



Holyoke Gas & Electric

Innovative, municipal utility at the crossroads of New England



March 29, 2023

Massachusetts Energy Facilities Siting Board

HG&E LNG Infrastructure & Resiliency Project – EFSB 22-07

About HG&E

The Public Power & Natural Gas Advantage

HG&E is a municipal utility, which means that we are not-for-profit and owned by the community we serve. Unlike private utilities, we do not answer to shareholders thousands of miles away. Instead, we answer to our neighbors.

Our mission is to provide competitive rates, innovative and sustainable energy solutions, reliable service, and excellent customer care.

- Established in 1902
- Provide electric, gas, and telecommunication services to 18,000 customers
- Municipal utility established per MGL Chapter 164
- Vertically integrated - own generation, distribution, and transmission
- Massachusetts designated Green Community since 2010



About HG&E

Clean Energy Initiatives

HYDRO: HG&E hydro facilities total approximately **50 MW** of generation capacity and produce approx. 67% of the electricity sold at retail.

SOLAR: To date, seventeen utility scale solar projects have been developed and commissioned in Holyoke, totaling **17.82 MW** of installed capacity.

BATTERY STORAGE : HG&E's Energy Storage Systems (ESS), totaling **8MW/16MWh**, are used to enhance HG&E's electricity system and help keep electric rates stable by reducing rising capacity and transmission charges for the utility and its customers.

Recent Clean Energy & Innovation Partners: Rocky Mountain Institute (RMI); Fraunhofer Center for Sustainable Energy Studies; Pacific Northwest National Laboratory; Nature & People First; Massachusetts Clean Energy Center (MassCEC); National Science Foundation; Massachusetts Department of Energy Resources (DOER); ITM Power; University of Massachusetts, Amherst; Massachusetts Institute of Technology (MIT); Boston University (BU); ENGIE North America; Alden Labs



About HG&E

Awards and Recognitions

- 2023 Utility Transformation Leaderboard from the Smart Electric Power Alliance
- System Operational Achievement Recognition from the American Public Gas Association (APGA)
- Reliable Public Power Provider from the American Public Power Association
- Smart Energy Award from the American Public Power Association
- Certificate of Excellence in Reliability from the American Public Power Association
- Smart Electric Power Alliance ranked HG&E third nationally in energy storage per capita
- The Ira W. Leighton, Jr. Outstanding Innovative Technology Award from Environmental Business Council of New England for Mount Tom Solar & Energy Storage System
- Energy Manager Today Project of the Year for Mount Tom Solar & Energy Storage System
- Safety Achievement Award from the American Gas Association
- Massachusetts' Solar Cities & Towns 2012: Leaders in the Race Toward a Clean Energy Future – Mueller Road Solar Facility



About HG&E

NetZero by 2050 – Strategic Electrification

HG&E’s goal is to expand renewable and carbon-free content while maintaining some of the lowest rates in the Commonwealth.

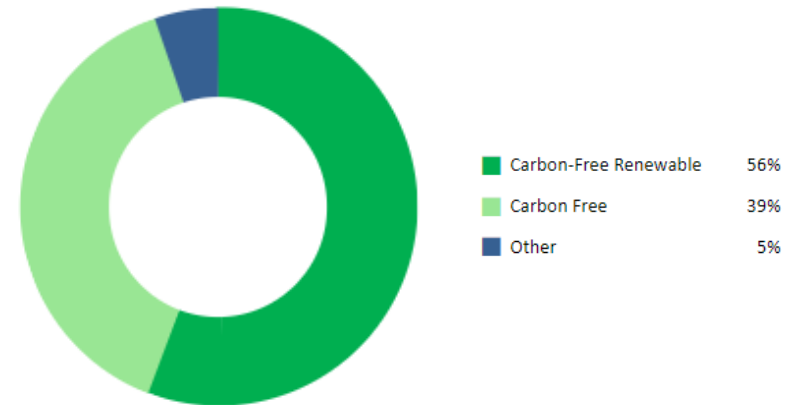
- Roadmap to 2050
 - 50% Carbon-Free by 2030
 - 75% Carbon-Free by 2040
 - NetZero by 2050
- Strategic Electrification
 - 2 – 3x Current Distributed Load
 - System Upgrades (~\$150 Million)
- Energy Efficiency & Conservation
- Utilize Natural Gas/LNG throughout energy transition
- Explore Emerging Technologies



