



NARUC

National Association of Regulatory Utility Commissioners

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Essential Guide to NARUC Natural Gas Resources



Overview

National Association of Regulatory Utility Commissioners (NARUC) members are increasingly seeking more information about natural gas infrastructure needs, impacts, and the role of public utility commissions (PUCs). This guide connects commissioners and commission staff to essential natural gas resources that NARUC has developed. All of these resources can be found on the [NARUC Natural Gas webpage](#).

The NARUC Center for Partnerships & Innovation (CPI) collaborates with the U.S. Department of Energy (DOE) to maintain the DOE-NARUC Natural Gas Partnership (NGP). The NGP supports members in learning about emerging technologies and regulatory options, particularly around leak detection, infrastructure modernization, enhancing pipeline safety and reliability, and a broad range of issues relating to natural gas regulation. For more information, contact Kiera Zitelman, kzitelman@naruc.org.

Foundational NARUC Resources on Natural Gas and the Role of PUCs

The resources below provide a starting point for further exploration of natural gas energy technologies.

- [Long-Term Planning among Regulated Natural Gas Utilities: A Review of State Requirements](#), May 2025
A handful of public utility commissions, in response to state legislation or under existing authority, have implemented some form of long-term planning for gas utilities under the purview of commissions. This report provides an overview of gas utility planning requirements in nine states.
- [Task Force on Natural Gas Resource Planning](#), 2023-2025
The 21 state members of the NARUC Task Force on Natural Gas Resource Planning are developing roadmaps that envision processes for natural gas distribution utility planning in the context of diverse state policy goals. The task force has convened both in person and virtually to explore integrated resource planning for gas utilities, pipeline modernization programs, gas distribution infrastructure investment options, stakeholder engagement, and more. Materials from these meetings are populating a [Resource Planning Library](#).
- [Artificial Intelligence for Natural Gas Utilities: A Primer](#), October 2020
Artificial intelligence, machine learning, predictive analytics, and other applications of data analysis and statistical methods show great potential for improving the efficiency, reliability, and safety of the nation's natural gas infrastructure. In this resource, NARUC defines terminology and summarizes relevant applications and case studies for natural gas distribution utilities.

About the NARUC Center for Partnerships & Innovation

NARUC CPI identifies emerging challenges and connects state commissions with expertise and strategies to navigate their complex decision-making. CPI accomplishes this goal by building relationships, developing resources, and delivering training that provides answers to state commissions' questions.

NARUC CPI conducts work in five key energy topics: generation; transmission; distribution; customers; and critical infrastructure, cybersecurity, and resilience. Find all resources and upcoming events at: www.naruc.org/cpi.

Publications and Activities on Key Natural Gas Topics

The following resources can be found on the [NARUC Natural Gas webpage](#). Hyperlinks lead to PDFs of the publications or webinar presentations. To view recordings of past webinars, visit the Natural Gas webpage or [NARUC's YouTube channel](#).

NARUC Committee on Gas Presentations

Through panel discussions and educational sessions, the NARUC [Committee on Gas](#) and [Staff Subcommittee on Gas](#) foster awareness and understanding of issues affecting the transportation, distribution, and sale of natural gas safely, efficiently, and economically. Committee and subcommittee members work closely with the U.S. Departments of Energy and Transportation. Each month, members meet to hear natural gas experts discuss emerging topics relevant to state utility regulators. Examples of recent meeting topics include pipeline safety, interdependencies between natural gas and the agriculture sector, market status and outlook reports, and natural gas pricing and customer impacts. Find presentation materials and recordings from more than two dozen briefings on the [Natural Gas webpage](#) under Activities.

Leak Detection and Infrastructure Replacement

[Natural Gas Distribution Infrastructure Replacement and Modernization: A Review of State Programs](#), January 2020

This report summarizes natural gas infrastructure replacement statutes and regulations in 41 states and the District of Columbia, with the goal of enhancing coordination across states and sharing promising practices. State regulators can benefit from an understanding of the regulatory and infrastructure context in their states and how other states have implemented infrastructure replacement programs.

