CRA Insights:
Energy

CRA Charles River Associates

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Strategic considerations for pipelines and utilities in a "green" regulatory environment

Background

Recent appellate court rulings and emerging political trends are making the already delay-ridden permitting process for pipeline development even more problematic. Over the last decade, the time and resources required to navigate the Federal Energy Regulatory Commission (FERC)'s certification process have increased sharply due to a dramatic rise in interventions and litigation, often driven by environmental groups and state agencies. In 2007, the average approval for FERC certificate applications was 302 days; in 2017, it was 504 days—a 67% increase, and these numbers continue to rise.[1] And this increase doesn't consider the considerable delays that occur after receipt of a FERC certificate in the state permitting and appeals process.

The changing regulatory environment also has far-reaching implications for downstream players—utilities, power generators, and all those who depend on natural gas and electricity from these sources. Growth in regional infrastructure is a critical factor for utilities to provide economic and reliable service to its customers.

Clearly the need for gas infrastructure remains strong. However, our discussions with clients and observation of evolving political, market, and regulatory realities suggest that pipeline developers and downstream players may benefit from updated analytic and strategic frameworks as the public dialogue shifts toward a "non-carbon future." This is the first of a series of papers discussing the impacts of climate-focused regulation.

Need vs. impact in permitting

Although FERC regulates pipelines nationally, states increasingly are exercising their delegated permitting authority. Democratic gains on the state level in the 2018 midterms sharpened the focus on climate issues, and the permitting bar has risen when it comes to balancing the need for pipeline capacity against environmental impacts. In addition, the newly elected majority in the House of Representatives has stated that climate will be a priority leading up to the general election in 2020. These shifts likely will lead to broader appellate reviews and project delays—not only in the Northeast, but also in other regions across the country.

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[1] S&P Global Market Intelligence, RRA Topical Special Report, Table 1: Major gas pipeline projects approved by FERC, 2007–2017. Update, April 26, 2018.

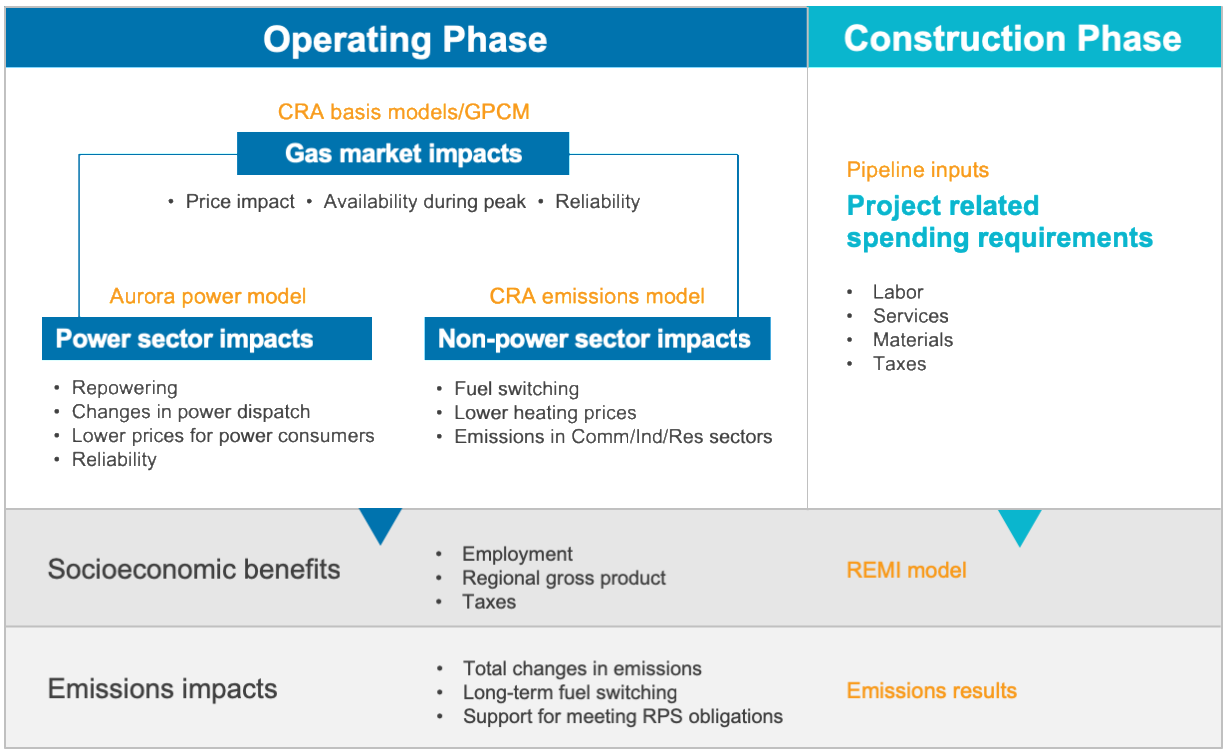
While FERC has maintained its historic focus on impacts directly related to installation and operation of pipelines, in dissenting opinions, Democratic commissioners are requesting additional analysis of factors related to upstream and downstream greenhouse gas emissions to more fully weigh the need for new pipeline infrastructure against environmental impacts. Commissioners' dissenting opinions have been the fuel for pipeline opponents to seek rehearing of the FERC certificate approvals.

