given the autonomous nature of local governments and non-profit entities in the U.S., and the corresponding strong link between management and credit quality.

The prevalent social factor across rating actions was enrolment, due to its critical role in the rating criteria for education sectors, including kindergarten-grade 12 public school districts, charter schools, and higher education. Other key social factors were: service needs for various entities and populations; changes in income levels and affordability; and employment levels.

Credit impacts from climate change, meanwhile, affect public finance entities in different ways. Largely they focus on the fallout from either extreme weather events or natural disasters. Our research indicates, with some exceptions, these events have had limited impact on U.S. municipal ratings. Downgrades have been less common, even as affected areas increasingly include large and growing populations. Issuers that have prepared for natural disasters by maintaining strong liquidity positions and building resilient infrastructure have seen credit stability.

Sector review

Irrespective of region or sector, the absence of a cited ESG factor in a rating action does not mean it was not considered. For example, environmental factors play the largest part in public power, water and sewer utilities, and transportation ratings. Extreme weather events, meanwhile, did have a large effect on the underlying finances or economy of several issuers, but other mitigating factors often counterbalanced the negative credit impact of the extreme weather event, leaving most issue ratings unaffected.

Social factors were most prevalent for higher education and charter school ratings, while they did not lead to any rating actions for the state sector. Ultimately, the degree of environmental, social, or governance factor impact to rating actions varies across sectors, despite being a meaningful component of every public finance issuer's overall creditworthiness.

We expect ESG factors to become more explicit factors of rating actions as awareness by market participants grows and transparency and disclosure improve.

Further information can be found on the Capital IQ portal in the research piece entitled: "When U.S. Public Finance Ratings Change, ESG Factors Are Often The Reason"

Green Finance: Strong Market Fundamentals For 2019

Amid rapidly growing interest in sustainable financing, Noemie De La Gorce examines the trends observed in the green bond market in 2018 and provides an outlook for the upcoming year.

"We expect the green finance market to continue to flourish."

The green-labeled bond market could grow by 8% in 2019, rising to US$180 billion, our analysis indicates. Strong market fundamentals, a continuous stream of new issuers, and emerging financing instruments are set to lay a strong foundation for green issuance this year.

Policymakers will continue to incentivize public, private and multilateral financing to achieve their environmental ambitions, such as those set out under the Paris Agreement. The issuance of other sustainable bonds, such as Environmental, Social, and Governance (ESG) bonds is also expected to accelerate. So, key questions remain: where can we expect green issuance to rise; and is growth stemming from public or private funds?

Sovereign issuance on the rise

Sovereign participation has ramped up: issuance has grown by over 60% over the last two years. In 2016, sovereigns were responsible for only 1% of new issuance, but last year their participation rose to 10%. Over the coming year, we expect this trend to continue.

What types of project are their focus? Sovereigns tend to invest a larger proportion of proceeds in climate change adaptation, agriculture and biodiversity projects compared to their private counterparts, largely due to the lack of tangible cash flows that these projects generate.

Among the key considerations for sovereign issuer is strengthening transparency in the green-labeled market. Efforts are ongoing in parallel with regulators: we expect the European Commission's 2018 Action Plan on Sustainable Growth to be followed by a series of legislative and non-legislative measures, including regulation of classification of activities, as well as the integration of ESG in investment research.

New growth from private sector

Expected to play a more prominent role in the green bond market are financial institutions – both as issuers and investors. They were the primary growth drivers in 2018, doubling growth from 2017, as they increasingly look to finance a greener economy, and investment needs continue to increase in the transition to a low-carbon economy.

Although sovereign issuance will continue to fund the majority of adaptation financing, extreme weather events (such as wildfires in California and major floods in China) may result in businesses investing more in mitigating environmental impact and strengthening resilience to climate change (see chart). Rhode Island Infrastructure Bank, for example, recently issued US$19.8 million of green-labeled bonds to finance onshore wind, solar power, heating, ventilation and air conditioning.

Geographical and sector development

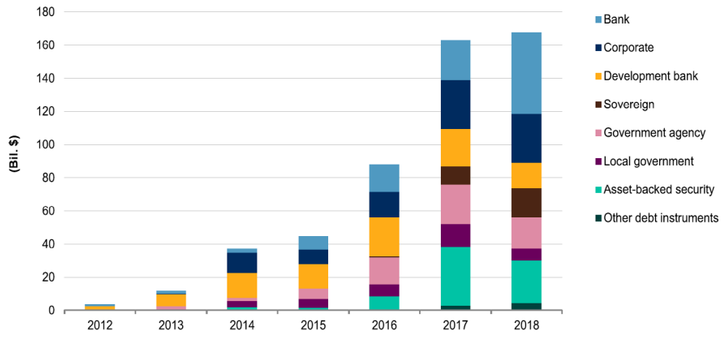
We foresee Europe remaining the primary region for green bond issuance. However, almost 40% of new green-labeled issuance from financial institutions in 2018 came from China, reflecting the important role of Chinese banks in the country's ambitious green growth strategy. The green investment principles for the Belt and Road Initiative (BRI) recently published by the China-U.K. Green Finance Taskforce indicates that major regulatory developments are also likely to come from China in the coming years. In terms of sector allocation, we expect a continuation of green bond proceed allocation to the energy, transport and building sectors.

Beyond green

Over the past two years, sustainability-labeled instruments, designed to target both environmental and social benefits, have gained significant traction. Concrete sustainable development targets include those created by the United Nations in 2015, and the recent sustainability bond guidelines by the International Capital Market Association, which should improve transparency around both the use of proceeds and environmental impact.

Although there is the possibility of a reduction in green bond issuances as social and ESG-linked financing increases and issuers incorporate green financing into a broader view of sustainability, we expect the green finance market to continue to flourish.

Annual Green-Labeled Issuance By Issuer Type



Source: Climate Bonds Initiative.

