Fitch Ratings 2021 Outlook: North American Energy Infrastructure

Sector Withstanding Turbulent Environment

Fitch's Sector Outlook: Stable

In the face of an ongoing pandemic, the sector outlook for North American Energy Infrastructure remains stable. Unlike largely demand-based infrastructure segments, most energy project financings will continue to benefit from fixed-price off-take agreements that minimize revenue and margin volatility. These conditions will facilitate the ongoing evolution in energy project finance paradigms.

Rating Outlook: Stable

Fitch Ratings expects its North American Energy Infrastructure portfolio to maintain a stable outlook. Nearly all rated credits YTD 2020 carry a Stable Outlook, with a negligible number of credits on Positive or Negative Outlook or Watch. We expect to see continued operational resiliency under pandemic-driven safety protocols. Counterparty credit quality remains the area of most concern for potential negative rating action.

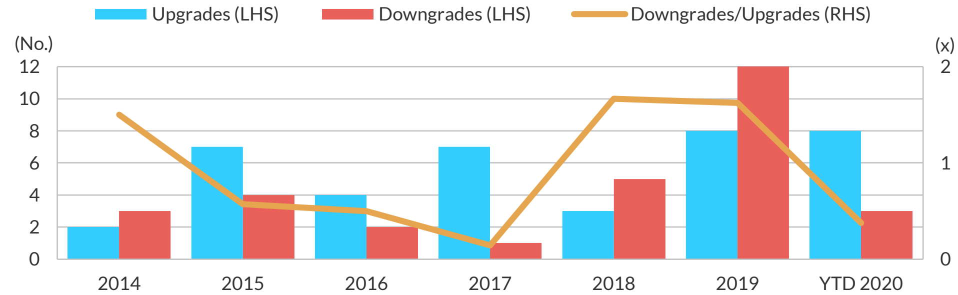
Rating Distribution Weighting: Clustered Around Low Investment-Grade

The North American Energy Infrastructure portfolio consists of largely 'BBB' category ratings, reflecting a high proportion of fully contracted revenues with investment-grade counterparties. Higher ratings are achieved through lower leverage and exceptionally stable cash flows. Lower ratings typically reflect increased margin volatility and lower financial cushion due to structural or operational issues, or counterparty rating constraints. Projects under construction typically feature strong completion guarantees backed by capable contractors and sufficient liquidity to mitigate delay risk to maintain investment-grade ratings.

Andy Joynt, Senior Director

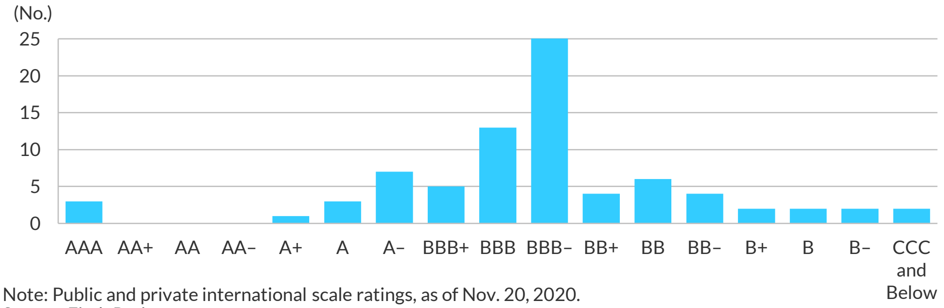
"Fitch expects the acquisition of developed projects and distributed generation portfolios to be the primary sources of new long-term debt financings. Financing structures are evolving to account for a variety of off-taker types, shield against merchant tails, hedge volume risk and incorporate new technologies."

North American Energy and Industrials — Rating Changes



Note: Public and private international scale ratings. YTD as of Nov. 20, 2020.
Source: Fitch Ratings.

North American Energy and Industrials — Rating Distribution



Note: Public and private international scale ratings, as of Nov. 20, 2020.
Source: Fitch Ratings.

What to Watch

- Evolving energy project finance paradigms.
- Heightened counterparty credit risk.
- Downside implications of a virus setback.