A review of recent certificate orders and appeals suggests that pipeline proposals may fare better when developers approach FERC proceedings with a comprehensively documented case for need and benefits. Recent comments by Commissioner Cheryl LaFleur suggest that where greenhouse gas analysis hasn't been provided, the Commission is developing its own analysis,[2] and this analysis has been overly conservative given the absence of details from the project developers.

Enhanced modeling can enable project-specific analyses that anticipate concerns persistently raised in FERC dissenting votes and in state-level objections. Modeling tools are available to forecast environmental and economic benefits of new gas pipelines and these should be included in future FERC certificate filings. Having clear and accurate facts in the record will not eliminate opposition to pipelines, but it will mitigate the impact of increased costs to projects and consumers where opposition is unwarranted.

Depending on the scale, scope, and location of the proposed project, such documentation might include an analysis outlining other economic benefits.

Figure 1: Operating and construction phase models



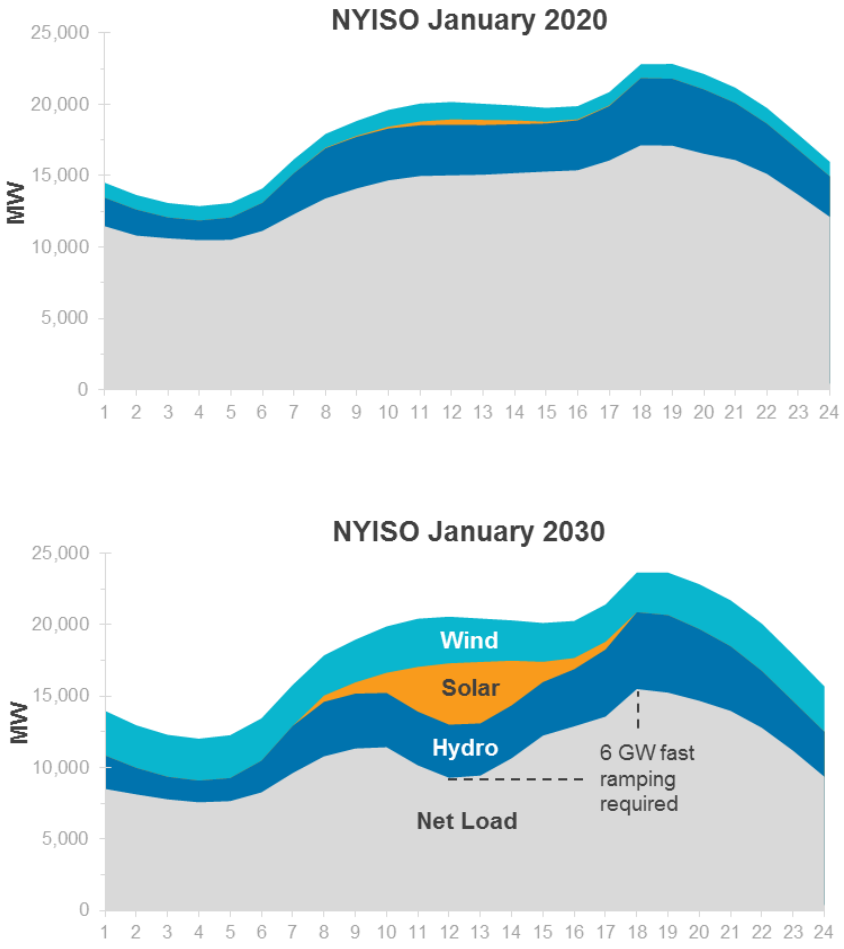
Source: CRA analysis

[2] On the Portland Natural Gas Transmission System (PNGTS) project, LaFleur included estimates for downstream emissions of gas consumed by several local distribution companies in New England. See Maya Weber, "FERC clears gas projects adding capacity in New England; GHG divide remains," S&P Global, *Gas Daily*, February 22, 2019.

