

# Natural Gas ODA

For Municipal Gas Systems



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#### Winter 2023/2024 Natural Gas Market Outlook

Prepared for Natural Gas Supply Association

This winter, associated gas production continues to drive supply growth while total demand expected higher due to stronger net exports and weather.

• On the demand side, U.S. natural gas demand is expected to rise by over 3 BCFD. Some of the gain in demand is driven by weather-related gains from the residential/commercial (RES/COMM) sector, based on an outlook for normal weather, but the

> creased demand is driven by much higher net exports. However, power burns are forecast to average nearly 2 BCFD lower this winter, as coal-fired generation is expected to regain market share due to changes in natural gas and coal prices.

• Net exports are on the rise because of increased demand from Mexico and improved infrastructure, along with a rise in LNG feedgas demand

• On the supply side, U.S. natural gas largely because of the return of the

Freeport LNG facility. U.S. natural gas storage surplus to the 5-year average expected to dissipate gradually by early December.

• U.S. natural gas storage finished the winter heating season (ending March 31, 2023) with a storage overhang that contributed to much lower prices this summer compared to last

#### Comment on the Ninth Circuit's Decision in California Restaurant Association v. City of Berkley

By Brian C. Baran & Sarah Jorgensen, Reichman Jorgensen Lehman & Feldberg LLP

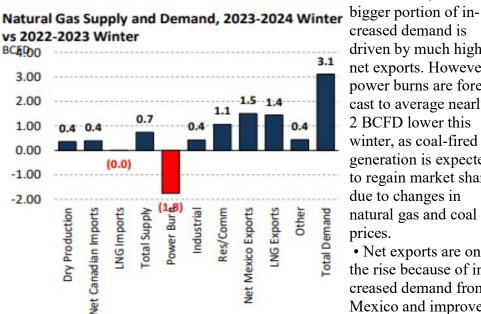
The Ninth Circuit recently held in California Restaurant Association v. City of Berkeley that Berkeley's firstin-the-nation ban on natural gas in new construction is preempted by federal law. That decision is by no means the final word in the heated debate of this and similar policies affecting the future of natural gas and other fuel gases – a debate that will likely include additional litigation in the Ninth Circuit and beyond.

#### The Local Movement to Ban Fuel Gas in Buildings

Beginning with Berkeley's 2019 ordinance banning fuel gas hookups in new construction, local gas bans have proliferated across California and beyond. States have also adopted their own bans, with New York banning gas appliances in new construction beginning December 31, 2025, and Washington banning gas for space and water heating in many new buildings. More than a hundred jurisdictions have adopted policies restricting fuel types or building emissions.

These regulations take many approaches. Some, like Berkeley's, target gas hookups prohibiting new buildings from using gas infrastructure. Others, like New York State's ban, target gas appliances prohibiting installation in new buildings. Additional approaches include building codes incentivizing electric appliances to various degrees, or, as in New York City's case, bans framed as air emissions standards. Some have exceptions, such as for restaurants; others are more sweeping.

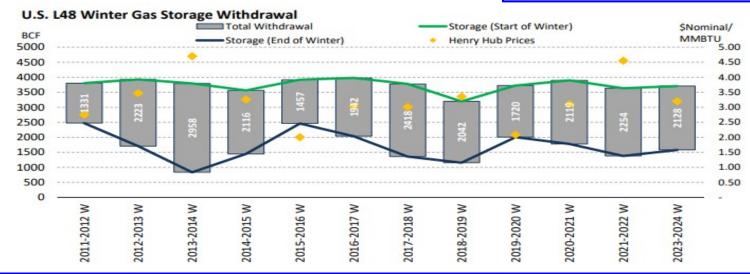
This movement faces several headwinds. Some states have preempted local bans. And in other states, voters Continued on page 4.