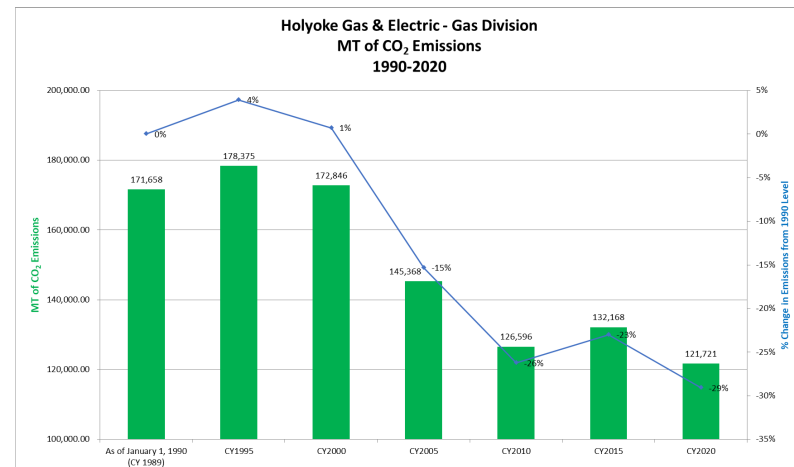
NOTE: ISO-NE 2021 Resource Mix included 53% natural gas as % of generation
<https://www.iso-ne.com/about/key-stats/resource-mix>.

95% Carbon-Free Electric (2021)

2021 Electric Emissions Chart



Natural Gas Emissions Reductions



About HG&E

Natural Gas Distribution System – Environmental Focus

Over the last 30 years, HG&E has been a front-runner in successfully reducing GHG emissions through transitioning customers from oil and propane systems to natural gas. Even with a gas distribution system growth of 21%, HG&E's related emissions have dropped 29% since 1990. HG&E is a leader in clean energy innovation, and we are continuously exploring opportunities to protect the environment.

- Annual Full Gas System Leak Surveys (in excess of requirements)
- Aggressive Leak Repair Program (in excess of requirements)
- Infrastructure Replacement Programs
- Energy Efficiency Programs, Education, and Outreach
- Alternative Technology Exploration
 - RNG
 - Hydrogen
 - Geothermal



About HG&E

Natural Gas Distribution System - Overview

- Natural gas service to customers in Holyoke and Southampton
 - 185 miles of gas main
 - ~8,200 gas services
 - ~11,500 gas meters
- Main supply source is from KM/TGP Northampton Lateral pipeline
- Can supplement system with existing LNG facility
 - Four (4) 55,000-gallon tanks (~16,000 Dth storage)
 - Two (2) tanks installed in 1971 with two (2) additional tanks in 1974
 - Received approval for three but only two were installed
 - Single vaporization system
- System is at capacity on peak days
 - Existing pipeline capacity of 11,800 Dth/day
 - Peak load of 19,700 Dth in 2019
 - 40% of load supplemented by LNG
 - Moratorium instituted in 2019



LNG Infrastructure & Resiliency Project

Project Scope

In order to reliably meet customer energy needs over the next 20+ years, HG&E has developed a non-pipeline solution that would increase our LNG storage capacity within the existing footprint of the West Holyoke LNG facility, which has been in operation since 1971. There are currently four LNG storage tanks on site, and HG&E proposes to install a fifth tank, which is consistent with the approved original site design. The LNG project is an important component of HG&E's plan to advance our shared climate goals.

Key Project Scope:

- Add one (1) new 70,000-gallon LNG storage tank within existing facility footprint to increase on-site storage by 5,000 Dth to a total of 21,000 Dth
- Upgrade existing vaporization system with n+1 redundancy to increase resiliency and reliability of existing operation
- Install new instruments and controls to modernize and enhance system safety at the site and for the community



LNG Infrastructure & Resiliency Project

Project Objectives

Key Project Objectives:

