ESG Industry Report Card: Midstream

June 3, 2019

(Editor's Note: Our ESG Industry Report Cards include an analysis of ESG factors for a selection of companies. We intend to expand our ESG Industry Report cards to include more companies throughout the year.)

Key Takeaways

- We believe social and environmental resistance to new pipeline construction is an increasing risk to credit quality and ratings over the next several years.

- More stringent environmental regulation and permitting has delayed projects but has yet to harm ratings, mainly because of a project's limited financial impact relative to companies' scale and diversification.

- The midstream industry will focus on growing natural gas transportation infrastructure because natural gas will continue to displace higher-emission hydrocarbons such as coal and fuel oil for power generation and heating.

The ESG Risk Atlas

To calibrate the relative ranking of sectors, we use our environmental, social, and governance (ESG) Risk Atlas (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). The sector risk atlas charts (shown below) combine each sector's exposure to environmental and social risks, scoring it on a scale of 1 to 6. A score closer to 1 represents a relatively low exposure, while 6 indicates a high sectorwide exposure to environmental and social risk factors (for details see the Appendix). This report card expands further on the Risk Atlas sector analysis by focusing on the credit-specific impacts, which in turn forms the basis for analyzing the exposures and opportunities of individual companies in the sector.

Environmental Exposure (Risk Atlas: 3)

The environment risk assessment of midstream pipelines reflects its status as an infrastructure asset: by transporting carbon-based fuels (and related greenhouse gas [GHG] emission concerns), the sector has indirect but important exposure to other highly exposed sectors such as oil and gas production companies and downstream gas-fired power generation. The midstream sector's inherent direct exposure primarily relates to transportation spills, contamination, and land use.
Pollution risk is material for companies transporting hydrocarbons. For companies in the midstream sector to build their infrastructure they must secure environmental permits, which have become increasingly difficult to obtain from regulatory bodies. For example, Enbridge Inc.’s pipeline oil spill in Michigan's Kalamazoo River cost it $1.21 billion for the clean-up and a $177 million settlement to resolve claims related to the spill. The company has had some difficulty obtaining all the necessary permits for its Line 3 replacement project in the same area.

Land use is another key risk, especially for new pipeline construction, for which environmental protests or legal changes have at times led to substantial delays and higher costs. The most notable examples include challenges to the Dakota Access Pipeline (DAPL) and Kinder Morgan Canada's (KML) Trans Mountain Pipeline. While operator Energy Transfer L.P. was able to start operating Dakota Access in 2017, the pipeline prompted a legal challenge from the Standing Rock Sioux reservation and caused significant delays and costs. Before Trans Mountain was sold to the Canadian government, construction delays and legislation from British Columbia impeded progress, which weighed on KML’s credit profile.

**Social Exposure (Risk Atlas: 3)**

The social risk assessment is based on the midstream sector’s exposure to safety, demographic, and consumer behavior risks. Safety management is key given the construction of sophisticated infrastructure like pipelines, storage terminals, and processing and fractionation assets, which handle volatile and toxic hydrocarbons that have important environmental considerations. Companies in the sector typically track, manage, and report incidents (to the Occupational Safety and Health Administration) and have specific programs to educate their workforces.

Increased environmental risks and growing concern about climate change and the use of hydrocarbons are social factors for the sector. Regulators are increasingly resistant to granting permits for construction on right-of-way for river crossings or through protected areas such as national parks and coastal waterways. This social cohesion risk, specifically permits to construct and operate, is becoming more of a credit issue given the land use and disruptions that pipeline routes can create for local communities. For example, we revised our outlook on EQM Midstream Partners to negative due to significant delays in the in-service date for its Mountain Valley Pipeline project and the project’s substantial cost increases. As a result, the partnership will have to spend more capital on the project and its share of EBITDA delayed by more than a year, which weakened credit measures more than we initially forecast.
ESG Risks In Midstream

**Company/Rating/Comments**

<table>
<thead>
<tr>
<th>Company</th>
<th>Rating</th>
<th>Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheniere Energy Inc.</td>
<td>BB/Stable/--</td>
<td>Steve Goltz</td>
</tr>
<tr>
<td>Enbridge Inc.</td>
<td>BBB+/Stable/A-2</td>
<td>Mike Llanos</td>
</tr>
</tbody>
</table>