Source: Energy Ventures Analysis

dry gas production has remained relatively steady since late 2022. The current storage overhang is a result of strong production growth combined with a mild Q1 2023 winter. This combination produced lower natural gas prices and eventually, a slowdown in producer activity during Summer 2023, as indicated by reduced rig counts, lower frac crew counts, and the flattening of the inventory of Drilled Uncompleted (DUC) wells. EVA expects total win ter-over-winter supply to grow by just summer, as well as reduced producer 0.7 BCFD.

RETURN SERVICE REQUESTED Interstate Municipal Gas Agency 1310 West Jefferson Auburn, IL 62615



#### U.S. Natural Gas Winter 23/24 main steady throughout the winter Outlook

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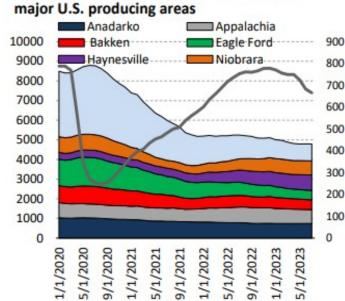
- That low natural gas price curve during the summer injection season subsequently resulted in very strong weather-adjusted power burns of natural gas compared to last summer due to coal-to-gas switching.
- As Summer 2023 progressed, coalfired generation retirements and a warmer-than-normal Q3 drove electric demand even higher and cemented the potential for record power burns of natural gas in 2023.
- Meanwhile, Mexican exports and LNG feedgas demand were much higher YoY and have contributed significantly to demand gains.
- The lack of production growth during the Summer 2023 injection season, in addition to demand gains from power burn and exports, have been slowly consuming the storage overhang. EVA projects the storage overhang will gradually dissipate by early December.
- Looking forward, power burns should continue to adjust strong on a YoY weather-adjusted basis for the remainder of the 2023 injection season. In fact, it wouldn't be a surprise to see power burns remain strong through year-end due to gas-fired generation's cost competitive advantage over coal-fired generators. However, EVA estimates that seasonal price gains in natural gas will limit power burn upside, based on mid-September 2023 market forwards.
- Freeport LNG did provide a lift to injection season demand after returning from outage earlier this year and was a primary driver in consuming the storage overhang.
- Total LNG feedgas demand is averaging just north of 13 BCFD for early September despite headlines of low 90% full European natural gas inventories. U.S. LNG exports should re-

heating season, fortified by netbacks for U.S. LNG rising towards \$10/ MMBTU.

• As of early September 2023, EVA projects U.S. working gas inventory will end near 3.7 TCF by the end of October 2023, assuming no major surprises or shifts in weather from 10-yr normal levels.

Winter 2023/2024 signals little change in winter production, after big gains in production in Summer 2023

Drilling but uncompleted wells inventory in



- Summer 2023's production gains have all been actualized. U.S. supply has remained relatively steady after robust growth in U.S. natural gas production during 2H 2022. On a YoY basis, when comparing Summer 2023 injection season supply to 2022 levels, there were gains from gasdirected activity from the Marcellus and Haynesville. However, the real growth came from associated gas supply, primarily from the Permian.
- Looking forward to Winter 2023/2024, EVA estimates that production will continue to hold steady. Drilled-but-uncompleted (DUC) well

inventories have stabilized, gasdirected rig counts and frac crews are falling and producer Q3 guidance reports aren't signaling growth.

- EVA expects U.S. dry gas output to spreads (difference between power average 101.7 BCFD for Winter 2023/2024, which would be measured able dark spreads (difference between as nearly flat on a YoY basis.
- Unlike the first half of 2023, DUC inventories have stopped falling, which indicates a slowdown in producer activity. In EVA's opinion, producers are unlikely to grow production at the current forward curve level for the short-term, especially given the much lower production ba-

sin differentials.