What to Watch — Evolving Energy Project Finance Paradigms

Amid the turmoil of the initial onset of the coronavirus pandemic in North America in early spring, activity in the Energy Infrastructure sector barely paused. Fitch expects the pace of activity to remain strong in 2021, and expects acquisition of developed projects and distributed generation portfolios to be the primary sources of new long-term debt financings.

Financing structures are evolving to account for a variety of off-taker types, shield against merchant tails, hedge volume risk and incorporate new technologies. Shorter duration contracts and basis risk, often found in off-take agreements with corporates, raise the spectre of price risk based on market conditions. Some projects will enter into hedges to mitigate this potential source of future cash flow volatility. Resource-based hedges, including solar revenue puts, are becoming commonplace, as renewable generators seek paths to smooth the cash flow impact of resource variability.

The market will also continue to explore appropriate financing structures for battery and other storage technologies. Given the various use cases (short/long duration, peak shifting, ancillary services, etc.), developing standard conventions will be a challenge. One consistent theme is batteries are expected to demonstrate a shorter useful life than conventional renewables. Thus, long-term financing structures must adequately consider eventual equipment replacement or refurbishment to achieve investment-grade ratings.

New project development will focus on deeper renewable penetration into interconnection grids and further incorporation of battery storage, bifacial solar and eventually offshore wind on the coasts. Wind power accounts for nearly 20% of generated electricity within the service territory of the Electric Reliability Council of Texas (ERCOT), the primary electric grid operator in Texas, up from 6% in 2010, per data from the U.S. Energy Information Administration. Solar is the next big thing in ERCOT, with numerous planned projects incorporating bifacial panels, storage or both.

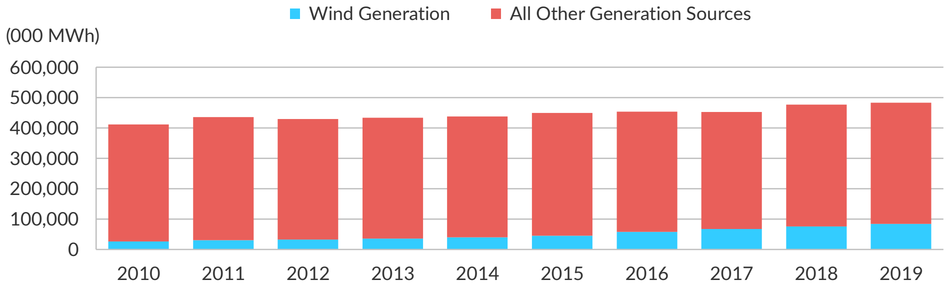
More renewables are also planned in the PJM Interconnection region. After a prolonged debate over auction price mechanics, it appears that clarity on rules governing minimum offer prices and energy and ancillary services will allow delayed auctions to proceed. If there are further delays in conducting auctions, project development could stall.

What to Watch — Heightened Counterparty Credit Risk

Even projects demonstrating strong operational performance are vulnerable to the risk of nonpayment by a weak or weakening off-taker. We anticipate traditional utilities will continue to demonstrate resilience in the year ahead, but ratings in Energy Infrastructure are exposed to a much wider variety of off-takers. If economic conditions remain challenging, we may see more pressure on corporate off-takers, oil and gas companies, and sovereign government-related entities, which support many project ratings.

Counterparty risk can also extend beyond direct revenue counterparties. Some projects are materially dependent on a manufacturer's ability to stand behind a warranty or an operator's ability to make a project whole through liquidated damages for performance below guaranteed levels. Hedge providers and insurers standing behind solar revenue puts are relied upon to ensure cash flow stability. If the counterparty agreement is viewed as material

Wind Generation Ramping Up in Texas



Note: Net generation for all sectors in Texas 2010–2019.
Source: U.S. Energy Information Administration.

with contractual terms that are not easily replaceable in the market, any erosion in credit quality of these entities could affect project ratings.

What to Watch — Downside Implications of a Virus Setback

There are numerous potential implications from a virus setback or prolonged period of lockdowns. For power markets, continued economic disruption could erode power prices due to lower load), sending signals that may slow project development. Low loads could also lead to economic curtailment of power. For example, the trend of midday curtailment of solar power within the service territory of the California Independent System Operator (CAISO) was further accelerated in 2020 due to the pandemic. Utility power purchase agreements (PPA) could be harder to come by and capacity market forwards may be lower if forward-looking reserve margins are deemed to be adequate.