**Cheniere Energy Inc. (BB/Stable/--)**

Environmental regulations and the political climate in the region do not currently disadvantage Cheniere's profitability or competitive position compared to peers. Cheniere has not been subject to any material regulatory investigation and we generally view the company as a good operator. Cheniere’s liquefied natural gas (LNG) terminals and pipelines are designed to meet or exceed U.S. federal codes and standards and we don’t believe its social license to operate is at risk or impeding its growth given the seven new liquefaction trains coming on line this year. Governance factors are neutral to our analysis as we view Cheniere’s policies to be consistent with the industry. Cheniere continues to transition from its developer roots to an established midstream issuer, with commensurate governance. We don’t believe social factors have a material impact on our credit analysis because the public generally views natural gas as more benign than oil. It’s also not facing any material labor issues that would affect its ability to operate.

**Enbridge Inc. (BBB+/Stable/A-2)**

Stricter global and domestic environmental policies make it increasingly challenging for energy infrastructure companies like Enbridge to build new pipeline projects and manage operations. Our credit analysis recognizes Enbridge’s longer-term sustainability plans to address these risks by diversifying the product mix it transports (by preferentially growing its natural gas pipelines) and new investments in renewables such as wind, solar, biomass, and biofuel. Perhaps the most notable environmental incident in the company’s history was the oil spill in Michigan’s Kalamazoo River. The
ESG Industry Report Card: Midstream

Company spent $1.21 billion on the clean-up and reached a settlement of $177 million to resolve claims related to the spill. This did not affect the rating because Enbridge has a diverse asset base. It is currently replacing over 1,030 miles of liquid pipeline across three Canadian provinces and three states related to its multibillion dollar Line 3 Replacement project. Replacing Line 3 allows the company to maintain the structural integrity of its infrastructure, which could prevent future spills. Enbridge has a good track record of finishing projects on time and on budget. The company has often consulted and engaged with indigenous communities when undertaking construction projects in their regions. We don’t believe social factors have a material impact on credit but like its peers, the company is facing more social backlash from environmental groups and certain indigenous groups on the replacement and construction of natural gas and liquids pipelines. This, along with recent delays in approval processes, could prove costly and affect financial metrics if they become significant. Governance factors are neutral to our analysis. Enbridge implements best practices similar to other large international companies. Its risk management standards are consistent with other publicly traded energy companies.

Energy Transfer L.P. (BBB-/Stable/A-3) Michael Grande

In our view, the impact of environmental and social factors on ET’s business and financial risk profiles is more prominent than peers because of the problems it has had related to its Mariner East pipeline (ME1) and expansion project, Mariner East 2 (ME2). We believe the partnership’s ability to manage its large stand-alone capital spending program, which in the past two years included several large projects in different geographic areas and averaged about $7.6 billion, was weak but did not change our rating or outlook. This view is based on the number of incidents during ME1 and ME2’s construction that resulted in fines and suspension of permits and construction by state regulators. While this stretched the partnership’s balance sheet and credit measures, we chose to look through these setbacks because we believed the partnership’s credit profile was still acceptable for the current rating. That said, we expect better execution on future growth projects and will have lower tolerance for poor implementation in our credit analysis. On the social front, DAPL has in some ways been the symbol of social resistance to crude oil transportation pipelines. However, DAPL was placed into service and in our view an outstanding legal challenge to the pipeline’s operations seems remote and won’t likely affect credit quality. We see ET’s management and governance as fair, partly reflecting management’s recent project execution and acknowledgement that it needs to correct past mistakes, as well as the executive team’s overall depth and breadth.

Enterprise Products Partners L.P. (BBB+/Stable/A-2) Steve Scovotti

In our view, EPD has an intermediate exposure to ESG risks since it has a large asset footprint and operates about 50,000 miles of pipelines, 260 million barrels of storage, 28 processing facilities, and 23 fractionators. EPD monitors and tracks operational and emissions data for all of its assets, including carbon dioxide (CO2) and methane, efficient water management, and effluent treating. We believe this helps the partnership to monitor and react to any potential environmental issues. We don’t believe that social factors have a material impact on the credit. However, just like peers, the partnership could face opposition to the replacement and construction of natural gas and liquids pipelines. Midstream projects have recently faced increasing environmental and social challenges related to land acquisition, permitting approvals, safety, and the availability of adequate trained employees. EPD has a large committed capital program in 2019, which could face execution and construction risks if environmental or social concerns lead to delays or cost overruns. We view EPD’s governance as positive in our analysis. EPD’s governance committee has board-level oversight of environmental, transportation compliance, health and safety policies, and other environmental and social initiatives. We consider EPD’s governance and operational oversight as strong, reflecting its focus on strategic planning, timely execution, and depth of leadership. EPD abides by a “Goal-Zero” policy for safety, evidenced by its lower-than-average lost time and recordable incident rate for the industry.