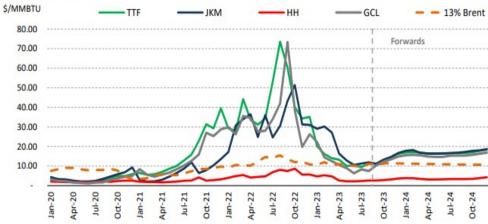
Winter natural gas-fired generation will find increased competition from coalfired generation due to seasonal gas price influences

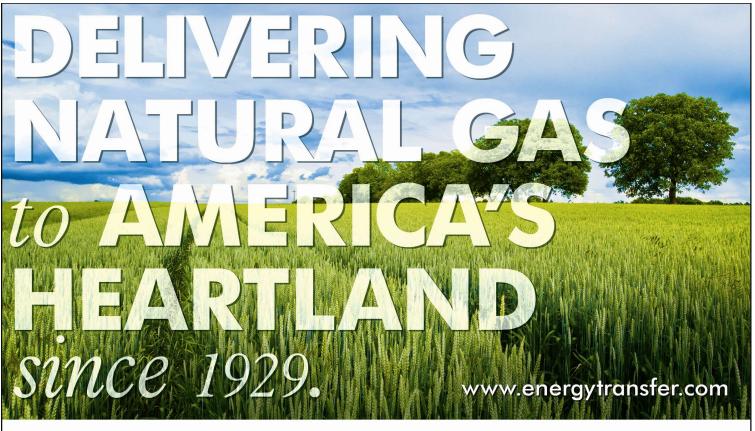
• Power burns during YTD Summer 2023 have averaged nearly 3 BCFD strong on a YoY weather-adjusted basis. Coal generation

struggled to take market share during a hot Q3 2023.

- While coal generation has risen as seasonal demand increased, fuel economics still favor gas-fired generation, largely due to healthy spark and natural gas prices) and less favorpower and coal prices).
- Comparing this summer to a baseline of 2015, EVA projects a gain of 8.6 BCFD of long-term structural demand growth from new gas-fired generation.
- Despite the structural demand gains, EVA estimates about 3 BCFD less temporary economic switching from coal to gas as coal spot and forward prices are much lower than where the winter 22/23 strip was trading during this time last year.
- Ongoing coal generation retirements will continue to limit switching capacity. EVA estimates that over 10 GW of coal-fired generation will be retired in 2023.
- Over 27 GW of new wind, solar, and battery storage resources are expected to be installed by year end. This estimate is lower than the Summer 2023 forecast due to a slower installation schedule as developers manage cost and supply constraints.
- Some renewable developers are paying lofty penalties to walk away from projects, which in addition to the coal retirements, will ultimately support greater utilization of gas-fired generation this year.

### Global LNG price









European natural gas storage is well ahead of 2023 goals. but there should be little change to U.S. LNG exports given netbacks.

- Despite the loss of the Nord Stream pipeline, European countries have managed to conserve and inject natural gas throughout Summer 2023 and, as of writing this report, total natural gas inventory in Europe sits in the low 90% full range, well ahead of regional plans.
- Price competition between Europe and Asia has been muted as compared to last year. However, for the majority of the Summer 2023 injection season, given low demand and high storage in Europe, Asian buyers of U.S. LNG have capitalized on the available supply as netbacks to Asia have averaged higher than those to Europe.
- Supply disruption will weigh heav-

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#### Natural Gas Winter 23/24 Outlook

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ily on prices. The Australia LNG worker strike didn't cause supply, disruption but served as a warning to the global gas market that supply disruptions (especially those ahead of the winter heating season) will overshadow robust storage levels.

#### Europe remains the main buyer of U.S. LNG, but Asian buyers are watching Australian strike news which could accelerate price competition

- European bid interest for U.S. LNG is expected to remain strong for the remainder of 2023 and throughout the 2023/2024 Winter season. European gas forwards have been falling throughout 2023 after a volatile 2022 as total European gas storage has been well above the 5-yr average nearly all year. However, despite the price decline, netbacks remain healthy and are trading near parity with Asian gas netbacks.
- All seven U.S. exporting plants were operating at/above nameplate capacity during most of Summer 2023, aside from some low offtake days, usually due to routine and seasonal maintenance.



