

National Fuel

The Path Forward



NY CLCPA Draft Scoping Plan: “Electrify Everything at Any Cost”

CLCPA Goals & Targets

70%

Renewable Energy
by 2030

100%

Zero-emission Electricity
by 2040

85%

GHG Emissions Reduction
by 2050 (from 1990 levels)

Natural Gas in WNY Today

87%

Of WNY households use natural gas for space heating

99.99%

NFG natural gas system delivery reliability

45%
colder

WNY average winter vs. downstate NY

94%

Of all energy used in WNY on coldest winter day is natural gas

\$350
million

Average annual NFG residential bill savings from 2008 to 2021

The Rush To Electrify Everything and Its Impact on Western New Yorkers



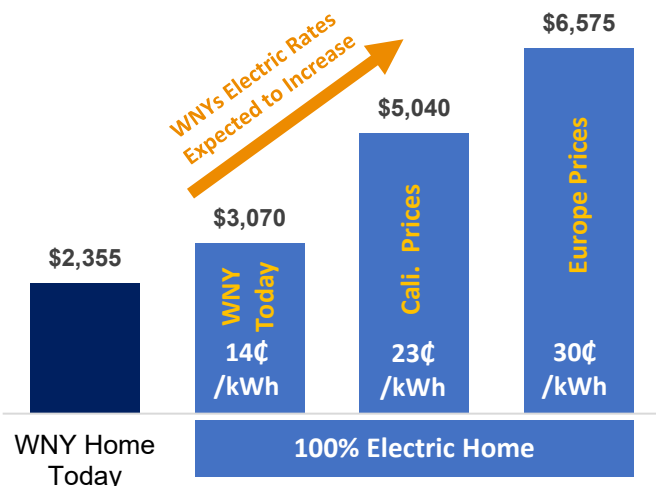
Energy Costs

Cost to convert buildings to all-electric is substantial and heating with electricity is inherently more expensive

Upfront Costs to Electrify an Older WNY Home

\$40K - \$50K

Potential Annual Increase In WNY Home Energy Costs



Impact on WNY Industry Average Annual Increase

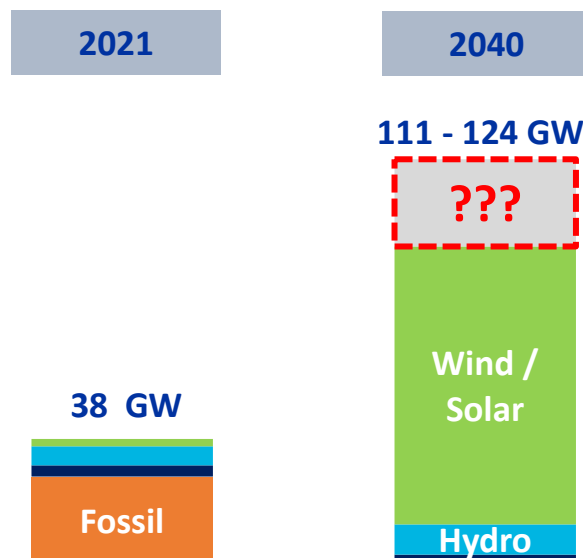
2.8x



Energy Reliability

Reduced reliability as increasing electric demand is met with an electric grid that is dependent on intermittent generation from wind & solar

New York State Installed Generation Capacity Needs



CLCPA Draft Scoping Plan acknowledges that there would be a **27 GW to 45 GW gap** in installed generation capacity for serving peak demand that cannot be met with existing zero-emissions technologies

National Fuel's "all-of-the-above" plan can meet the state's climate goals while maintaining affordability & reliability

Source: Guidehouse "Scenarios for Decarbonizing NY's Economy"