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Further information is available on the Capital IQ portal in the research piece entitled: "Green Finance: Modest 2018 Growth Masks Strong Market Fundamentals For 2019"

2019 U.S. Green Bonds and Resiliency Outlook: Will The Self Labeled Market Rebound?

Erin Boeke Burke explains the state of play in the U.S. municipal green bond market so far, and considers the next steps for development.

"One of the green market's greatest challenges has been adequate disclosure."

In 2018, the U.S. municipal market for self-labeled green bonds declined for the first time since 2013. Total par volume decreased 50% across the U.S. – from nearly US$10 billion in 2017 to US$4.9 billion in 2018 – in part reflecting a change in tax law, which eliminated issuer ability to advance refund existing debt. But this decline belies more of a mixed story. While total volume halved, the number of bonds issued declined less than 20%, and the number of unique issuers of green bonds fell less than 15%.

Development and further growth in the municipal green bond market will likely hinge on several factors. Among them, transparency over green municipal bonds via external certification and new issuers from diverse geographies and credit quality should help the market achieve further resiliency and growth.

Smaller but more frequent issuance

Important to consider is that the U.S. self-labeled municipal green bond market remains heavily concentrated, with the top ten issuers representing half of total volume in the last five years. For instance, the New York Metropolitan Transportation Authority (NTA) representing nearly 20% of the municipal green market in that period. Given its outsized role in the market, we note MTA's substantially lower green bond issuances were another major source of the market's volume decline in 2018. In 2018, the authority issued just US$207 million in green bonds, in contrast to issuance of US$1.4 billion in 2016, and US$3.7 billion in 2017. The relatively small size of the market means that the presence or absence of mega-issues can make for a large variance in overall market size for the year.

Average par for green bonds issued by U.S. municipal issuers in 2018 was less than US$100 million, in contrast to average par greater than US$160 million in recent years, and the smallest average figure since we started tracking the municipal green market. By our count, there was one green issue with a par over US$500 million in 2018, in contrast to three such issues in 2016 and 2017.

Green buildings saw the largest number of issues and high par amount of all green bond sectors in 2018, representing the first time any sector has surpassed the water and wastewater sectors in both volume and number of issues. If growth in the green buildings sectors continues, combined with continued but irregular transportation mega-issues, we would expect water, transportation, and green buildings to eventually become more equal participants in the municipal green market.

Transparency and market resilience

If the U.S. municipal bond market is to continue growing, it will be important for new issuers – diverse in terms of geography, sector and credit quality – to grant investors the transparency and ongoing disclosure that demonstrate a commitment to environmental mitigations.

Disclosure has been one of the green market's greatest challenges. Based on our conversations with issuers, a significant factor constraining market growth is the absence of a clear pricing advantage or evidence for a green premium – particularly when factoring in additional compliance and reporting costs. The municipal market is overwhelmingly made up of obligors that exist for providing basic social and public goods, thus have a public interest in maintaining service affordability, so additional costs associated with greater disclosure requirements and required to obtain external certification can be difficult to justify. Yet we have observed that a rising number of issuers are seeking third-party verification.

In our view, third-party verification contributes to the development of a more robust and transparent green bond market, which we expect would likely support a broader investor base and enhance marketplace transparency with respect to the greenness of particular issues and assets.

In the long run, we believe that U.S. municipal issuers have a natural advantage in issuing green- and sustainability-labeled bonds.

Further information is available on the Capital IQ portal in the research piece entitled: "2019 U.S. Municipal Green Bond And Resiliency Outlook: Will The Self-Labeled Market Rebound?"

Green Finance Takes Hold In The GCC

Though the green bond market in the GCC remains in its infancy, issuance looks set to grow. Michael Wilkins provides insight into the region's growing green finance market.

The global green bond market went from strength to strength in 2018, with US$167.3 billion of new issuance – an increase of 3% on the previous year. The oil-rich Gulf Cooperation Council (GCC) states, however, are playing catch-up. Thus far, there have been no issuances of green sukuk – a type of Islamic financial instrument whose proceeds are directed to environmental initiatives – in the region. The region's first and only green bond was issued by then National Bank of Abu Dhabi in 2017 for US$587 million.

But this could soon change. Like the rest of the world, the GCC has committed to diversifying from fossil fuels. The reason is partly economic: its dependency on oil has made its economy vulnerable to falling oil prices; but it also wants to respond to growing demands for action on climate change from policymakers and multilaterals that seek to encourage financing to achieve the nationally determined contributions (NDCs) set out under the Paris Agreement. In turn, we believe green finance in the GCC has the potential to play a bigger role in funding an ambitious pipeline of green initiatives.

Sustainability efforts grow

Progress towards a low-carbon economy across the GCC is already being made, underpinned by huge investments in renewable energy. Capacity in this segment is projected to grow by an estimated compound annual growth rate of 179% between 2018 and 2020 towards nearly 7 gigawatts (GW).

GCC governments have taken substantial strides. The UAE, for example, has pledged in its NDCs and Energy Strategy 2050 (among other targets) to increase the share of clean energy into its primary energy mix to 27% by 2021 and to increase clean energy contribution into total energy mix from 25% to 50%. This transition will require investment of some US$163.3 billion over the next 31 years, equating to an annual spend of more than US$4.6 billion.

Elsewhere, Saudi Arabia's Saudi Vision 2030 aims to produce 3.45GW of renewables by 2020 and 9.5 GW by 2023; amounting to 30% of the total mix by 2030. The government has indicated that it is seeking to attract between US$30 billion and US$50 billion of investments in renewables by 2030.

Issuing potential

Despite all of these advances, the green finance market in the GCC is still in an early stage of evolution and lacks cross-border financing and the presence of institutional investors such as pension funds that we see in other developed capital markets. A combination of green and vanilla sukuk as well as conventional green bonds could provide the substantial funding support that is required for the realization of the region's sustainability targets. In particular, new and conventional green finance vehicles could lower the cost of capital for overseas cross-border financing and open up a wider pool of capital of Islamic and conventional investors.