- Asian and European gas benchmarks will continue to balance each other, especially true in the event of a supply disruption during the winter heating season.
- EVA expects U.S. LNG feedgas demand to average 13.4 BCFD dur-

ing Winter 2023/2024, an increase of 1.5 BCFD as compared to last winter, primarily due to the return of Freeport LNG.

• As highlighted, several U.S. LNG projects are expected to advance over the next few years. The United States continues to be one of the top global LNG suppliers. U.S. LNG will be incredibly important to both

Source: EVA

European and Asian buyers as we progress through the winter heating season. Additionally, U.S. LNG will remain a key supply source for global gas-fired power plant development.

• Natural gas is and will remain a key component of global energy supply as nations develop renewable resource infrastructure. Beyond the development phase, natural gas will play an important role as a swing resource due to the intermittent nature of renewable generation.

# Structural growth is on the horizon for both industrial end-users and for piped gas to Mexico.

- According to the U.S. Federal Reserve, the industrial capacity utilization for the first 7 months of 2023 averaged 79.4%, which is near 1% lower YoY. Economic factors are still at play, global inflation concerns are impacting demand, especially true in Europe where demand conservation efforts are in effect.
- On the other hand, the development of new industrial projects has supported the growth of industrial demand. As of September 2023, there are 22 projects expected to come online from 2023-2027, with total gas demand of 0.85 BCFD and total in-

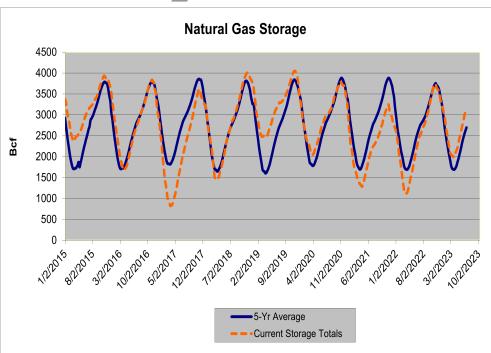
vestment of \$29.8 billion.

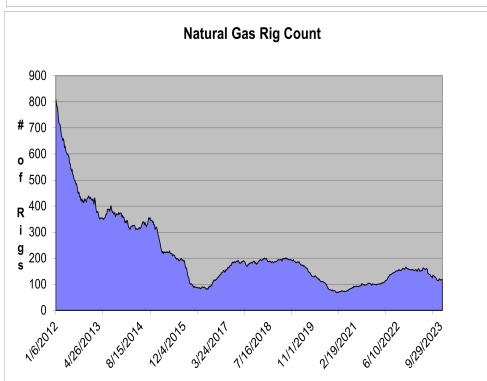
• Piped natural gas imports from the U.S. continue to play a critical role in the development of Mexico's energy sector. New single day record flows were observed of 7.5 BCF for several days during July and August 2023. Exports to Mexico are expected to average near 6.9 BCFD for Winter 2023/2024, which is nearly 1.5 BCFD higher YoY.

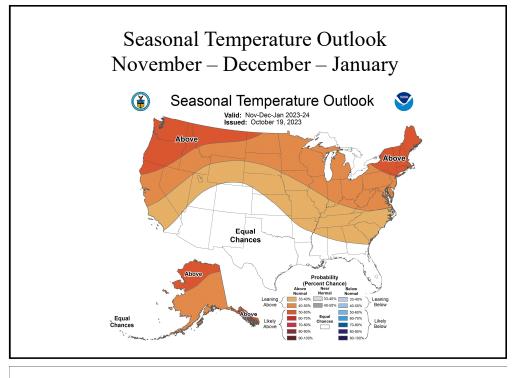
• U.S. natural gas exports are expected to grow in 2024 on the completion of new pipelines in Mexico. Mexican gas demand remains supported by LNG project development, industrial demand and gas-fired generation.



