



**National Fuel<sup>®</sup>**

# **Achieving a Low-Carbon Future in Western New York**

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**National Fuel Gas Distribution Corporation**







**March 24, 2022**

# CLCPA Draft Scoping Plan

*Most aggressive clean energy and climate plan in the country.*

- July 18, 2019, the Climate Leadership and Community Protection Act (Climate Act) was signed into law.
- Requirements: 70% renewable energy by 2030; 100% Zero-emissions electricity by 2040; 85% GHG reductions by 2050.
- The law creates a Climate Action Council (CAC) charged with developing a scoping plan of recommendations to meet these targets and place New York on a path toward carbon neutrality.
- CAC released its Draft Scoping Plan on Dec. 30, 2021 commencing a public comment period through June 10, 2022.

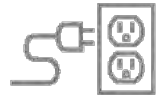
# What Can Be Said About the Draft Scoping Plan

-  **YES** To lower emissions and a careful, consumer-focused energy transition
-  **YES** To expanded energy efficiency as **STEP ONE**
-  **YES** To **some** electrification as one of many levers to reduce emissions
-  **YES** To clean energy generation requirement
-  **YES** To the use of low-carbon renewable natural gas and hydrogen for lowering emissions in heating
-  **YES** To the use of existing natural gas delivery system **AND** electric system for a reliable, resilient, integrated energy system

**However, there are concerns with certain components of the Plan.**

# What's IN the Draft Scoping Plan?

## *A Number of Statewide Prohibitions*



- No new gas service to existing buildings beginning in 2024



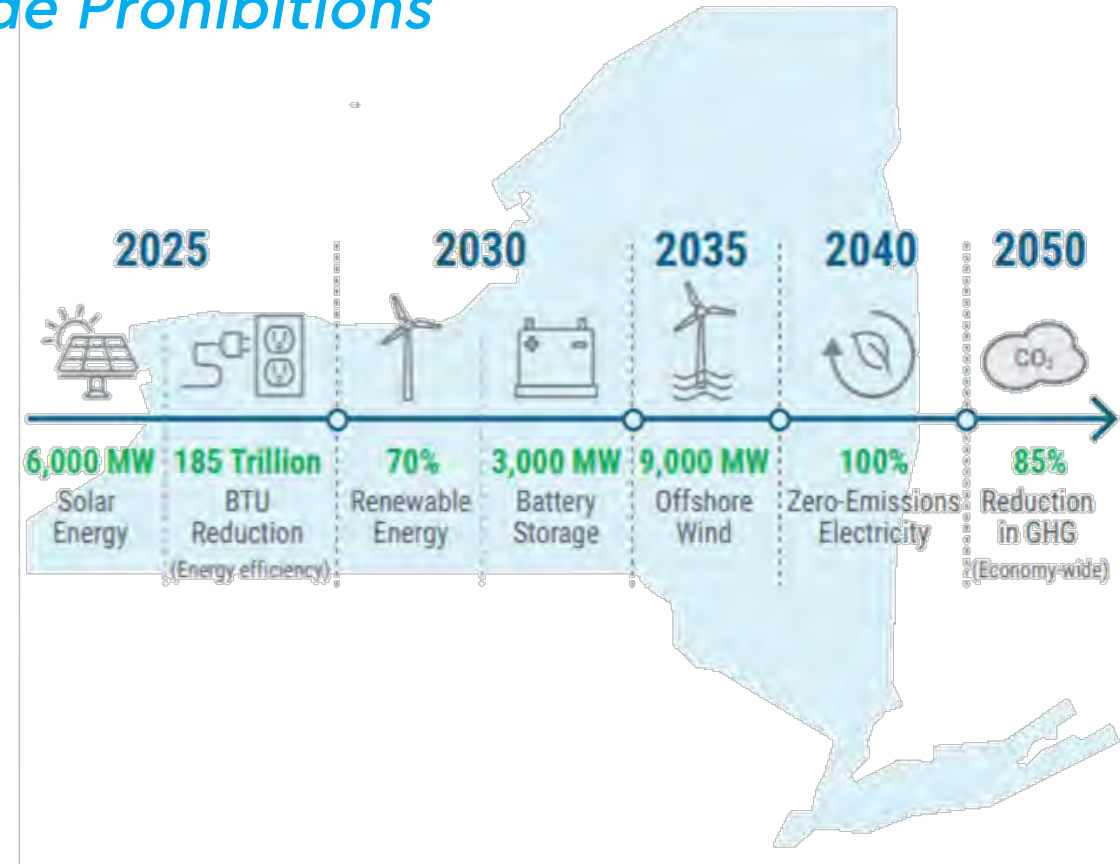
- No natural gas in newly constructed buildings, beginning in 2024.