Grupo Energía Bogotá S.A. E.S.P. Colombia (BBB-/Stable/--) Vinicius Ferreira

Despite the political influence of the city of Bogota, its controlling shareholder, the company has been gradually improving its governance standards. Nowadays, at least four out of the nine members of its board of directors are independent, and Bogota’s mayor is no longer a board member. We believe this is positive for governance and shows the company’s willingness to shield its strategy from political interference, usually related to changes in the city’s administration. We believe that GEB plays an important role in lowering CO2 emissions by guaranteeing the gas supply and increasing the reliability of the gas-fired electricity systems in the countries it operates.

Kinder Morgan Inc. (BBB/ Stable/A-2) Mike Llanos

Environmental and social factors will continue to influence our view of Kinder Morgan’s (KMI) credit profile as it builds out its natural gas, crude oil and refined products infrastructure. For example, KMI formed Kinder Morgan Canada to independently finance the Trans Mountain Pipeline (TMX), although analytically we still consolidated the financing and construction risk with KMI. We viewed TMX’s subsequent sale and the expansion project to the Canadian government after it faced significant environmental and regulatory opposition as a credit positive. We also viewed the sale as trading crude oil exposure for more natural gas exposure in West Texas, with capital reallocated to the Gulf Coast Express and Permian Highway Pipeline, which we believe have much less execution risk than TMX. We believe KMI’s management team and board are proactively engaged in ESG risk mitigation policies and standards. In its October 2018 ESG report, KMI detailed GHG reduction efforts with a goal to reduce companywide global GHG emissions by 2021. We believe KMI has a good safety track record and that the impact on its business or financial risk profiles from localized environmental incidents, more stringent regulations, or community opposition to projects is somewhat limited due to its large scale, scope, and diversification.

Pembina Pipeline Corp. (BBB/Stable/--) Kimberly Yarborough

Pembina operates an integrated system of pipelines, gas gathering and processing facilities, and oil and natural gas liquids infrastructure located mainly in Alberta, where environmental and social factors are important risks in our overall assessment of credit quality. We view environmental and regulatory risk at the federal and provincial levels as significant factors that could affect Pembina’s credit quality. The Canadian federal government imposed a $10 per ton carbon tax that would increase by $10 per ton per year to $50 per ton by 2022. The federal government has also imposed the

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ESG Industry Report Card: Midstream

Greenhouse Gas Polluting Pricing Act (GGPA) as a regulatory backstop for carbon pricing if the provinces fail to impose it themselves, which could affect how GHG emissions are regulated in Canada. Alberta's government launched a $30 per ton tax on carbon-based heating and transportation fuels and output-based emissions. Most of Pembina's business operations in Alberta are exempt from the tax, which will limit its exposure until the exemptions expire in 2023. Pembina is committed to continuing to work with Alberta's government as the exemptions expire and regulations evolve. Pembina is also investing in projects that include significant capital commitments, including a greenfield propane dehydration plant and polypropylene upgrading facility with joint venture partner Kuwait Petrochemical Corp. and the Jordan Cove LNG terminal. Environmental and social issues that cause regulatory delays and cost overruns on these projects could weigh on the credit profile and rating. We don't believe social risks are material for Pembina's credit quality. The company has a history of working with First Nations and building relationships with Canada's Aboriginal communities. Pembina's governance factors are consistent with the industry and are neutral to our analysis. We believe the company has adequate management depth and expertise to execute its various projects.