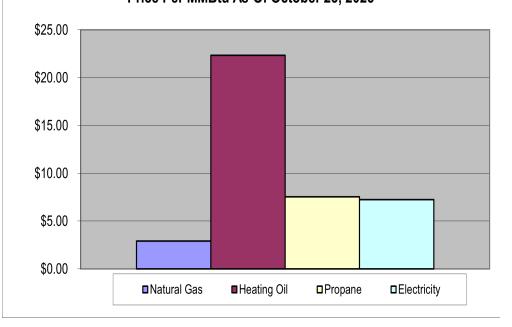
# Snapshots











## **Protect and Grow**

## The future of natural gas is renew-

By Robert Friedman, Ingevity

As the focus on achieving environmental and sustainability goals tightens across the globe, natural gas is uniquely suited to add value. Known as a low-cost, reliable, cleaner energy alternative for commercial, residential, and transportation industries, renewable natural gas is a readily available solution to drive long-term growth for the natural gas industry.

The evolution of public policy to mitigate the effects of greenhouse gas (GHG) emissions has posed significant challenges to the traditional natural gas utility infrastructure, impacting transportation and nontransportation industries served by municipally owned natural gas utilities. As cities such as Berkeley, California, and Seattle, Washington, impose increasing restrictions on the installation of natural gas in new commercial and apartment buildings in an effort to transition away from gas, the industry has an opportunity to reposition itself as a viable player in the sustainable energy market.

Significant opportunity exists to respond to changes in public policy by embracing a "protect and grow" orientation with renewables, especially with renewable natural gas (RNG). RNG has one of the most impactful sustainability profiles by capturing and processing naturally occurring methane from agricultural, wastewater, and landfill facilities. RNG is one of the few viable zero- or negativecarbon intensity fuels that is cost effective, and its use is well suited to be leveraged by the distribution of the natural gas utility infrastructure.

RNG is relevant for transportation and non-transportation sectors. As a transportation fuel, RNG can reduce GHG emissions by 85 percent to 130 percent compared to gasoline, which outperforms other technologies, offering fleets a pathway to carbon neutrality with natural gas vehicles (NGVs). Both fleets and natural gas utilities can easily implement RNG as an alternative fuel by working together to source RNG from providers or third-party marketers.

Businesses, institutions and organizations - and potentially residences can reduce their carbon footprint by purchasing directly from RNG sup-

pliers. For example, Duke University recently announced they are purchasing RNG through a voluntary offtake agreement. Over the longer term, these initiatives can provide the industry with an opportunity to support the inclusion of RNG within the rate base.

Today, RNG provides fleets with a cost-effective and impactful alternative and accounts for over 50 percent of the fuel consumed by NGVs in the U.S. in 2020. This opportunity is rele vant to compressed natural gas (CNG) vehicles, as well as even lower-pressure NGVs equipped with adsorbed natural gas (ANG) technology. These CNG and ANG vehicle platforms can seamlessly use RNG.

The use of RNG within CNG fueling facilities is well-suited for fleets with a larger number of vehicles and fuel consumption (e.g., heavy-duty vehicles) to help offset the capital costs of the fueling infrastructure.

Opportunities for light-duty truck fleets (e.g., pickup and vans) to use RNG as a transportation fuel have historically been limited due to fleet size and configuration and the resulting lower consumption of fuel. The introduction of ANG to the light-duty fleet market has created new opportunities to use RNG on a cost-effective basis. ANG technology allows fleets of any size to utilize ultra-clean RNG at almost no incremental cost: by using a low-cost private fueling appliance, ANG fleet vehicles can use low-cost fuel sourced directly from their utility line.

NGVs are popular throughout the world with approximately 30 million in use today and growing. While there are only about 200,000 NGVs in the United States, there is a significant opportunity for NGV growth particularly when coupled with RNG use.