- No new natural gas appliances for home heating, cooking, water heating, clothes drying beginning in 2030.




- No gasoline-automobile sales by 2035



**The Plan will have a significant impact on New York residences and businesses, particularly in WNY, including elimination of energy choice and a likely increase in overall energy costs.**

# What's MISSING from the Draft Scoping Plan

## *Full Assurance of Ongoing Energy Reliability*

- Lacking an integrated holistic system reliability analysis across sectors
  - It is essential to ensure electric grid reliability and resiliency before mandating electrification
- Unprecedented level of **NEW** renewable electricity generation development in next 8 years.
  - **26% current**  **70% required**
- **NYISO published its concern about declining levels of reliability beginning as early as 2023**
- Measures will likely increase the cost of almost anything that relies on electricity while adding risk to reliability of the electricity grid

**Weather dependent renewables need back-up options to keep the lights on.**

# Importance of Grid Reliability and Resiliency

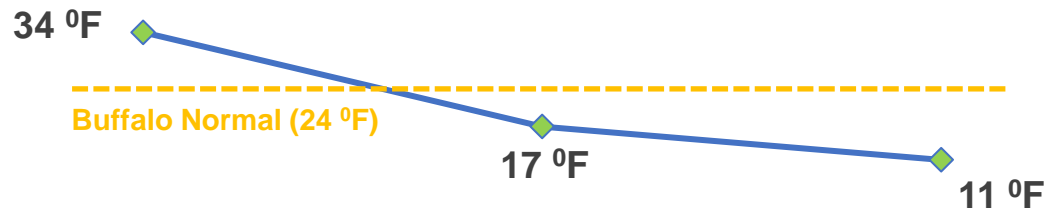
*Intermittency of wind and solar resources suggests that an even greater build-out of renewable power generation and T&D is required to ensure reliability and resiliency*

