Perspectives on the Future of Natural Gas

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Northwest Gas Association
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The NW Energy Coalition is an alliance of 110 environmental, civic, and human service organizations, progressive utilities, and businesses in Oregon, Washington, Idaho, Montana and British Columbia.

We promote development of renewable energy and energy conservation, consumer protection, low-income energy assistance, and fish and wildlife restoration on the Columbia and Snake rivers.

The NW Energy Coalition and its members advocate a clean and affordable energy future for the region based on:

• Meeting all new energy demand with energy efficiency and new renewable resources.
• Full and fair accounting for the environmental effects of energy decisions.
• Protecting and restoring the fish and wildlife of the Columbia River Basin.
• Consumer and low-income protection.
• Informed public involvement in building a clean and affordable energy future.

www.nwenergy.org
NWEC promotes a more reliable, cleaner and more affordable energy system.

What role can the natural gas system play?
More Reliable

Gas-Electric Interface
Natural Gas-Electricity Primer

Power and Natural Gas Planning Task Force

August 2012
Natural Gas Infrastructure Adequacy in the Western Interconnection: An Electric System Perspective

Phase 2 Report

July 2014
INDEPENDENT REVIEW OF SOUTHERN CALIFORNIA GAS HYDRAULIC MODELING

Draft Report Prepared For the California Energy Commission (CEC), California Public Utilities Commission (CPUC), California Independent System Operator (CalISO), and the Los Angeles Department of Water and Power (LADWP)

LA-UR-17-24126
May 2017

Walker & Associates Consultancy

Los Alamos National Laboratory EST. 1943
The region we think about

Figure 2 – Northwest gas infrastructure (2015 NWGA Outlook)
(values are thousands of Dth/day on design day)
The region we operate in
“Winter Spot Market Availability” = proxy for California exports (MW) to the Northwest during winter coincident peaks

NW Power and Conservation Council
draft for review by Resource Adequacy Advisory Committee
May 2017
Natural Gas development

exploration and production impacts:
land, air, water

this image is seen by different people in different ways

Montney Shale -- Financial Post / Seven Generations Ltd
Natural Gas: “clean burning” but life cycle emissions

\( \text{CH}_4 \)
exploration, production, transportation, distribution
“short lived climate forcer” (SLCF)
Global Warming Potential (GWP) = 28-36 (100 years), 84-87 (20 years)
atmospheric lifetime \(~\) 20 years

\( \text{CO}_2 \)
combustion
“control knob for the climate”
Global Warming Potential (GWP) = 1
atmospheric lifetime: up to 20% remains \(>\) 10,000 years
Natural Gas power plants: multiple potential roles

- replace other resources (coal)
- displace clean resources (renewables, efficiency)
- support clean resources (balancing, firming, ancillary services)
More Affordable
Natural Gas is “cheap”
Forever and ever . . .
Wanna bet?

"The third-largest physical commodity futures contract in the world by volume ..."
FAYETTEVILLE PRODUCTION OUTLOOK*

Production, tcf/year

Henry Hub (HH) price, $/Mcf (2010)

2005 2010 2015 2020 2025 2030

University of Texas  Bureau of Economic Geology
Source: Bentek
Perspectives on the future – natural gas in the electric sector:

• Treat natural gas as the premium fuel it is
• Use existing gas infrastructure more efficiently
• Closer coordination between gas and electric system planning and operations
• Develop a multi-layered approach to phasing out natural gas related GHG emissions
• Shift natural gas toward clean energy power system support and reliability
Thanks for your attention . . .