#### **Comment on the Ninth Circuit's Decision in California Restaurant** Association v. City of Berkeley Continued from page 1.

have pushed back on bans, prompting referendums, such as in Eugene, Oregon. As Berkeley's case illustrates, many policies are legally vulnerable. Indeed, in the wake of the Berkeley decision, the Eugene City Council repealed its ban. And Washington, faced with the Berkeley decision and litigation targeting its own policy,

delayed its ban and is exploring revi-

#### The California Restaurant Association's Challenge to Berkeley's Ban

The California Restaurant Association – many of whose members depend on fuel gas appliances for their cooking - filed suit against Berkeley's ban in 2019, challenging it as preempted under the federal Energy Policy and Conservation Act (EPCA), as well as on state law grounds.

EPCA emerged from the oil crisis in 1975 and was designed to create a comprehensive energy policy to address the United States' dependence on foreign energy sources and the resulting economic and national security issues. That national policy was intentionally neutral as to the type of fuel; Congress wanted to encourage diverse energy sources while saving energy through neutral consumption and conservation objectives. Over time, Congress expanded that policy to create uniform national standards that left narrow room for state and local regulation. Today, EPCA preempts state and local regulations "concerning the energy efficiency" or "energy use" of covered products (which include a wide range of appli-

The district court ruled that this provision did not preempt Berkeley's ban because the ordinance regulated piping rather than directly referring to appliances themselves. The Association appealed to the Ninth Circuit. This April, a unanimous panel of the Ninth Circuit reversed.

The Ninth Circuit held that EPCA preempts "building codes that regulate natural gas use by covered products" and that Berkeley's ordinance "does exactly that." The court had "no doubt" that EPCA would preempt Conclusion an outright ban on covered natural gas appliances. And longstanding Supreme Court precedent makes clear that "states and localities can't skirt the text of broad preemption provisions by doing indirectly what Congress says they can't do directly." "So Berkeley can't evade preemption by merely moving up one step in the energy chain and banning natural gas piping within [new] buildings."

Berkeley petitioned for rehearing en banc. That petition is still pending and may take weeks or months to be resolved. Regardless of the outcome, a petition for certiorari to the Supreme Court may well follow.

In the meantime, the Ninth Circuit's decision is controlling within the circuit, which encompasses California, Alaska, Arizona, Hawaii, Idaho, Montana, Nevada, Oregon, Washington, Guam, and the Northern Mariana Islands. And the well reasoned, thorough decision is persuasive authority that courts around the country will need to address.

#### Implications for Existing and Future Regulations

Additional litigation over the decision's scope and implications is likely. Fuel gas bans or all-electric construction requirements (the functional equivalent) are readily comparable to Berkeley's ordinance and thus likely to fall within the Ninth Circuit's decision. Some local governments in the Ninth Circuit have agreed to either pause enforcement pending resolution of Berkeley's en banc petition, withdraw their gas bans, or put efforts to enact gas bans on hold, but others in the Ninth Circuit and elsewhere are continuing forward.

Beyond regulations resembling Berkeley's, the en banc petition and supporting amici contend that the decision threatens a wide range of other regulations, including health and safety, gas distribution, land use, and zoning regulations. To be clear, the Ninth Circuit did not decide those

Ultimately, these issues still need to play out with the benefit of specific, real-world regulations to consider – just as preemption issues arising under other federal statutes have long been resolved. No single case is likely to be capable of providing a bright-line rule addressing all types of arguably covered regulations.

In sum, the Ninth Circuit's decision reinforces the critical role of national energy policy and the importance of deciding what level of government decides these issues. Congress is of course free to choose a different system, but in the meantime, state and local governments and regulatory agencies at all levels must adhere to Congress's existing commands. While mapping out the boundaries of Congress's decision to preempt local authority in these areas will likely require further applications of the law to particular facts, the CRA v. Berkeley decision lays down an important marker in that debate.

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