**Wednesday**  
January 19, 2022

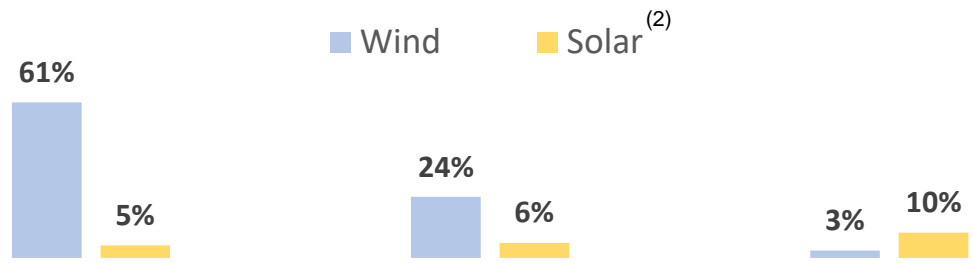
**Thursday**  
January 20, 2022

**Friday**  
January 21, 2022

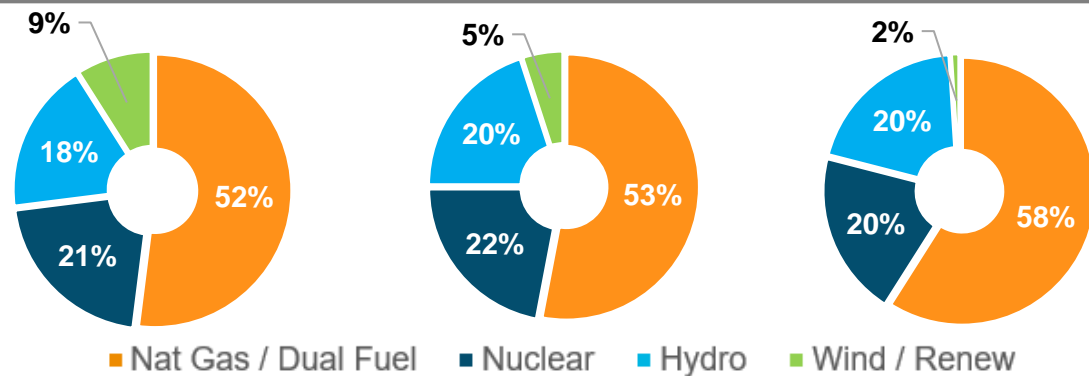
**Buffalo, NY**  
Average Daily  
Temperature (°F)



**NYISO Power Gen**  
Renewable Generation  
Capacity Factors<sup>(1)</sup>



**NYISO Power Gen**  
Total Fuel Mix



"Just last week we hit a record on the system of 1,808 MW of wind...12 hours later the total output state-wide was just 20MW. That's a tremendous variation between the highs and the lows and we need a system with resources to fill in those gaps when the wind isn't performing."

--- Rich Dewey, NYISO President & CEO (February 2022)

(1) Capacity factor represents the % of actual electricity output over the maximum possible output, indicating how fully the installed generation capacity is being utilized.

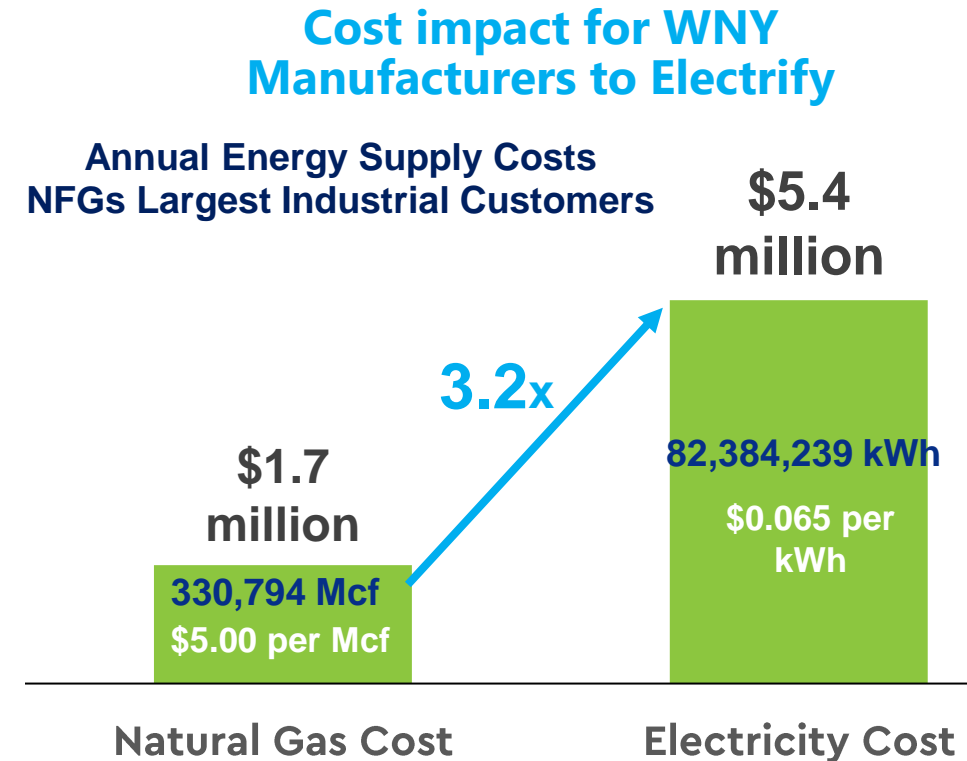
(2) Behind-the-meter solar.