TC Energy Corp. (BBB+/Stable/A-2)  
Michael Grande

TC Energy, one of the largest diversified energy companies in North America, operates in the midstream and unregulated power sectors and has significant engagement with constituencies that influence the environmental and social factors included in our rating. Potential environmental risks include oil spills, gas leaks, and water and soil contamination. TC Energy has emergency operations centers to help it effectively follow protocols if an incident occurs. The company spent C$1.3 billion, or about 12% of its 2018 capital budget, on asset integrity and safety, which is generally in line with industry peers. TC Energy's unregulated power segment consists of total generation capacity of about 6,600 megawatts (MW), with the fuel generation derived mostly from nuclear (47%) and natural gas (53%). In June 2018, the Canadian government passed the GGPA, which exposes natural gas-fired generators in Ontario to emission charges. TC Energy has 960 MW of natural gas-fired capacity subject to this legislation, but we don't currently expect any material credit implications for the company. Social and environmental activism has become increasingly visible, mainly related to high-profile projects such as Keystone XL, which has significant execution risk during construction. (Keystone XL has not yet reached financial investment decision.) We believe social and environmental opposition to the project could increase total project costs and extend timelines for the full in-service date. The company is committed to maintaining high corporate governance standards, which are widely recognized in the industry. These include an independent, nonexecutive chair, effective board size, director share ownership requirements, and annual assessments of board, committee, and individual director effectiveness. The company has also been recognized by climate groups for its disclosure of carbon emissions and the long-term sustainability of its business.

The Williams Cos. Inc. (BBB/Negative/A-2)  
Michael Grande

Environmental and social factors are key considerations in our rating analysis for Williams. Like the rest of the midstream sector, Williams has been facing resistance from state regulators local communities for certain expansion projects such as the Northeast Supply Enhancement and Constitution Pipeline. Both projects continue to face hurdles in obtaining regulatory certification permits from New York. That said, Williams hasn't made any significant capital outlay for these projects that would harm our view of its credit quality. We believe Williams is well positioned to capitalize on greater demand for natural gas in the U.S. and globally given the strong position of its gas pipeline infrastructure. The company handles about 30% of U.S. natural gas volumes and its decisions to pursue projects supporting LNG exports and other natural gas demand-pull projects support our view that the management team and its board are aligned and will continue to pursue growth projects that are more environmentally benign in terms of emissions.

All ratings are as of June 3, 2019.

Appendix: Components In The Sector ES Risk Atlas

Here is a list of examples of factors we consider in evaluating sector-specific environmental exposure. For example, we examine to what extent each sector is relatively exposed to:

**Greenhouse gas emissions (GHG):** actual or potential regulations such as carbon taxes, emissions trading schemes, and other direct or indirect costs. The GHG emissions under the Kyoto climate change agreement are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6).

**Sensitivity to extreme weather events:** incremental costs or the potential physical impact on assets associated with recurring (for example, hurricanes) or infrequent (droughts) severe weather events.

**Sensitivity to water scarcity:** potential costs related to the need for extracting or sourcing large quantities of water, or requiring on-site water treatment, in comparison to other water users of the same water basins or utilities.
Waste, pollution, and toxicity: potential fines or rising costs associated with prevention and treatment of waste and pollution, including hazardous waste and air pollution.

Land use and biodiversity: asset retirement obligations, developing natural land or potential operating constraints, or increased costs associated with protecting plant and animal life.

The following is a list of examples of factors we consider in evaluating sector-specific social exposure. For example, we analyze to what extent each sector is relatively exposed to:

Human capital management: a sector’s capacity to develop a long-lasting productive workforce while reducing potential operational disruptions from workforce mismanagement; diversity and inclusion attributes; exposure to strikes and the sector’s general exposure to dealing with emerging skills scarcity or surplus labor.

Changing consumer or user preferences: We recognize that changes in consumer behavior are often the result of complex dynamics, such as changes in technology or fashion or other disruptive business trends. Therefore, we treat a change in consumer preferences as a social factor related to sustainability, health, safety, the environment, privacy, financial mis-selling, or community and human rights, particularly when an entity has triggered the change.

Demographic changes: potential costs or opportunities related to population growth and composition, such as an aging population, urbanization, changing living standards, or a growing middle class.

Safety management: potential direct or indirect costs resulting from problems related to the safety of a sector’s production processes and final customer products.

Social cohesion: potential or actual costs in direct operations or in the supply chain resulting from geopolitical or community-related events such as conflicts, community unrest, and terror attacks.

This report does not constitute a rating action.