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HOW NATURAL GAS CAN WEATHER THE PANDEMIC

Producers in North America need to make the right decisions today to ensure future success

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Editor's note: Oliver Wyman is monitoring the COVID events in real time and we have compiled resources to help our clients and the industries they serve. Please continue to monitor the Oliver Wyman Coronavirus hub for updates.

As the COVID-19 pandemic evolves and timeframes for school and non-essential business closures continue to extend, the Natural Gas sector in North America faces potential volume drops and price fluctuations as power generation declines and the oil price wars play out.

In early March, gas production was up 10 percent compared to the previous year, while consumption was also increasing relative to the weather-adjusted average of the four years prior. However, as increasing numbers of schools, manufacturing facilities, offices, and other non-essential businesses closed their doors from the middle of March onwards, we began to see signs that a significant drop in gas consumption could emerge in the coming weeks.

From the middle of March to the middle of April, 97 percent of the United States population will be impacted by some degree of containment measure, with at least 36 percent facing 'shelter in place' containment restrictions. These changes in our daily lives will also impact broader energy consumption patterns.

A DROP IN POWER DEMAND

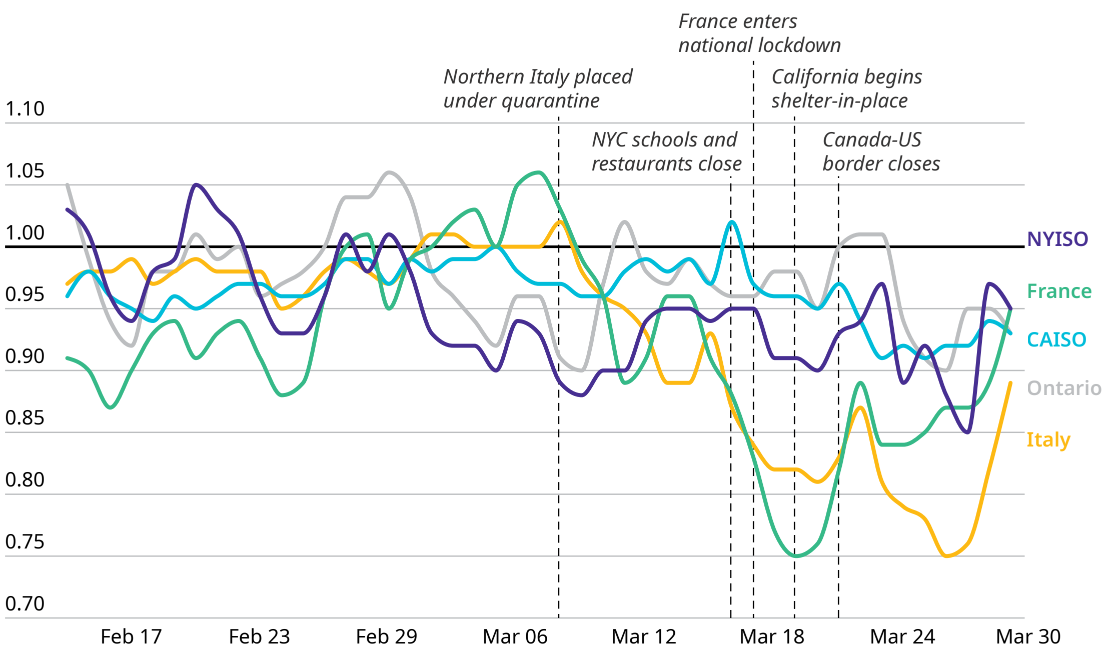
In the US and Canada, power generation accounts for approximately 62 percent of overall gas consumption. Given an approximate 22 percent drop in electrical load in Italy, and accounting for the intricacies of the US market, Oliver Wyman estimates that power demand in the US and Canada could fall by up to 20 percent over the duration that containment restrictions are in place (See Exhibit 1).

In the US and Canada, gas generates over one-third of combined annual electricity consumption. Oliver Wyman projects that a 20 percent drop in electric demand – coupled with expected decreases in commercial gas demand – could lead to a 15 to 27 percent drop in overall gas consumption in the US over the same time frame (See Exhibit 2).

Exhibit 1. Impact of COVID-19 on electricity consumption

Containment measures have resulted in decreased consumption in Europe, while North America has yet to react