# What's MISSING from the Draft Scoping Plan

## *Full Assessment of Customer Affordability and Practicality*

- Customers required to electrify will face higher operating costs as electricity prices are approximately 3.5 times more than average current natural gas prices
- Converting a natural gas home in upstate NY to all-electric:
  - \$20,000 - \$50,000 Presentation to the CAC
  - \$35,000 - Consumer Energy Alliance Analysis
  - **\$40,000-\$50,000 to electrify an older WNY Home.**

**\$10-\$25 billion for WNY alone.**



# What Does NFG Propose?

*"All-of-the-Above Pathway" is a more affordable and practical way to meet the State's goals for WNY homeowners and businesses*

## Three Key Building Blocks

### Energy Efficiency

Scale-up investment in **energy efficiency** measures that emphasize weatherization and building shell retro-fits

### Hybrid HVAC Systems

Wide-spread adoption of **hybrid / dual-fuel** gas furnace and electric air-source heat pump HVAC systems

### Existing Infrastructure

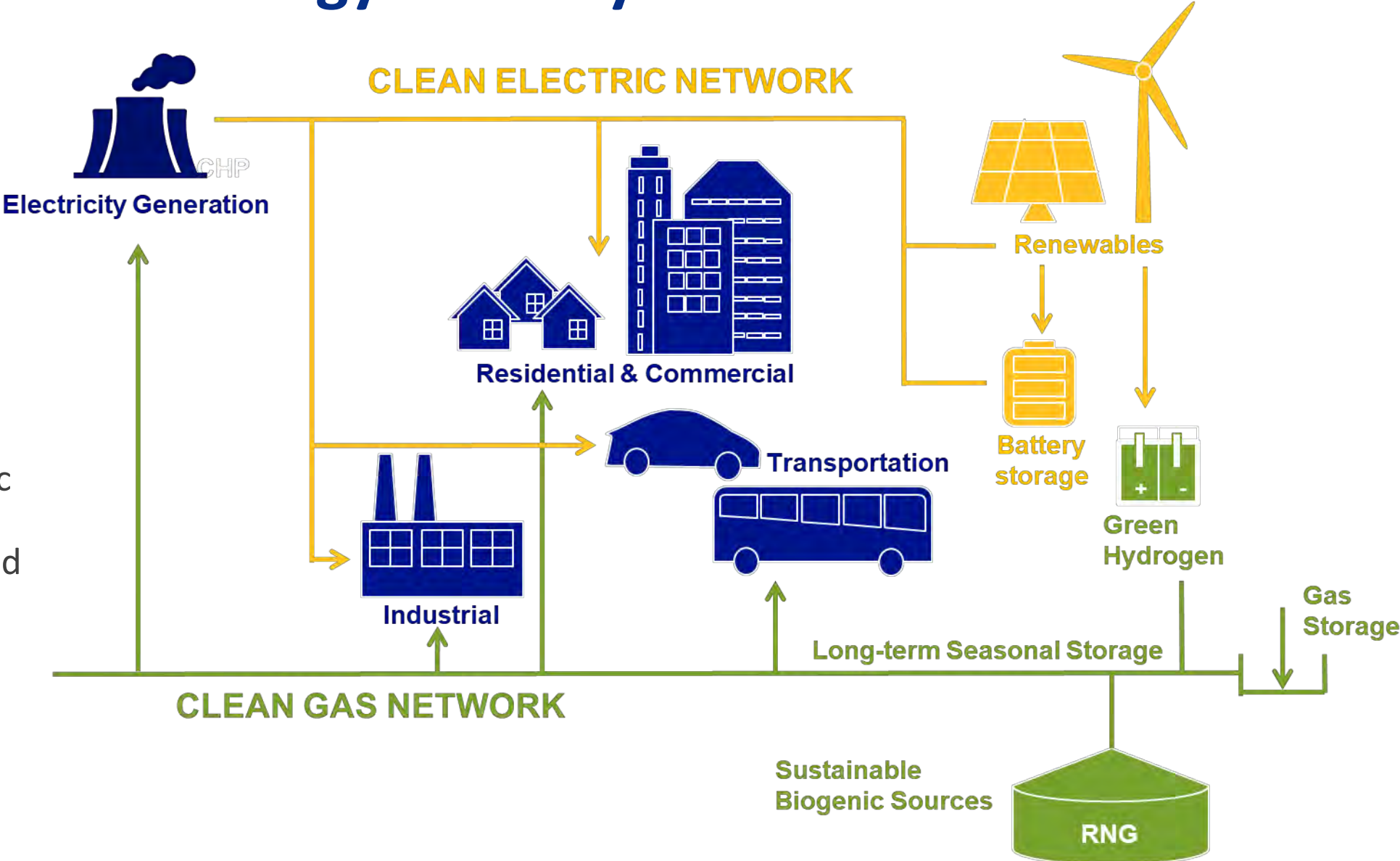
Use **existing natural gas infrastructure** to incorporate low-carbon fuels like RNG and hydrogen