So, who could issue new green bonds or sukuk? We believe that several of the utilities we rate in the GCC could consider green issuance, although they would most likely expect to obtain pricing at least equivalent to conventional issuance before proceeding. And as these projects have high-level governmental support, green issuance is likely to also come from sovereigns. Capital markets could play a more important role in funding some of these large projects.

Looking at green bonds issued globally in 2018, we see that almost equal amounts of proceeds were channeled into the real estate sector, making energy (31%) and buildings (28%) sector leaders in the market. Across the GCC region, nearly 50% of all electricity consumed goes to the residential sector, with 70% of homes not insulated. Therefore, a significant share of climate change mitigation initiatives in the region are focused on lowering energy consumption in buildings – meaning large real-estate companies could also be well positioned to tap into the region's emerging green finance market.

"Green finance in the GCC has the potential to play a bigger role in funding an ambitious pipeline of green initiatives."

Further information can be found on the Capital IQ portal in the research piece entitled: "Green Finance Takes Hold In The GCC"

Project Finance Outlook Remains Stable Despite Changing Environment

Ben McDonald gives an overview of the project finance market globally.

Political landscapes are seeing increased uncertainty, and trade and geopolitical tensions have risen across the globe. Government debt has continued to grow in most countries and there are some signs that, despite the long period of slow but sustained growth since 2009, we could be reaching a turn in the cycle. Importantly, over the past two years, the number of upgrades outnumbered downgrades by 2:1.

Project Rating Numbers Remain Relatively stable

In this environment of change, S&P Global Ratings has seen its project finance ratings remain fairly stable in number.

- There were 253 distinct entities as of January 30, 2019, compared with 257 when we last published an industry report card for project finance in May 2017 (adjusted to include a few public finance-type projects).
- Since May 2017, we saw 31 new ratings and 36 that either reached debt maturity or were withdrawn (due to a refinancing, at issuer request, or due to a default).
- The number of projects we rate is larger, at 300 distinct issuers, as some issuers maintain private rather than public ratings. The rise in private confidential project ratings has risen particularly in EMEA.

Some Shift Away From Power And More Rated Projects Outside U.S. While 50% Of Portfolio Stays Anchored In 'BBB' Category

- About one-third of the rated group remains in the power and renewables space, but this has fallen to 31% at the end of January 2019 from 36% in May 2017. Social infrastructure has grown by 1% to 32% of the group, with transport growing by 2% to 25% during the same time. Oil and gas projects are almost 10% of the group and the remainder is spread among industrial, mining, and oil and gas projects.
- We've seen the U.S. portion of the rated entities decline to 34% from 39% since the last review, with growth coming from Europe and the Middle East (now totaling 31%, up 3%) and Latin America (20%, up 3%), with Canada and Asia Pacific relatively stable.
- The low investment grade area remains the sweet spot for project finance, with 50% of the group in the 'BBB' category, 22% in the 'A' category, 17% in the 'BB' category, and 10% in the 'B' category; the remaining 3% are 'AA' or in the 'CCC' or 'CC' categories.

Last Two Years Saw Upward Ratings Movement

- Of the other credits that were rated in May 2017 and at the start of 2019, 40 were upgraded while 21 were downgraded.
- Upgrades have come from either improvement in operating costs, better revenue margins, improvement in the credit strength of counterparties that had previous capped the rating on a project, or completion of project construction when we assessed construction as a higher risk period than operations.
- Several power projects in the U.S., particularly the Electric Reliability Council of Texas power region in Texas, saw weakening debt service coverage and ratings. Low natural gas prices and increased renewable penetration have led to weak market prices in this region.
- However, the aforementioned does not include recent downgrades of 3 rated power projects Topaz Solar Farms, Crockett Cogeneration, and Panoche Energy Center to 'CCC+' from investment grade. They are contracted power projects but have long-term contracts with PG&E, which has recently entered bankruptcy, putting the associated energy contracts into question (see page 14).

Further information is available on the Capital IQ portal in the research piece entitled: "Project Finance Outlook Remains Stable Despite Changing Environment"

Could Infrastructure Stimulus Plans Stabilize China's Economic Growth?

Amid slowing economic growth, there is a dilemma between infrastructure stimulus plans and increasing pressure to reduce national debt. Gloria Lu answers the industry's pressing questions.

China's leaders are showing restraint in the face of economic uncertainty. Amid slowing GDP growth, China aims to stabilize its economy without conducting a major credit expansion as in previous stimulus cycles. As a result, key policies and targets announced in March's annual government planning sessions indicate only a moderate stimulus will unfold in 2019. We ask Gloria Lu for her views on the likely ramifications for infrastructure and utilities.

Q: What is the macroeconomic outlook in China?

A: The main observation is slowing growth. Government leaders announced a 2019 GDP growth target of 6%-6.5%, considerably more flexible than 2018's target of 6.5%. In our view, the government is braced for further slowdown but will moderate any sharp deceleration.

To stabilize the economy, the government is embarking on a relatively moderate stimulus with three focus areas: tax cuts worth 2 trillion Chinese renminbi (RMB) (around US$300 billion), more accommodating monetary conditions and moderate infrastructure stimulus.

Q: What may this infrastructure stimulus entail?

A: We wouldn't expect 5,000 kilometres of new railways, but fairly tame infrastructure investment is on the cards. Spending targets on railway, roads, and waterways are flat from last year. We estimate infrastructure investment growth of 8%-10% in 2019, compared with 3.8% last year, following a 20% bump in 2017. The government will earmark spending for improving weak links in the economy and developing key projects in target areas, such as technology infrastructure such as a 5G network, rural fiber broadband, and environmental protection.

Q: What credit impact could this have on local government financing vehicles (LGFVs) and on infrastructure firms?

A: We believe the central government attitude towards debt growth would constrain LGFVs' capacity to overspend. However, authorities are easing financial conditions on this sector, to reduce immediate refinancing risk in a year of record LGFV maturities. We also expect local governments to be permitted to issue bonds in order to swap out some maturing LGFV debt. In the short term this could lower funding costs, and increase transparency in the longer term.