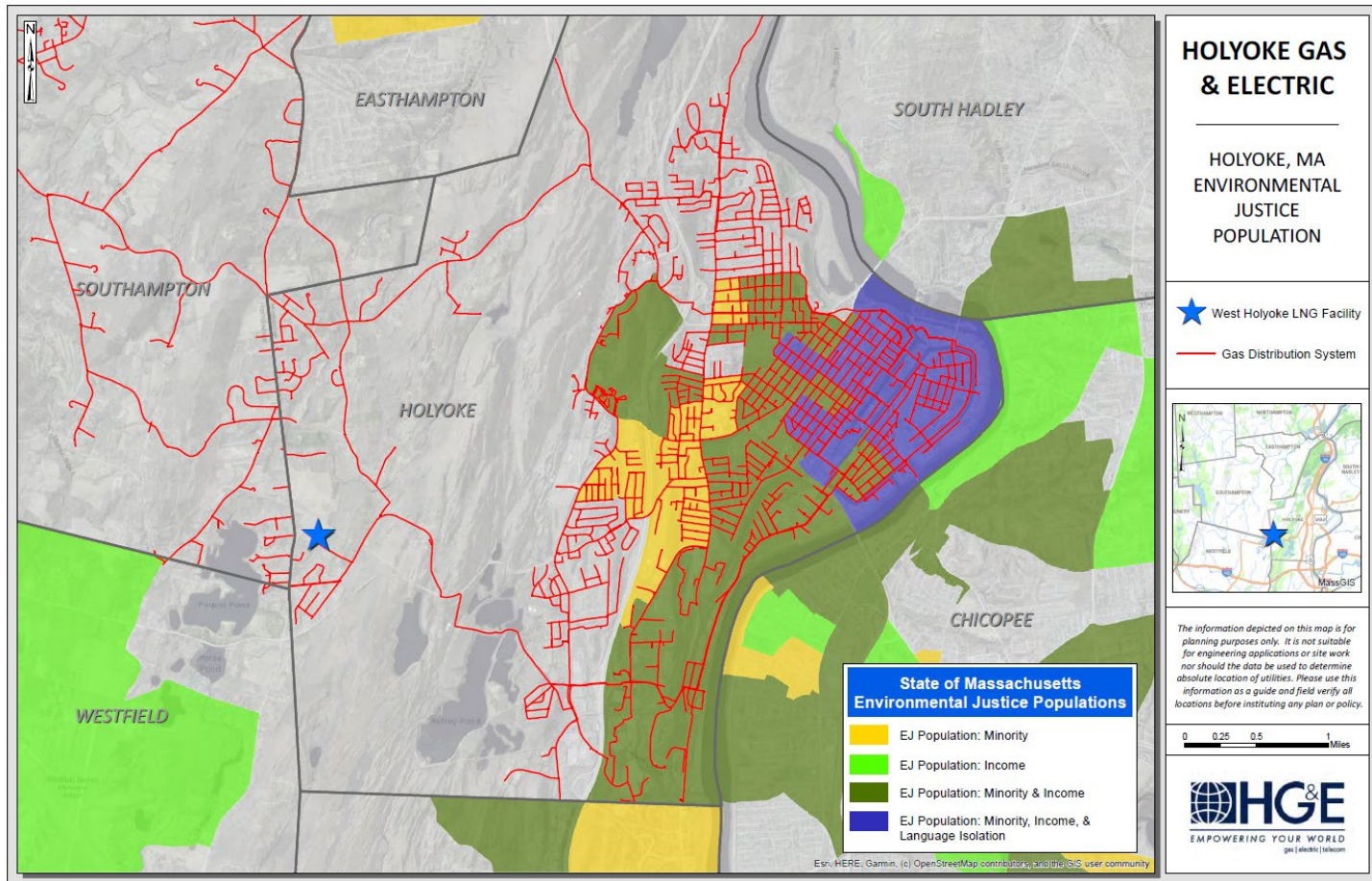
- Alleviates current system concerns by providing more reliable peaking capacity given current climate and other threats with limited community impact
- Modernizes and enhances facility safety mechanisms
- Helps maintain stable rates during energy transition
- Reduces environmental impacts of the heating sector throughout the energy transition to NetZero by 2050 through reducing consumption of higher emitting fuel sources
- Provides necessary time for strategic electrification (both customer and utility impact)
- Allows pursuance of targeted economic development opportunities in order to increase jobs, benefit the overall community and reduce emissions



LNG Infrastructure & Resiliency Project

Site Selection

- Evaluated other sites
- Within existing LNG facility & footprint
- Site originally approved for 5 tanks
- Outside designated EJ population tract
- Improved system reliability with limited neighborhood impact
- Enhances existing facility safety mechanisms



LNG Infrastructure & Resiliency Project

Project Alternatives

HG&E reviewed multiple options to addressing reliability and identified the LNG project as the most cost-effective (**\$7.8M**), practical solution with limited impact to the community.

Other considerations from increasing system resiliency and reliability:

- TGP Pipeline Alternative – would require disruption to multiple communities to loop over 1-mile of transmission pipeline through construction activities, continues reliance of sole source of supply, low-probability of success in region and cost prohibitive. (**\$70M+**)
- LNG Facility Alternative – would yield increased environmental impacts to clear new site of 20+ acres, considerable construction and community impacts, and cost prohibitive. (at least **\$70M+**)
- Electrification – a component of HG&E’s long-term sustainability plan; however, relies on necessary and costly customer premise upgrades and adoption plus costly HG&E system enhancements over the next twenty years. This project allows for strategic roll-out for a clean energy transition as new clean energy systems are developed to sustain new load. (HG&E costs projected at **\$150M+**)
- Energy Efficiency – another component of HG&E’s sustainability plan. Current annual peak day savings through efficiency programs is 10-15 dth. Negligible impact to peak demand but beneficial for reducing overall greenhouse gas emissions. Will continue to promote programs to reduce energy demand but does not address key project needs.

LNG Infrastructure & Resiliency Project

Community Outreach Timeline

August-September 2022

- Engage Key Stakeholders & Elected Officials
- Material Development (Information sheet, email address, webpage, employee update, FAQ)
 - Information developed in English and Spanish

September 2022

- Neighborhood & Abutter Outreach
- Holyoke City Council Presentation

October 2022

- Community Meeting in EJ neighborhood
- Press Release

December 2022

- EFSB Application Submittal

December 2022 – 2023

- EFSB Review



Thank you!