Given that the current political trend is to promote ambitious renewable standards, natural gas industry leaders need to articulate the need for natural gas generation to achieve the overall environmental benefits envisioned by these programs. Even in a "greener" energy future, electric dispatch models indicate a need for fast-ramping generating assets to meet demand throughout the day. In Figure 2, we modeled the future dispatch of the New York Independent System Operator (NYISO) under the guidelines of the 2015 New York State Energy Plan. As the modeled dispatch shows, 6 GW (6,000 MW) of ramping generation is required to compensate for the intermittent nature of renewables.

Many state renewable programs announced since this date have been much more aggressive in regards to renewable generation penetration, including New York's. These emerging dispatch patterns raise significant questions regarding the future generation mix that will be required to maintain grid reliability and will impact future decisions of ISOs and generators alike. Given its importance, we may address the required future generation mix in a forthcoming paper.

Figure 2: Renewable penetration: net load and flexible dispatch requirements

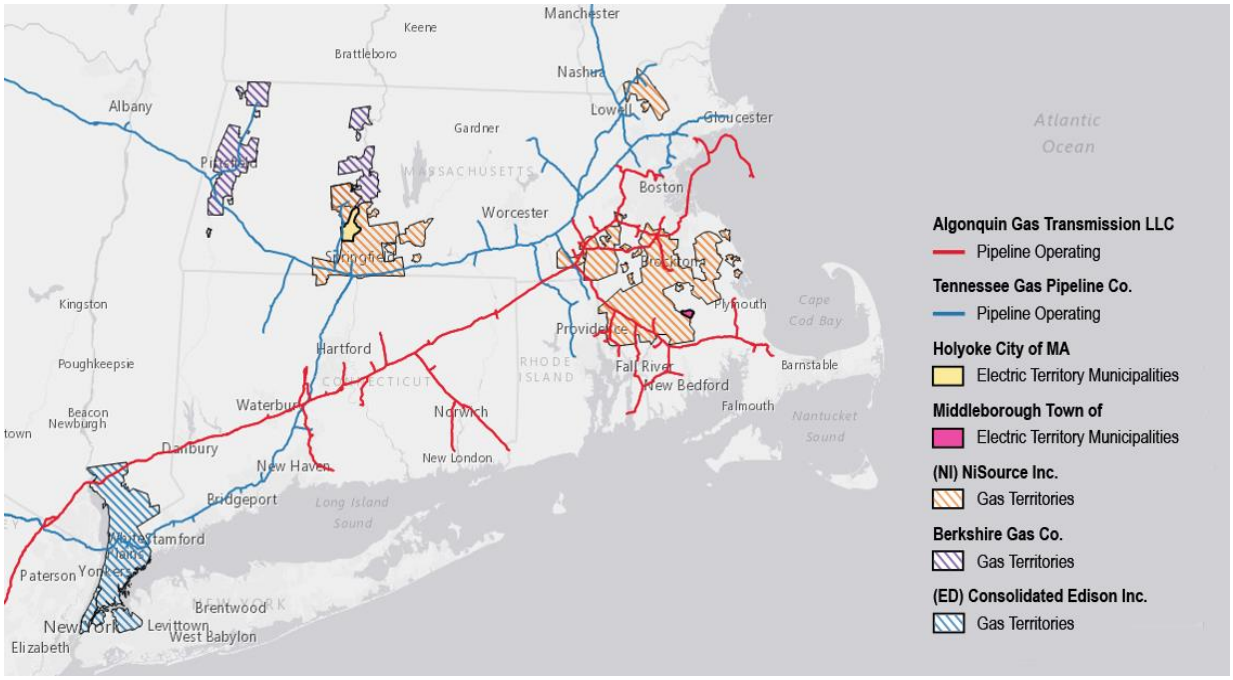


Source: CRA analysis of generation dispatch in NYISO based on 2015 New York State Energy Plan, https://energyplan.ny.gov/Plans/2015.aspx

Utility growth strategies

In the current environment, earnings growth for the utilities may not be clear as evidenced by the large number of moratoriums in place. With no certainty regarding when new pipeline capacity can be in place, ConEd, Berkshire Gas, Columbia Gas of Massachusetts, Middleborough Gas and Electric, and Holyoke Gas and Electric have been required to declare moratoriums on supplying new customers until pipeline capacity can be increased.