Q: How are utilities in China performing in this slower-growth environment?

A: Despite economic slowdown, we expect gas utilities in China to maintain strong growth under the policy push for cleaner energy. Despite moderation in growth, Chinese power demand has shown resilience since 2016 and may support about 5% growth in 2019. EBITDA margins are likely to stabilize across markets, except for renewable energy producers which are still saddled with delayed tariff subsidies. For instance, margins for coal independent power producers (IPPs) should settle – thanks to the declining trend in coal prices and average tariffs.

Q: Is policy risk a concern for Chinese utilities?

A: Policy risk has long loomed over Chinese utilities, given previously inconsistent and abrupt policy, often to serve political goals. In the renewables sector, phenomenal growth in solar power capacity in recent years has fed an ever-increasing deficit of national funds to pay subsidies. Subsidized projects – particularly in wind and solar generations – will likely continue to constrain liquidity conditions of debt-laden private developers, due to sporadic and unclear payment schedules. New rules and a shift to subsidy-free renewables could also encourage the Ministry of Finance to start settling its bills on subsidies awarded in the past.

Q: In what areas might we see improvements or expansion?

A: First, market liberalization could continue to encourage Chinese utilities to improve efficiency and diversify their energy mix. Major IPPs are upgrading their generation facilities or expanding into new segments, such as wind.

Renewable producers have also shifted from subsidy-driven business to one driven by efficiency and cost. Wind power and distributed solar will likely achieve grid price parity with coal by 2020 in most regions, given advances in renewable technology that lower costs. Solar projects are subject to a subsidy-free policy from January 2019, which is credit supportive since it ensures more visible cash flows of new projects and reasonable returns on the back of fixed (albeit lower) tariffs for at least 20 years under long-term power purchase agreements with grid companies. Subsidy-free projects will get priority at the grid, driving higher utilization hours and generation.

"We estimate infrastructure investment growth of 8%-10% in 2019, compared with 3.8% last year."

Further information is available on the Capital IQ portal in the research pieces entitled: "Industry Top Trends 2019, Utilities – Asia Pacific" and "Rein Forecast: China's Restrained 2019 Targets"

SSEA Infrastructure and Utility Companies To Face Credit Pressure?

Abhishek Dangra observes market conditions for south and southeast Asia's (SSEA) infrastructure companies and provides his outlook for the rest of 2019.

"Credit pressure is still expected, rendering many rated companies vulnerable to external shocks with little cushion to absorb them."

Supportive operating conditions should continue for SSEA infrastructure companies this year: revenue growth is in line with GDP; EBITDA margins are stable; and capital expenditures are tapering after a 2018 peak. In turn, we expect revenue to increase 5%-7% annually over the next two-or-so years.

But there are external risk factors on the horizon. Political changes, funding risks, regulatory developments, and rising interest rates together with high leverage may cause credit pressure. This is of particular concern to independent power producers (IPPs) and transport entities, due to their exposure to demand and interest rate risk. Credit pressure is, therefore, expected. Many rated companies could become vulnerable to external shocks – and some only have little cushion to absorb them.

Our stable rating outlook holds a moderately negative bias: of the 24 companies we rate, 21 have a stable outlook (see below chart). The three ratings on negative outlook – Adani Transmission Ltd., Global Power Synergy Public Co. Ltd., and PT Perusahaan Gas Negara TBK. – are partly due to acquisitions and pending clarity on financial discipline for acquisition funding. Management discipline in maintaining leverage through the cycle and acquisitions is set to be a key rating driver; all three ratings on negative outlook are investment-grade credits at risk of slipping to speculative-grade.

Acquisitions & Growth

Given the high-quality assets and strong growth in airports built by the private sector in India, as well as successful experiences from recent years in public-private partnerships (PPPs), growth may be focused on the country's airport privatizations through PPPs.

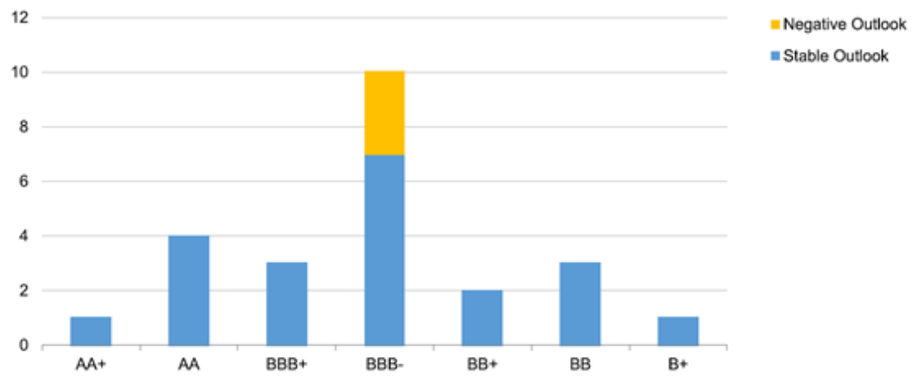
Another growth sector will likely be renewables, which should outpace development in fossil fuel assets. Over the past few years, India's renewables sector grew at 50%-100%. As a result, other opportunities may arise for privatizing the ailing distribution sector – though on a selective basis.

Interest costs set to rise

Although competitive bids for renewables in India seem to be flattening, higher borrowing costs may squeeze aggressive renewable developers. Moreover, for those companies with large capex and acquisition plans, sizeable funding will be required. The direction of interest rate adjustments remains unclear in light of recent macroeconomic developments and the paused hike in interest rates within the U.S.