# A Hybrid Dual Energy Pathway Is The Best Solution

## Vision of a 2050 Energy Network

A deeply decarbonized, integrated gas & electric system is more affordable, practical, and more likely to achieve New York's emissions goals.



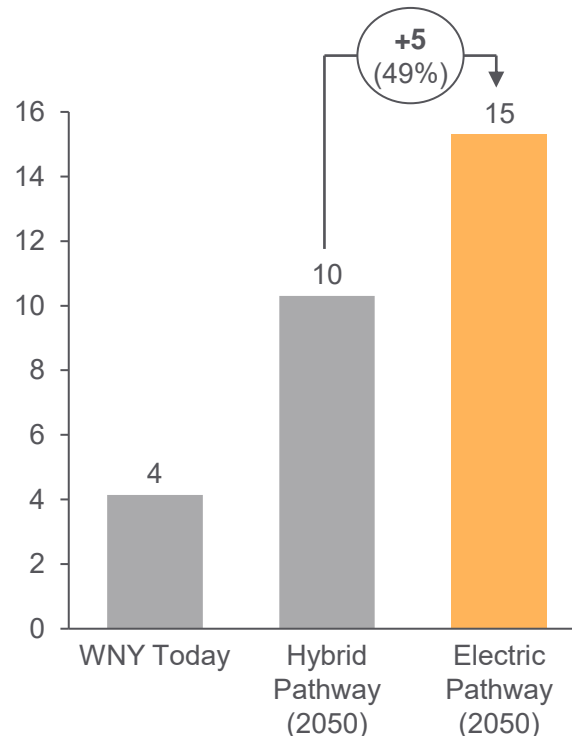
# Hybrid Dual-Energy Pathway Requires Less Costly Upgrades

*Reduces requirements for siting and permitting extensive electric system upgrades and utilizes the most cost-effective emission reduction strategies.*

## Winter Peak Demand

A **Hybrid Pathway** avoids siting and permitting ~5GW of winter peak capacity in Zone A relative to **Full Electrification**, more than all of today's installed capacity in Zone A.

NYISO Zone A Installed Capacity, 2050 (GW)