NFG's Plan: Three Key Building Blocks

Energy Efficiency

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

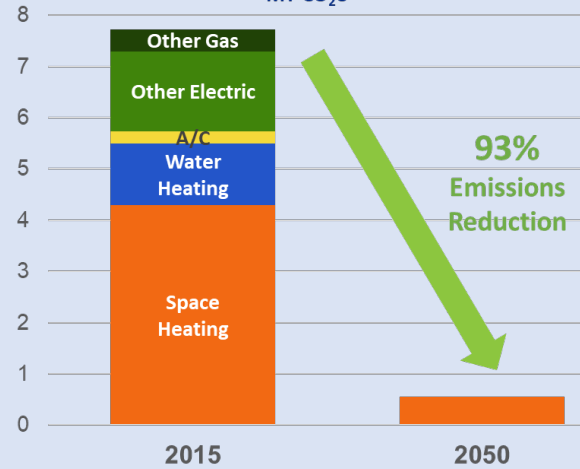
Hybrid HVAC Systems

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

Utilize Existing Infrastructure

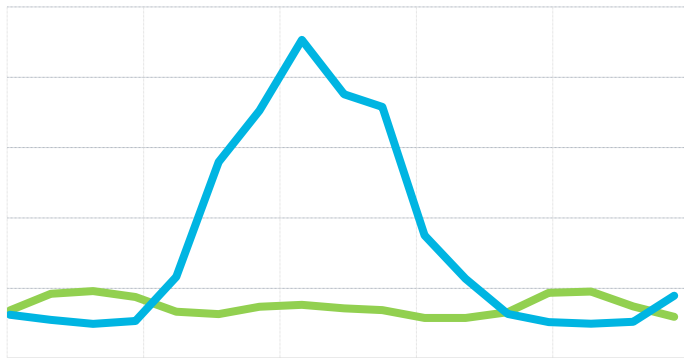
Use **existing, modernized natural gas infrastructure** to incorporate low-carbon fuels like RNG and hydrogen

NFG Selective Electrification Pathway
Annual Household Emissions
MT CO₂e



NFG Plan Avoids Costly and Unnecessary Grid Build-Out While Ensuring Gas System Is Available to Safely and Reliably Meet Energy Needs During the Winter and Electric Outages

New York State Monthly Residential Energy Use MMBtu/month



May-18 Sep-18 Dec-18 Mar-19 Jul-19 Oct-19

Winter Peak

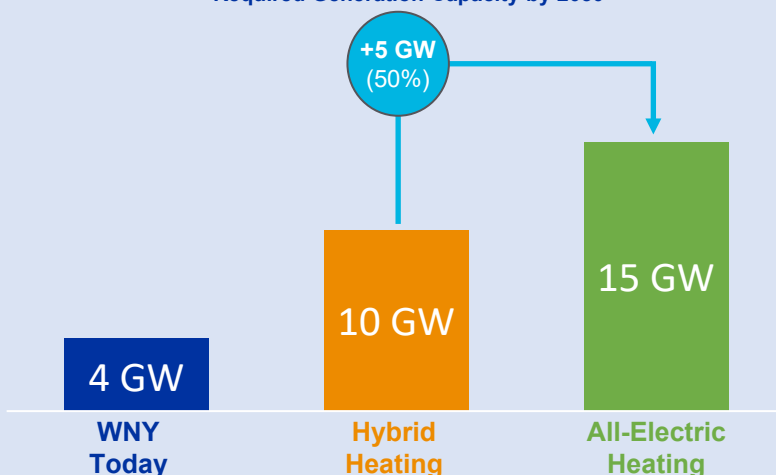
Future Electric Grid?

~4x higher

Summer Peak

Today's Electric Grid

National Grid Study Western New York Required Generation Capacity by 2050



"Building an electric network capable of electrifying all heating load is not practical or cost-effective." – National Grid

How Does Hybrid Heating Benefit NYS?

Avoids 60GW of New Electric Generation

Saves \$75 BILLION in Infrastructure Costs

Source: Analysis developed in partnership with National Grid