For most rated SSEA infrastructure companies, the cost of debt is unlikely to fall this year. Though funding costs had been steadily declining over the past few years (see chart opposite), domestic interest rates were raised in many countries in the region last year,

Rating And Outlook Distribution



Note: Data as of Jan. 31, 2019. Source: S&P Global Ratings.
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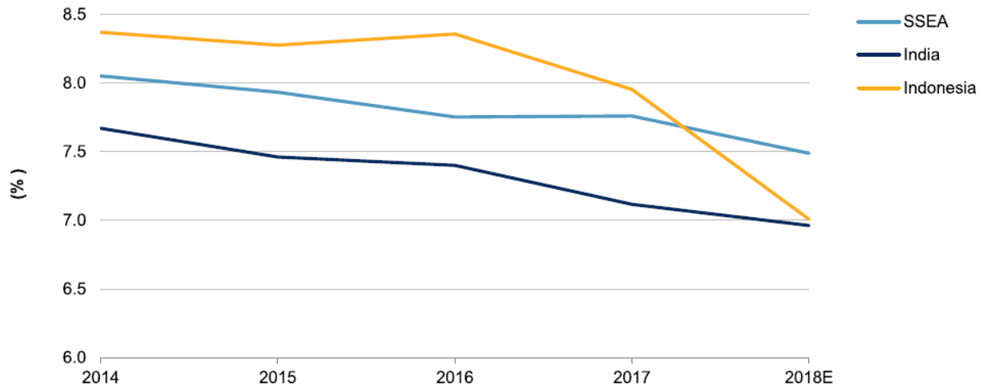
The average cost of funding for S&P rated infrastructure and utility entities by jurisdiction



E--Estimate. Source: S&P Global Ratings.
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Graph denotes the average borrowing costs for our rated companies in each jurisdiction

including Indonesia and India. Despite the rise in domestic rates, many rated companies were able to optimize their funding costs by tapping the wider ccapital market and because of banks' preference to lend to stronger companies. For companies with significant floating rate debt, a sharp increase would damage their credit profiles.

Even if existing debt is largely fixed rate, future borrowings may cost more. And restrictions, such as the Reserve Bank of India's (RBI) recent ruling on refinancing Indian rupee loans with foreign currency borrowings, further limit funding channels.

Regulatory reviews ongoing

Regulatory reviews are ongoing in SSEA and may negatively affect infrastructure corporates. Though regulatory uncertainty is nothing new to these markets, most exposed to regulatory actions (and inaction) are India's airports and Indonesia's utilities. Indian airports suffer from lack of timely regulatory revision of tariffs despite the presence of an independent regulator. Indonesian power companies, meanwhile, are exposed to a lack of a fully independent regulatory framework and state intervention, which includes a possible delay in removing caps on electricity tariffs until the country's elections.

Other infrastructure companies are likely protected by well-established regulatory frameworks (Indian regulated utilities, for example), or have limited regulatory exposure, such as in the case of ports. Most rated ports enjoy limited competitive risk in the short and medium-term due to their geographical location and their position as gateway ports for their countries, including Adani PT Pelabuhan Indonesia II.

Political risk remains

Revisions to infrastructure spending commitments, derived from political change, may determine the growth trajectory of SSEA infrastructure companies in the short-to-medium term. The Philippines, Thailand, Indonesia, and India are all due to hold elections in 2019, while Malaysia may experience a power transfer among government leaders this year.

New governments following elections or policy shifts within existing regimes may temper infrastructure growth. Maintained elevated infrastructure spending over the last couple of years, mostly led by government or state-owned entities, may result in budgetary concerns and a readjustment in pace and areas of investment. However, we expect minimal impact on existing projects and cash flows, which will still need significant investment.

Still, we see a medium level of political risk for the SSEA infrastructure sector. The events of the past year have demonstrated the impact that political events have on the infrastructure sector in the region; the post-election cancellation of large bilateral international projects by Malaysia, and pre-election capping of electricity tariffs in Indonesia are notable examples. During these uncertain times of political change, rising interest rates and funding pressures at a time of heavy capex, financial discipline becomes increasingly important.

"We see a medium level of political risk for the SSEA infrastructure sector."

Further information can be found on the Capital IQ portal in the research piece entitled: "External Risks Could Overshadow Healthy Operating Conditions For South & Southeast Asian Infrastructure Companies"

The Future For California Utilities And Their Suppliers

Recovery prospects for PG&E Corp., its suppliers and other Californian utilities are uncertain after PG&E's bankruptcy filing in January 2019. Gabe Grosberg, Aneesh Prabhu and Anne Selting explain how 2019 could play out.

Californian utility PG&E Corp. filed for reorganization under Chapter 11 of the U.S. Bankruptcy Code just two months after the devastating Camp Fire began, leading us to re-examine the state's regulatory construct for investor-owned electric utilities. In this FAQ, our analysts shine a light on the causes, potential credit quality impact for other investor-owned utilities, and the implications that PG&E rejecting or renegotiating its power supply contracts would have for suppliers.

Q: What were the immediate credit consequences for power suppliers following PG&E's bankruptcy filing?

A: Generally, all rated entities exposed to PG&E are experiencing some immediate credit deterioration. It's a question of whether PG&E will look to shed any – particularly high-priced – power supply contracts. The future value of these is about $40-$42 billion. The precedent is for utilities to affirm power purchase agreements (PPAs) they want to keep, but PG&E has been quiet about potential abrogation. So far the utility has only asserted that, under its Chapter 11 filing, it has the right to do so.

We understand that distributions to owners of PG&E's project-financed assets have stopped, with covenants requiring cash to be kept at project level. For three of these projects that we rate, our scenario analysis assumes these projects could default in the next 12-18 months if PG&E rejects its power contracts.

Q: How has this affected other Californian utilities?

A: Our initial assessment on January 21, 2019, led to one-notch downgrades on Edison International and subsidiary SoCal Edison Co., and on Sempra Energy's subsidiary San Diego Gas & Electric Co. This is because Californian courts interpret "inverse condemnation" in a way that can hold utilities liable for significant property damages costs regardless of negligence. This legal doctrine exposes Californian utilities to liabilities in a way that essentially renders them the state's reinsurer against wildfires. We don't believe that an electric utility is large enough, sufficiently diversified, or adequately capitalized to do this.