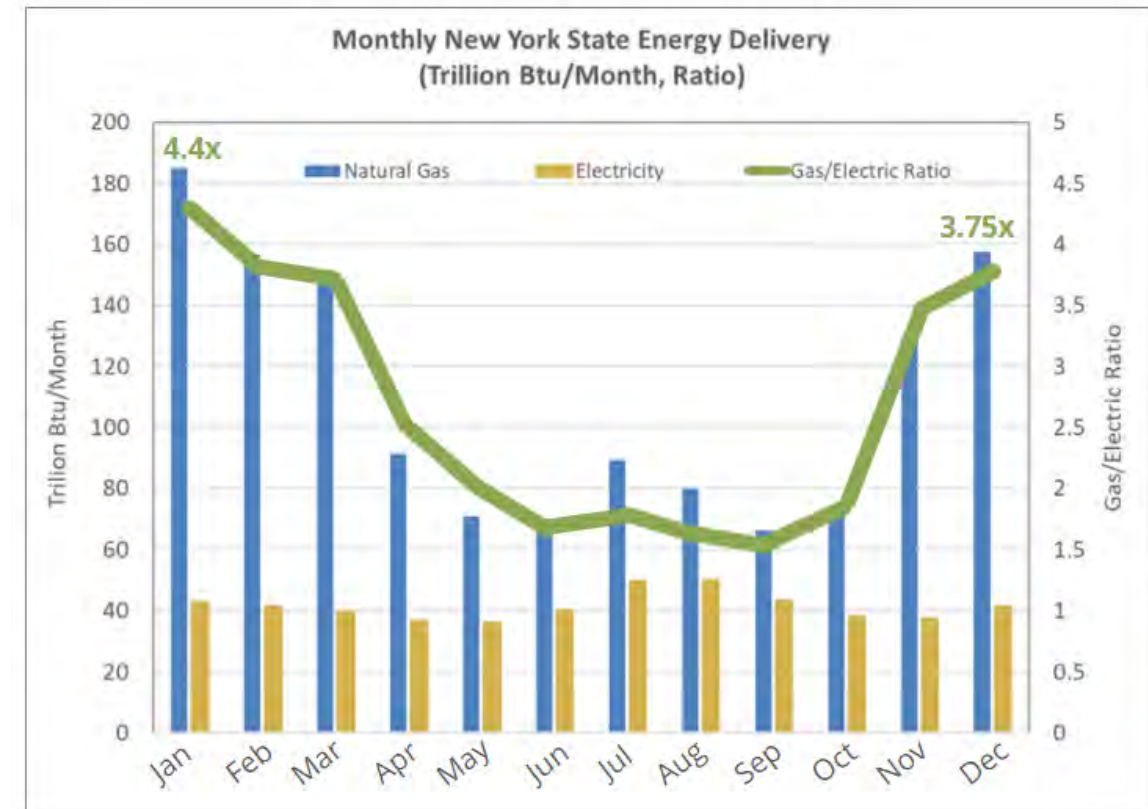


**Statewide, in NYISO, the Hybrid pathway would avoid ~60GW of new capacity and managing winter peaks through dual fuel heating could avoid ~\$70B of capex in New York by 2050.**

# Hybrid Pathway Provides Greater Resiliency

*Hybrid pathway will reduce outages and issues caused by weather-related events*

- The existing natural gas system is:
  - Reliable & resilient
  - Underground and storm-resistant
  - **99.9% reliability** on energy delivery
- An all-of-the-above hybrid approach:
  - Allows natural gas infrastructure to provide energy supplies when intermittent generation renewable sources are unavailable
  - Limits constraints on the power grid during periods of peak energy demand



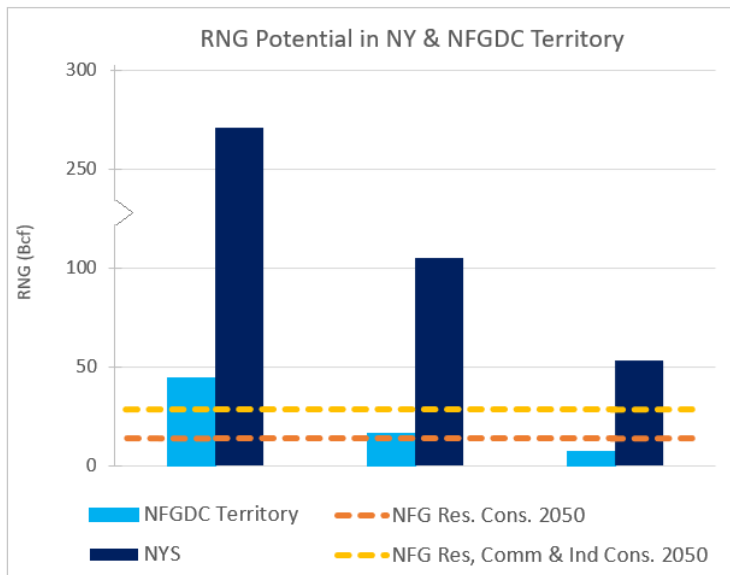
Source: DOE-EIA (2019 data)