Figure 3: Gas service moratoriums – the initial impact of pipeline cancellations[3]



Source: CRA analysis

The current litigious permitting environment has prompted gas utilities and other downstream players to make a variety of near-term tactical adjustments. Some Northeast utilities are turning to non-pipeline solutions to serve their needs. In 2017, ConEd issued an RFP for "non-pipes alternatives" to manage gas growth; New York State Electric and Gas (NYSEG) sought proposals for alternative solutions to address gas reliability; and National Grid and New York State Energy Research and Development Authority

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[3] Con Edison, "About the Westchester Natural Gas Moratorium," https://www.coned.com/en/save-money/convert-to-natural-gas/westchester-natural-gas-moratorium/about-the-westchester-natural-gas-moratorium;

Jim Kenny, "Berkshire Gas imposes Hampshire County hookup moratorium blocking projects in Amherst, Hadley while calling for Kinder Morgan pipeline," *MassLive*, March 19, 2015, https://www.masslive.com/businessnews/index.ssf/2015/03/berkshire_gas_hampshire_county_hookup_mo.html;

Mary C. Serreze, "Berkshire Gas moratoriums in Franklin and Hampshire counties to continue indefinitely," *MassLive*, November 30, 2018, https://www.masslive.com/business-news/index.ssf/2018/11/berkshire_gas_moratorium_in_franklin_and.html;

Middleborough Gas and Electric Department, New Natural Gas Service Notice, February 12, 2019, https://www.mged.com/sites/mge/files/uploads/commissionmemo_gas_service_moratorium_2019.pdf;

Holyoke Gas and Electric, Natural Gas Service Notice, January 28, 2019, https://www.hged.com/news/articles/2019%20News/natural-gas-service-notice.aspx.

(NYSERDA) announced geothermal heating and cooling projects on Long Island.[4] To further support growth, utilities in the region have increased behind the meter investments and shifted to investments in renewable generation and transmission. As the market has seen, renewable investments, often outside of the utility's franchise area, pose a whole new set of competitive challenges in project development. To move beyond near-term adjustments, utilities need to develop coherent strategies that target visible long-term, sustainable growth. To this end, utilities can employ many tools. Based on their specific market position these may include:

- Integrated resource plans (IRPs) with support for broader core market growth and associated pipeline expansion requirements
- A realigned portfolio strategy to include consideration of second or third-growth platforms and renewables (in rate base)
- Behind the meter assets (LNG) which promote the transition from "pass-through" costs to on-system investments
- New services to provide support for electric ancillary services
- Improved messaging around the role of gas in renewable generation mix and how utilities may be best positioned to support that need
- Lower 48 vs. regional investment strategies

Conclusion

Pipelines and utilities alike may need to revisit their business strategies to sustain growth and maintain grid reliability in an increasingly climate-focused energy environment.

Changing regulatory and political realities are challenging pipeline developers to place new emphasis on the need/benefit/environmental impact equation in FERC certificate filings. Documentation based on analyses of the issues being raised in dissenting opinions can mitigate costly delays and appellate litigation.

The utility sector will continue to be a driving force in the development of a reliable 21st century grid. To assure long-term growth and better demonstrate the role of gas-fired generation in a greener energy mix, pipelines and utilities need strategies to address ongoing political and regulatory change.

About CRA's Energy Practice

Charles River Associates is a leading global consulting firm that offers strategic, economic, and financial expertise to major corporations and other businesses around the world. CRA's Energy Practice provides services to a wide range of industry clients, including utilities, ISOs, RTOs, large customers, and investors. The Energy Practice has offices in Boston, New York City, Washington, DC, Toronto, and London. Learn more at **www.crai.com/energy**.

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[4] Consolidated Edison Company of New York, Request for Proposals Non-Pipeline Solutions to Provide Peak Period Natural Gas System Relief 2017, December 15, 2017, https://www.coned.com/-/media/files/coned/documents/business-partners/business-opportunities/non-pipes/non-pipeline-solutions-rfp.pdf; NYSERDA, "National Grid and NYSERDA Announce Clean Heating and Cooling Demonstration Projects for Long Island Residents," press release, October 17, 2017, https://www.nyserda.ny.gov/About/Newsroom/2017-Announcements/2017-10-19-National-Grid-and-NYSERDA-Announce-Clean-Heating-and-Cooling-Demo-Projects

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