Q: Could another voluntary bankruptcy filing occur this year?

A: Without any regulatory reform, we view it as entirely possible that, depending on the magnitude and severity of any future devastating wildfire event, the board of directors of an electric utility could similarly determine that the best course of action would be to file for a voluntary bankruptcy.

In our view, California's legislative interpretation and process to recover the material costs of a wildfire is still unpredictable, relatively untested, and lacking transparency. This raises the possibility that our issuer credit ratings for all of California's investor-owned regulated electric utilities could be below investment grade before the start of the 2019 wildfire season. There is a small window of opportunity to pass comprehensive legislation to better mitigate these credit risks, but this may close at the beginning of the wildfire season, which can start as early as June.

Q: Looking ahead, how are recovery prospects looking for lenders?

A: Outlook for unsecured lenders and their recovery prospects after PG&E emerges from bankruptcy is quite favorable, with recovery expectations of its unsecured debt being at least 90% at the time of filing. The net value of PG&E's property, plants, and equipment stood at about US$55 billion versus estimated unsecured claims at the time of the filing of US$20 billion in unsecured utility debt; an estimated US$5.5 billion in superpriority debtor-in-possession (DIP) financing; and an unknown but approximate estimate of US$30 billion or more in wildfire claims.

That said, recoveries could be less, depending on whether there are additional unsecured claims. These could include potential claims from subsequent 2019 wildfires or PG&E's rejection of power supply contracts.

"The combination of climate change, California's susceptibility to wildfires, and the state's interpretation of inverse condemnation, if unaddressed, raises the risk for California's electric utilities."

Further information is available on the Capital IQ portal in the research pieces entitled: "Will California Still Have An Investment-Grade Investor-Owned Electric Utility?" and "Suppliers In The Dark As PG&E Weighs Pulling The Plug On Power Supply Contracts"

U.K. Utilities Are Feeling The Heat

Matan Benjamin assesses how Ofwat and Ofgem's recent regulatory changes may pressure U.K. utilities' credit ratings.

The U.K. water sector has reached the peak of regulatory reset risk, with the next regulatory period to begin in April 2020. As a result of Ofwat's more challenging regulatory targets, we have revised the outlooks on seven of our 14 ratings to negative.

Similarly, pressure is building up on energy network companies, stemming from Ofgem's just published new methodology for the RIIO-2 price control process, which starts in 2021. Although most credit rating outlooks of electricity and gas networks are stable, we see a high likelihood that they could change in the first quarter of 2020, when networks submit receive the regulator's initial assessment on their business plans. Lastly, we present our preliminary considerations on the risk of nationalization given the opposition Labour Party proposal to bring key utilities back into public ownership.

U.K. water: stricter operating objectives and lower returns

The main goal of the regulator Ofwat for the next regulatory period is to provide better customer service at a lower cost, with a significant focus on operational performance (including leakage reduction and lower service interruption) and environmental impact.

Capital investment is therefore likely to remain high: we forecast an average increase across the sector by about 10% between March 2020 and March 2021. At the same time, the allowed cost of capital is to decrease to a real 2.3%, from about a real 3.4% at an assumed retail price index (RPI) of 3%. Based on our preliminary forecast, this will lead to about an average 3% decrease in annual revenues across the sector between March 2020 and March 2021.

Ofgem's rebasing returns, indexation and incentives

With a goal to better balance customer interests and rebasing industry returns, Ofgem has adjusted its guidance for the baseline allowed cost of capital to 1.9% in retail price index (RPI) terms. This compares to an estimated weighted average cost of capital (WACC) during RIIO-1, which ranged from 3.8% to 4.0% in real RPI terms as of March 2018. In real terms, the new methodology implies a drop in WACC of over 2%, and a fall in the return on equity by about 3% (from close to 7% to 3.8% in real RPI).

Another important element is the use of the consumer price index (including housing or CPIH) rather than RPI bearing in mind that CPIH levels tend to be 1% lower than RPI. On a CPIH basis, the allowed cost of capital (shown above as 1.9%) would be restated as 2.9%. However, the lower CPIH based indexation of the company's revenues and RAV mean however some mismatch with its debt t (about 30% of it is RPI-linked).

Finally, Ofgem introduced new mechanisms to limit the potential for material outperformance or underperformance by individual companies, recognizing that some of the cost allowances for RIIO-1 were set too high. Its return adjustment mechanism (RAM) may be credit-supportive in a scenario of material underperformance, but they also prevent companies from earning additional returns.

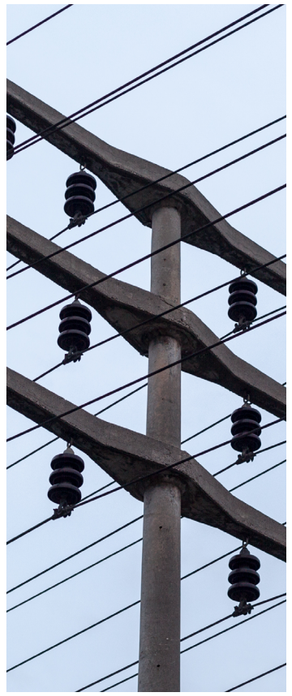
How does the Labour opposition party intend to execute any nationalization plan if it came to power?

According to Labour's recent paper, existing debts of the private companies will be carried over to the companies under public ownership and honored in full. In addition, in case of public ownership, we would begin to rate the utilities as government-related entities (GREs) with potential uplift for sovereign support, which would be particularly relevant if the entity's stand-alone credit profile deteriorated.

The most significant financial exposure therefore lies in our view with creditors at holding companies and shareholders. We think legal constraints and disputes, in particular, relating to nationalization for less than full market value (given prevailing premia over RAV) could still represent obstacles to implementing the policy, for example, potential legal battles with current shareholders who are likely to be unwilling to relinquish control.