Daily electricity consumption in 2020 indexed against four-year average

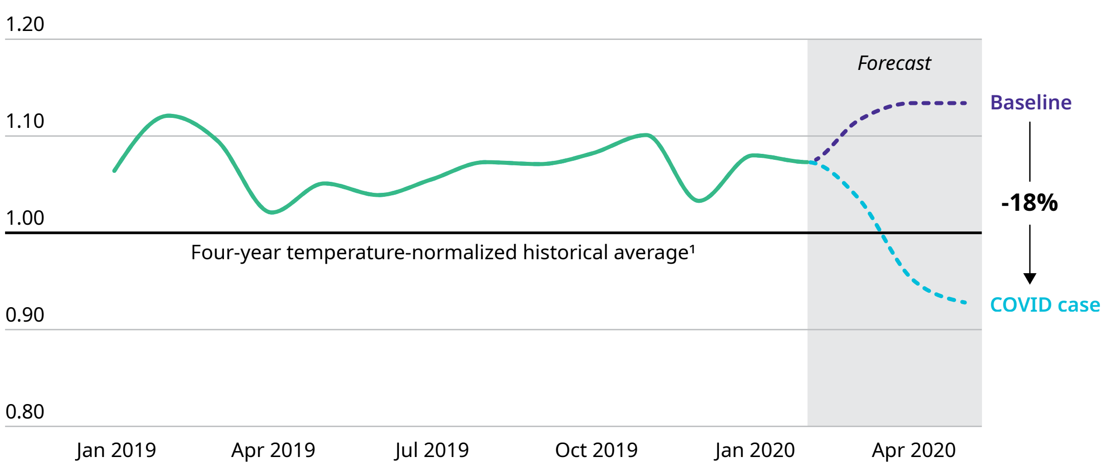


Source: US Energy Information Administration, IESO, Terna, Réseau de Transport d'Électricité, S&P, Oliver Wyman analysis

Exhibit 2. Impact of COVID-19 on natural gas consumption in the united states

Consumption is expected to decrease by 18 percent in April and May

Monthly natural gas consumption in the US indexed against against four-year average[1]



1. Data normalized using heating and cooling degree days

Source: US Energy Information Administration, Oliver Wyman analysis

WHAT PRODUCERS CAN EXPECT

As was the case in previous downturns, declining gas volumes pose critical challenges for gas producers. Many producers have already taken actions to decrease capital investment – projections for capital expenditures are already down 30 to 40 percent for 2020 as of late-March, and nearly 10 percent for 2021. Making decisions to shut-in wells and pull rigs can be complicated when operators have wells in remote areas and may not be able to get the rigs back when they want to restore drilling activity. Consequently, restart costs also need to be taken into consideration.

Henry Hub and AECO prices have declined at a nearly steady pace since November 2019, falling by over 20 and 40 percent, respectively. Opinions on these changes in demand and the impact they will have on the market equilibrium price are split.

Exhibit 3. Factors that contribute to price volatility

Factor	Description
COVID-19 pandemic	Sustained COVID-19 pandemic that continues to constrain major economic zones on both coasts for the majority of 2020
Oil price conflict	Extent and duration of the oil price war leading to decreased volumes of associated gas
Seasonal changes	Severity of weather in the Fall or Winter seasons
Shale production	Ongoing production from shale companies until their hedges run out
Interim operations	Reluctance of producers to cease production in the interim, and instead operate production at price points below short-term variable costs. This is done to avoid costs and friction associated with halting and resuming operations
Operations recovery	Willingness of producers to quickly increase production once prices recover to above short-term marginal costs
LNG projects	Further delay in LNG projects and fluctuation in the global LNG market

HOW PRODUCERS CAN REACT

The duration of the COVID-19 pandemic and its corresponding demand decreases, combined with price volatility, will be felt across the sector. Based on models used in the Center for Disease Control and Prevention’s pandemic planning, Oliver Wyman has articulated three potential scenarios for the pandemic, which will lead to impacts for the natural gas industry.

Exhibit 4. Scenarios for impact of COVID-19 on natural gas in North America

Scenario		Situation	Expected impact
1	**Pandemic of three to four months**	The outbreak is contained by public health measures and lasts three to four months	• Natural gas recovers by the end of the summer • The sector is given a boost by a surge of commercial and industrial activities to re-start and catch-up
2	**Pandemic of six to twelve months**	Public health measures fail, but mitigation through vaccination, mutation or seasonality leads to a six to twelve month pandemic	• Longer-term remote working occurs • A sustained drop in demand for various industries leads to a longer recession and a subsequent drop in gas use • Gas prices fall and higher-cost producers are crippled
3	**Pandemic over one year**	The virus becomes widespread, containment measures fail or are ignored by a frustrated public, and an ongoing epidemic emerges that lasts over a year	• A severe financial recession causes massive central bank intervention • Significant sustained volume drops causes many producers to shut-down permanently, potentially reshaping the energy mix

As the gas industry contemplates how 2020 may unfold, attention will increasingly be focused on optimizing operational efficiencies, optimally deploying limited available capital, and analyzing the pandemic's role in accelerating or decelerating the Energy Transition. Producers with staying power should also take advantage of acquisition opportunities. Furthermore, forward-looking producers should focus on preparing for long-term growth and profitability by making investments in downstream gas infrastructure. These could include investments in functions related to processing, midstream operations, and gas distribution, as well as sources of new market growth, such as hydrogen.

The industry will have a turbulent year ahead, but by making the right decisions today, players can position themselves for long-term success.

Curt Underwood, Daniel Ludwin, Colin Donahoe, and Sarah Lamont also contributed research and insights to this article.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation.

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