# Hybrid Pathway Utilizes Existing Infrastructure

*Utilizes an existing storm-resistant, underground natural gas network to deliver low-carbon fuels into the region versus building brand new electric infrastructure*

## Renewable Natural Gas (RNG)

- RNG has lower carbon intensity with similar operational and performance characteristics to natural gas



## Hydrogen

- Hydrogen offers enormous potential as a source of clean energy
- 10 million metric tons (MMT) of hydrogen is currently produced in the United States
- A 15% blend of hydrogen by volume into the natural gas stream may be feasible
  - Studies are looking at higher blends
- Hydrogen is particularly useful to decarbonize hard to electrify sectors

**Utilizing these low carbon sources can decarbonize the natural gas network and significantly reduce emissions.**

# Dual Energy Pathway Can Account for Regional Differences

*WNY is different than downstate in regard to weather, energy use, and housing stock*

## Upstate vs. Downstate Differences

- Plan will be more burdensome for WNYers
  - ✓ Weather is 56% colder
  - ✓ 94% of energy used on the coldest WNY winter day is natural gas
  - ✓ Older, larger Upstate housing stock
  - ✓ Burden falls hardest on Upstate residents - Downstate produces more emissions

**A hybrid approach that allows for dual energy heating will reach the State's goals in a more affordable, less burdensome way for consumers. 93% emissions reduction when combined with EE measures.**

# What Can Be Said About the Draft Scoping Plan

✓ **YES**

To lower emissions and a careful, consumer-focused energy transition

✓ **YES**

To expanded energy efficiency as **STEP ONE**

✓ **YES**

To some electrification as one of many levers to reduce emissions

- **Areas for improvement:**

- Add hybrid heating as an option
- Customer choice for appliances
- Cost and practicality limitations of full electrification

✓ **YES**

To clean energy generation requirement

- **Areas for improvement:** Manage total peak capacity by leveraging low carbon fuels

✓ **YES**

To the use of low-carbon renewable natural gas and hydrogen for lowering emissions in heating

✓ **YES**

To the use of existing natural gas delivery system **AND** electric system for a reliable, resilient, integrated energy system

- **Areas for improvement:** Recognition that the gas network can be decarbonized and enable the transition

# Public Hearing Schedule

## Public Hearings to provide opportunities for input on Draft Scoping Plan

Date	Time	Location	Venue
Tuesday, April 5, 2022	4:00 PM	Bronx	Bronx Community College - Roscoe Brown Student Center Hall of Fame Playhouse 2155 University Avenue Bronx, NY 10453
Wednesday, April 6, 2022	4:00 PM	Brookhaven	Brookhaven Town Hall 1 Independence Hill Farmingville, NY 11738
Tuesday, April 12, 2022	4:00 PM	Binghamton	Binghamton University -Symposium Hall 85 Murray Hill Road Vestal, NY 13850
Thursday, April 14, 2022	4:00 PM	Albany	Empire State Plaza Meeting Room 6 Albany, NY 12242
Tuesday, April 26, 2022	4:00 PM	Syracuse	SUNY College of Environmental Science and Forestry Gateway Center 1 Forestry Drive Syracuse, NY 13210
Wednesday, April 27, 2022	3:30 PM	Buffalo	Buffalo & Erie County Public Library Mason O. Damon Auditorium 1 Lafayette Square Buffalo, NY 14203
Tuesday, May 3, 2022	4:00 PM	Brooklyn	New York City College of Technology The Theater at City Tech 285 Jay Street Brooklyn, NY 11201
Saturday, May 7, 2022	10:00 AM	VIRTUAL	
Tuesday, May 10, 2022	4:00 PM	Tupper Lake	The Wild Center 45 Museum Drive Tupper Lake, NY 12986
Wednesday, May 11, 2022	4:00 PM	VIRTUAL	



# TAKE ACTION

## Tell State Leaders New Yorkers Need Affordable, Reliable Energy



- Buffalo public meeting is April 27, 2022
- Comment period open through June 10, 2022