Albeit more exposed, debtholders of the holding company benefit from some degree of security if renationalization is executed based on RAV, bearing in mind the average debt-to-RAV ratio across the regulated water, gas, and electricity sectors is about 75% -80% on a consolidated basis – most of the debt being however at operating company.

"Regulated gas and electricity networks may find aspects of the new methodology challenging, particularly the reduction in the allowed cost of capital."



Further information is available on the Capital IQ portal in the research piece entitled: "U.K. Utilities Are Feeling The Heat"

Regulatory Support Is Powering Latin American Utilities

Recent elections in Latin America may signal impending policy shifts for the region's utility sectors, says Julyana Yokota.

"Regulation typically strengthens the business risk profile and credit quality of an entity and generally points to stability and predictability of operations, as well as financial continuity."

It's a time of transition in Latin America: the elections might be over, but the prospect of political and regulatory reform is swelling. This has obvious implications for industries that governments have direct influence on, notably the regulated utilities segments, which could be subjected to a period of heightened uncertainty.

Yet this view partly overlooks the progress made up until now within Latin America's regulatory environment. In fact, regulatory support and independence are, in large part, already powering Latin America's electric utilities. We consider the frameworks to be largely predictable and transparent, which makes them credit supportive, overall.

Our regional assessment

In our analysis of any regulated utility's business, a crucial element is regulatory risk. Regulation typically strengthens the business risk profile and credit quality of an entity and generally points to stability and predictability of operations, as well as financial continuity.

This said, while we consider some parts of the regulatory framework in Brazil, Chile and Colombia to be "very credit supportive", this doesn't necessarily indicate that the regulatory bodies in those jurisdictions support the credit quality of market participants, nor does it necessarily endorse a view that regional regulation is effective.

Positive prospects for Brazil

President Bolsonaro's victory has improved market sentiment for energy and infrastructure. Under the previous administration, Brazil's regulators experience some political pressure to reduce rates by 20%. In return, the government offered generators and transmitters early renewal of concessions and reduced the companies' contributions to sector-specific funds that are embedded into rates.

This temporarily weakened the financial stability of market participants – particularly those in the electricity distribution segment. What followed was unforeseen: severe droughts between 2013 and 2017 caused energy costs to spike – since hydropower comprises most of the country's energy generation.

Regulatory independence from the government is still rebounding, but rates now better reflect the costs of electricity generation – timing mismatch can occur as tariffs are adjusted once a year.

The next few months will indicate the new administration's stance on important matters including measures to mitigate hydrology risk, and the eventual privatization of Eletrobras, the country's largest electric utility.

In the longer term, given Brazil's rising electricity demand, we expect Bolsonaro's government to encourage the increase of non-conventional renewable generation (solar and wind generation, in particular).

Mexico: policy uncertainty prevails

Since Andrés Manuel López Obrador (also referred to as AMLO)'s rise to power, the risk of change in key sectors, such as energy, has increased. The cancellation of a new airport outside Mexico City represents drastic shifts in policy, and could be followed by reform in the politically-sensitive energy sector. During his presidential campaign, AMLO made promises that amount to slowing the market liberalization approved by previous administrations. For now, it's unclear how the new administration will approach the energy sector, especially regarding the degree of private participation.

Nonetheless, the country's regulatory framework is "credit supportive", in our view, and contracts have an established track record of being respected. In the months ahead, the administration's views on key policy issues – private sector involvement and plans to increase total energy generation (particularly renewables, and mostly wind) – should come to light. Another area of interest will be gaining clarity on the natural gas supply for the pipeline network for electric generation, as well as the subsequent decommissioning of oil-fired power plants.

Argentina: a short track record hinders regulatory support

Argentina has made several modifications to reduce market distortions since President Macri's radical overhaul of electricity regulation.

In 2016, the administration declared an "electricity emergency" and implemented several measures aimed at addressing supply bottlenecks and eliminating recurrent power blackouts.

Accordingly, the Ministry of Energy implemented a program for the generation, transportation and distribution of electricity. Results have so far been positive, as the new framework has largely eliminated the companies' dependence on discretionary disbursements from the government, improving their cash flow in the short to medium term, and their liquidity overall.

Even though energy rates have doubled in 2018, in comparison to 2016, the full impact of the peso devaluation has not been fully passed-through to final consumers as generators are to receive rates denominated in dollars. Distribution companies by contrast have local currency tariffs adjusted by inflation: higher tariffs have however translated in reduced electricity consumption, which somehow start having an impact on profitability levels.

Before Macri's reforms, the sector experienced over a decade of regulatory supervision that lacked transparency, predictability and consistency. Given its short track record, we view regulatory stability in Argentina as less credit supportive than that of other Latin American countries.

Chile and Colombia

Thanks to its solid and long track record, Chile's regulatory framework is the strongest in Latin America, in our view – scoring highly across each of the four indicators. The framework has operated well under expansionary and recession cycles and during several administrations of opposing political leanings. During these transitions, there haven't been any regulatory modifications that could have compromised the country's reputation.

By definition, Chile's electric system works on marginal pricing and is dollar-denominated. In practice, generators receive capacity payments for contributing to the overall grid's ability to meet peak demand. These payments are then added to the final electricity price for unregulated and regulated customers. Since most generators (rated by S&P Global Ratings) have contracted capacity of at least 75%, the system overall is highly predictable – a significant credit strength.

There are some risks to consider, such as current low spot market prices notably for Chile's generators participating in concession auctions.

Similarly, Colombia's efforts to ensure the stability of electric utilities has spanned almost 30 years. A robust structure of autonomous regulatory agencies oversees market participants at every stage of the electricity cycle – from generation to transmission, and distribution to commercialization.

