

OVERVIEW

The Value of Natural Gas in the Pacific Northwest

What does natural gas offer to the region?

- *Warmth and comfort* to 10 million people
- *Efficient and affordable* space heating, water heating, and heat for cooking and laundry (gas heat is about one-third the cost of electric heat)
- *More than half of the total energy consumed* in the region – either used directly for space and water heat or in industrial processes, or as gas-generated electricity. (Excludes transportation uses.)
- *A low carbon footprint* – natural gas used for space and water heat in 3.2 million homes and more than 300,000 non-industrial businesses accounts for less than 10 percent of the region's total carbon emissions, according to EIA data and state and provincial emissions inventories
- *128,000 miles of installed pipeline infrastructure* that safely and reliably delivers energy, supplemented by underground and above-ground storage facilities capable of delivering up to 40 percent of required energy during the coldest days
- *An invaluable input to some industrial processes* for which there is no suitable substitute, including glass recycling and the manufacture of perlite (a common soil additive), steel and aluminum, paper products and food processing, among many others
- *An alternate fuel source* for medium and heavy-duty vehicles that is both more economical and cleaner than diesel engines (see sidebar on natural gas vehicles [NGVs] on p. 10)
- *Reliable 24/7 electricity production* to replace retired coal plant generation and balance the region's growing sources of intermittent renewable power, such as wind and solar

And our source of natural gas is increasingly renewable itself – market forces and government policy are driving the development of renewable natural gas (RNG; see sidebar on p. 7), which transforms human and agricultural waste into useful energy. This provides even greater prospects for a cleaner mix of natural gas resources to contribute to our energy and environmental future.

WHAT'S NEW

This Outlook contains **two new sidebars** exploring the timely topics of RNG and carbon emissions. The RNG sidebar summarizes current regional efforts to capture renewable gas sources from landfills, agricultural waste and wastewater treatment plants, and some of the policies helping to drive RNG project development. Our carbon emissions discussion takes a frank look at the natural gas emissions stream from production to delivery, providing data and perspective on a hotly contested issue.

This year's report also combines the Supply and Prices discussion into **one Market Fundamentals section**. To ensure the Outlook provides a complete picture, we are continuing to provide current data and narrative on supply and prices, but largely as background information because North American natural gas supply will continue to be an ample, low-priced commodity for the foreseeable future. However, where the Outlook truly provides value – aggregating and analyzing regional demand and delivery infrastructure data to inform policymakers and other stakeholders throughout the Northwest – remains the report's core focus. Updated numbers and our forecast are presented in the **Demand** section and an expanded **Capacity** section, and in the appendices.

EXECUTIVE SUMMARY

IN THIS REPORT, we examine the dynamics affecting Pacific Northwest natural gas consumers. The Outlook relies primarily on external, publicly available resources for information on continental natural gas supply prospects and commodity prices, most notably the U.S. Energy Information Administration's (EIA) 2020 Annual Energy Outlook and the Canada Energy Regulator's Canada's Energy Future 2019. Regional demand and capacity data are drawn from NWGA member company planning processes, including the most recent Integrated Resource Plans that our members have filed with utility commissions throughout the region.



Supply:
Abundant
Prices:
Low
Demand Growth:
Modest
Capacity:
Sufficient

Supply: North American natural gas supply is projected to remain abundant for the foreseeable future, despite pressures from continuing low prices. The supply basins on which the Pacific Northwest depends have demonstrated that the resource will be amply available for several generations to come.

Prices: The relentless quest to drive production costs lower is allowing producers to operate economically even in a low-price environment. Natural gas spot prices at Henry Hub (2017 real US\$) are projected to remain below \$5/dekatherm (Dth) until 2050.¹ Higher oil prices also support drilling operations in fields that contain associated natural gas supplies.

Demand: The forecast growth rate for natural gas use in the region across all sectors is 1.0 percent/year, about the same as in the last Outlook (1.1 percent/yr.). Forecast demand growth in the residential and commercial sectors is slightly less, while industrial demand growth has dropped by half (from 0.5 to 0.2 percent/yr.). Demand for natural gas to generate electricity is forecast to grow slightly, mostly when coal-fired generation plants are retired in the region.

Capacity: NWGA members are constantly evaluating whether there is enough pipeline capacity to transport the gas from where it is produced (hundreds of miles away) to where it is needed and whether we have enough storage capacity to serve loads during the coldest weather. The current answer is yes, as long as infrastructure is operating at its maximum total capacity, and storage levels are high. At this time, organic regional growth doesn't require any new capacity. However, the lead time to bring infrastructure into service is approaching five years, so vigilance remains important.

Natural gas will be amply available for several generations to come

Economical operations allow production to continue at low prices

Forecast growth in the residential, commercial and power generation sectors is comparable to last year's forecast

Capacity is sufficient with continued infrastructure operation at maximum capacity

¹EIA AEO, January 2020.