[Sampling of Methane Emissions Detection Technologies and Practices for Natural Gas Distribution Infrastructure: An Educational Handbook for State Energy Regulators](#), July 2019

This handbook summarizes methane leaks in the context of the natural gas distribution network. It identifies existing and emerging technologies and practices and outlines partnerships to further the development of novel tools.

- [Innovation Webinar: Incorporating AI into Resilience-Informed Utility System Planning](#), June 2023
This webinar explored how AI is currently deployed by utilities and whether AI can be used as a tool to integrate climate data to predict outages and better inform utility system planning with climate resilience strategies built into investments.
- [Committee Presentation: Pipeline and Hazardous Materials Safety Administration \(PHMSA\): Gas Pipeline Leak Detection and NPRM](#), June 2023
PHMSA staff joined committee members to discuss the agency's Notice of Proposed Rulemaking on Pipeline Leak Detection and Repair.
- [Committee Presentation: Methane Remote Sensing and Leak Detection](#), December 2022
Carbon Mapper's CEO spoke to committee members on a public-private partnership to develop satellite-based tracking systems for sources of methane and carbon dioxide emissions.
- [Committee Presentation: Con Edison AMI-Enabled Natural Gas Detector Program Briefing](#), October 2020
Staff from Consolidated Edison of New York addressed committee members about their rollout of advanced metering infrastructure-enabled natural gas detectors to improve public and first responder safety from natural gas leaks. The presentation also included opening remarks by Commissioner Diane X. Burman, New York.

Low Carbon Fuels

[Certified Natural Gas: Primer, Regulatory Landscape, and Contributions Toward a Low-Carbon Future](#), February 2024

This report seeks to provide basic information about certified natural gas (CNG), thus preparing PUCs to make sound decisions regarding CNG offerings impacting utility customers. It cites examples from a growing body of state regulatory decisions on utility CNG proposals and aims to help PUCs build familiarity with CNG offerings to assist with their future decision-making.

[Potential State Regulatory Pathways to Facilitate Low-Carbon Fuels](#), December 2022

This report provides informational context for state utility regulators to understand the impacts and challenges of broader integration of low-carbon fuels such as hydrogen and renewable natural gas.

- [Committee Presentation: Biogas and Renewable Natural Gas Use in Natural Gas Transmission and Distribution Pipelines](#), November 2022

A staff member from the Wisconsin Public Service Commission spoke to committee members regarding the roles of PUCs in regulating pipeline safety, siting, and gas quality issues associated with biogas and renewable natural gas use in gas distribution pipelines.

- [Committee Presentation: Net-Zero Emissions Opportunities for Gas Utilities](#), February 2022

American Gas Association staff joined the committee to share a summary of a new report on opportunities for gas utilities to contribute to a lower-carbon energy economy.

- [Committee Presentation: SoCal Gas: Role of Clean Fuels and Business Transformation Workstream](#), November 2021

Southern California Gas staff spoke to committee members about the utility's work to deploy resilient, affordable decarbonization strategies and prepare gas infrastructure to advance California's clean energy goals.

- [Committee Presentation: Investing in Natural Gas Pipeline Infrastructure to Support Net-Zero Targets](#), May 2021

Speakers from the Columbia University Center on Global Energy Policy discussed the role of strategic investments in natural gas pipelines to support net-zero targets as gas consumption is projected to grow.

- [Renewable Natural Gas \(RNG\) Workshop](#), July 2019, Indianapolis, IN

State regulators led an informational workshop at NARUC's 2019 Summer Policy Summit exploring renewable natural gas (RNG) from production to processing, transmission and distribution, and end uses.

Liquified Natural Gas

[LNG: A Local Market – A Global Market – An Introductory Handbook for State Public Utility Commissioners](#), November 2018

This handbook is intended to serve as an introductory tool for utility regulators and other interested readers to understand the basics behind the liquified natural gas market and facilitate a thoughtful discourse among producers, regulators, and consumers for engagement and communication on the path forward.