Regulatory Jurisdictions' Heat Map

Less credit supportive — Very credit supportive

Country	Argentina	Brazil	Chile	Colombia	Mexico
Foreign currency sovereign rating	B/Stable/B	BB-/Stable/B	A+/Stable/A-1	BBB-/Stable/A-3	BBB+/Negative
Regulatory stability					
Regulator's independence					
Regulated rate setting					
Future developments					

Source: S&P Global Ratings.
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Further information is available on the Capital IQ portal in the research piece entitled: "Regulatory Support is Powering Latin America's Utilities"

SBB

E2/64 Green Evaluation score for Samhällsbyggnadsbolaget i Norden AB

Swedish real estate company is awarded second-highest score for its planned improvements to the energy efficiency of its residential buildings.

Samhällsbyggnadsbolaget i Norden AB's (SBB) proposed SEK500 million green bond has achieved an overall score of E2/64 under our Green Evaluation. SBB will use the proceeds to refinance a portfolio of rent-regulated residential properties in Sweden. SBB has committed to invest in varied energy and water efficiency projects and refurbish residential buildings to reduce the purchased energy per heated square meter of the combined portfolio by at least 30%. Each building must achieve a minimum energy reduction of 15% in the five-year timeframe.

Our view of the projects' favorable environmental impact and their relatively high position in our carbon hierarchy contribute to the overall Green Evaluation score of 64. A solid Governance score (76) reflects procedures supporting the transaction's greenness, including an external assement of energy consumption at properties in the portfolio. All projects undertaken adhere to the company's Green Bond Framework, with 100% of the proceeds qualifying as green in our Governance assessment. A robust Transparency score (91) reflects SBB's comprehensive reporting commitments outlined in its Green Bond Framework.

Sweden's relatively decarbonized grid limits the scale of the environmental net benefits in a global context compared with more carbon-intense regions. As such, the final score is capped at the Mitigation score (64).

Further information is available on the Capital IQ portal in the Green Evaluation entitled: "Samhällsbyggnadsbolaget i Norden AB's Proposed SEK 500 Million Green Bond"

Forestalia

Green Evaluation score of E1/82 for Forestalia's loan agreement to fund wind projects in Spain

Forestalia's proposed two-year €170 million floating bridge facility achieves highest possible score.

Coronation HoldCo Renovables S.L.U's proposed two-year €170 million floating bridge facility has been issued a Green Evaluation score of E1/82, the highest-possible score. Proceeds of the bridge facility will be used to build, start up and operate 10 onshore wind projects with 342 megawatts (MW) of capacity in Aragón, Spain.

The borrower's shareholders are Forestalia (25%), Engie (42%) and Mirova Core Infrastructure Fund (33%). Forestalia, the project's lead sponsor, is dedicated to the development and operation of renewable energy, and currently operates projects with 3,600 MW of capacity across mainly wind, photovoltaic (PV) solar and biomass technologies. The plants will feature a total of 91 GE 3.8-130MW turbines which are considered "established" models within the wind industry.

The overall Green Evaluation score of E1/82 is a weighted average of the transaction's Mitigation (85), Governance (80) and Transparency (71) scores. The projects will provide low-carbon electricity, helping to offset Spain's medium grid carbon intensity. The transaction shares a number of the same structural provisions as a labeled green loan, such as a high degree of confidence in the allocation of funds and restrictive activities. In addition, the project benefits from the expected monthly reporting of the proceeds' allocation during construction, and use of all the proceeds to build onshore wind farms that implicitly have environmental advantages.

Further information is available on the Capital IQ portal in the Green Evaluation entitled: "Coronation HoldCo Renovables S.L.U's €170 Million Bridge Facility Agreement (Forestalia)"

Consorcio Transmantaro

Consorcio Transmantaro S.A.'s senior unsecured green notes receive E2/62

Consorcio Transmantaro S.A. (CTM)'s US$400 million of senior unsecured green notes have scored E2/62 under our Green Evaluation. CTM will use most of the proceeds to cancel three bank loans previously applied to the construction of five assets allowing the dispatch of green energies (mainly hydro and wind) into Peru's National Interconnected Electric Power System. The remaining proceeds will fund the construction of two additional transmission lines, which will continue the introduction of renewables into the energy grid.

The transaction received a Green Evaluation score of E2/62. We believe the project has substantial green attributes due to its ability to transmit energy from Peru's central region (where most of the hydro base energy is located) to both the north and south – two regions that otherwise rely on fossil fuel generation. This, we believe, is an essential contribution to the country's major goal of transitioning to a low-carbon society.

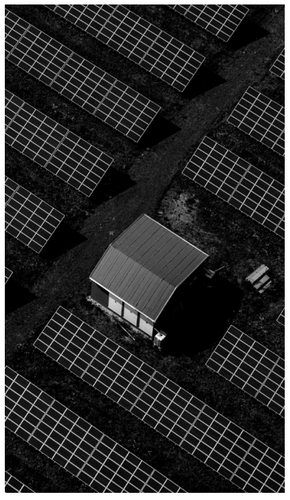
Further information is available on the Capital IQ portal in the Green Evaluation entitled: "Consorcio Transmantaro S.A.'s $400 Million Senior Unsecured Green Notes"

Los Pelambres

Los Pelambres has proposed a US$875 million loan to fund part of its US$1.3 billion expansion project to reach 190 kilotons per annum (KTA) of copper production at its mine in the desert area of Choapa Valley, Chile. Some US$530 million of the total loan is labeled green, since proceeds will be deployed at the new water desalination plant and the associated pipeline. Mining is a water-intensive industry, and the proposed plant will bring seawater to the operation, rather than competing for fresh water in neighboring municipalities.

The portion of the transaction financing the desalination plant has received a Green Evaluation score of E2/68. Despite stronger Governance (73) and Transparency (82) scores, the final score is capped by its Mitigation score of 68 (high end of E2). While the use of seawater will reduce consumption of fresh water in a region where such resources are scarce, the construction of desalination plant, disposal of waste saline solution, and increased mining output are associated with significant negative environmental impacts.

Further information is available on the Capital IQ portal in the Green Evaluation entitled: "Los Pelambres' Proposed US$875 Million Green Loan Due 2026"



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