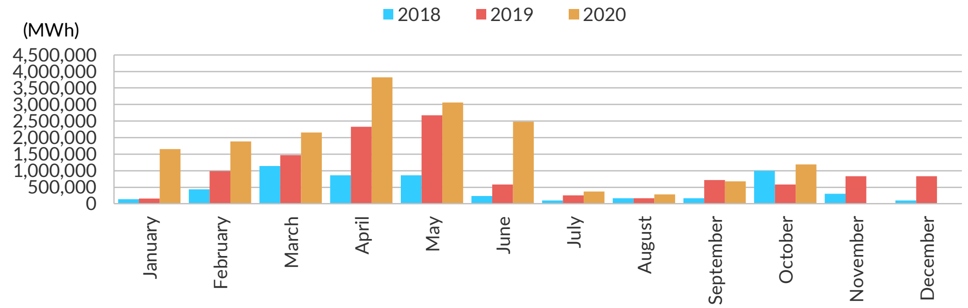
Other energy sector off-take procurements may recede if demand is expected to be low. The liquefied natural gas sector proved particularly vulnerable to shifting commodity prices, driven by global demand. If business conditions worsen, corporate off-takers, a major source of PPAs in recent years, could pull back procurements based on aggressive carbon-reduction goals. Projects in development could be delayed if there is an interruption in equipment manufacturing capability or logistical supply chains.

In the financial markets, falling interest rates kept all-in borrowing costs flat. But a perception of heightened credit risk could tighten lending standards or generate a wide bid-ask spread that may slow deal volume. Erosion of the supply of tax equity, a key component of the capital stack for renewables, could also be a headwind for projects looking to secure construction loans or long-term financing.

Global Renewables Update Coming

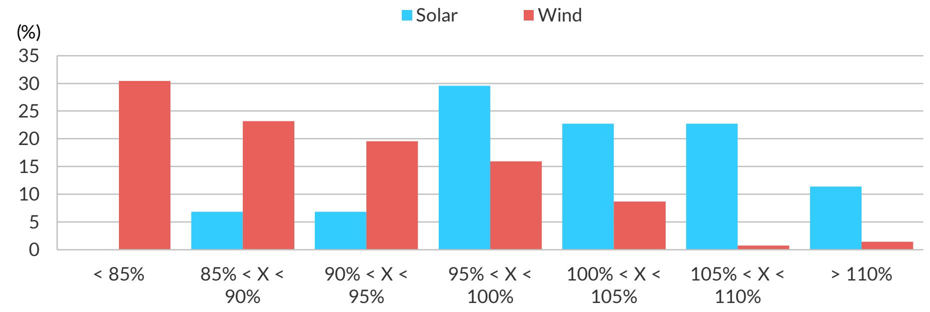
Fitch will issue an update to its annual special report *Global Renewables Performance Review*, last published in January 2020. The report compares the actual performance of rated renewables projects in our portfolio globally, and initial results indicate solar lost some of its luster after a relatively weak year for irradiation. The report also highlights differences in contractual structures by region and country, the prevalence of merchant exposure and what factors commonly drive rating actions. The updated report will include the latest available data from our rated projects.

CAISO Monthly Solar and Wind Curtailment



Note: California Independent System Operator (CAISO) monthly wind and solar curtailments.
Source: CAISO.

Annual Wind and Solar Production as % of P50



Note: Data is based on 144 annual observations from 70 wind and solar projects.
Source: Fitch Ratings.

Outlooks and Related Research

2021 Outlooks
Global Economic Outlook - September 2020
North American Energy Projects Show Resilience Against Coronavirus Impact (October 2020)
Fully Merchant Projects - Development Expected to Slow (May 2020)
North American Energy Project Ratings Remain Largely Unaffected by Coronavirus Pandemic (March 2020)
Global Renewables Performance Review (Solar Continues to Surpass Wind) (January 2020)

Analysts

Andrew Joynt
+1 212 908-0594
andrew.joynt@fitchratings.com

Gregory Remec
+1 312 606-2339
gregory.remec@fitchratings.com