- [DOE-NARUC Natural Gas Partnership Site Visit to Savannah, Georgia](#), May 2023

NARUC members toured Kinder Morgan's Elba Island liquefied natural gas export facility and the Port of Savannah Fuel Center compressed natural gas fueling infrastructure. Members also heard from Atlanta Gas Light staff on the utility's long-term planning process.

- [Committee Presentation: Natural Gas Markets in an Evolving Energy Landscape](#), April 2022

During the April 2022 Gas Committee Monthly Meeting, attendees heard insights from speakers from the American Gas Association on shifts in the geopolitical environment for natural gas.

Natural Gas Reliability, Safety, and Security

- [Committee Presentation: NERC's Long-Term Reliability Assessment](#), January 2025
A NERC representative shared highlights from its 10-year assessment of resource capacity and energy risks.
- [Committee Presentation: NERC's 2024-2025 Winter Reliability Assessment](#), December 2024
NERC experts discussed the most recent winter reliability assessment to help states mitigate risks of generation shortfalls in the winter months.
- [Committee Presentation: Briefing by PHMSA](#), August 2024
PHMSA staff spoke to committee members about state-federal partnerships to enhance pipeline safety.
- [Committee Presentation: TSA Briefing on Recent Update to Security Directive for Oil and Gas Pipeline Cybersecurity](#), September 2023
Transportation Security Administration staff discussed recently developed cybersecurity requirements for oil and natural gas pipeline owners and operators.
- [Committee Presentation: TSA Cybersecurity Requirements for Pipelines](#), September 2022
An American Gas Association speaker provided the perspective of local gas distribution companies on TSA cybersecurity requirements for gas pipelines.
- [Committee Presentation: Elemental Sulfur and Di-Thiazine Formation in Natural Gas Pipelines](#), March 2021
Attendees heard a speaker from the Illinois Commerce Commission discuss elemental sulfur di-thiazine formation in natural gas pipelines, addressing the issue, recent occurrences, incidents and failures, regulatory requirements, and the path forward.

Non-NARUC Natural Gas Resources

- [Designs for Net-Zero Energy Systems: Meta-Analysis of U.S. Economy-Wide Decarbonization Studies](#), November 2023
GTI Energy released a report that provides a comparative analysis of five U.S. economy-wide net-zero studies developed by the Low-Carbon Resources Initiative, Open Energy Outlook, Evolved Energy Research, Princeton University, and Decarb America.
- [Energy Information Administration](#)
The EIA publishes extensive reports on natural gas, including information about price to consumers, state prices, and gas consumption by end use. EIA publishes both reports related to gas production and use in addition to providing data sets relevant to the natural gas industry.
- [NAESB Gas-Electric Harmonization Forum](#)
The NAESB Gas-Electric Harmonization Forum convened at request of FERC and NERC in 2022 and 2023 to identify solutions to the reliability challenges facing the nation's natural gas system and bulk electric system.
- [Pipeline Basics & Specifics about Natural Gas Pipelines](#), February 2019
The Pipeline Safety Trust provides briefing papers on a variety of topics related to pipeline safety and natural gas. Briefing Paper #02 provides an introduction to natural gas pipelines.
- [PHMSA](#)
Natural gas moves primarily by pipeline in most of the United States. The U.S. Department of Transportation's Office of Pipeline and Hazardous Materials Safety Administration is responsible for developing and administering safety standards.
- [National Petroleum Council](#)
The National Petroleum Council advises, informs, and makes recommendations to the U.S. Secretary of Energy on matters related to oil and natural gas; NARUC representatives participate as members. Among other materials, NPC produced a December 2022 report on [Principles, and Oil & Gas Industry Initiatives and Technologies for Progressing to Net Zero](#), and two 2024 reports, [Harnessing Hydrogen](#) and [Charting the Course](#).