

FOOTPRINT



EMPOWERING YOUR WORLD

Leading the Way...to a Carbon-Free Future



Welcome to the 2022 edition of FOOTPRINT, Holyoke Gas & Electric's annual newsletter designed to inform our community and stakeholders about HG&E's ongoing leadership in energy innovation as we work together to create a carbon-free future.



In This Issue:

- ✓ Our New Carbon-Free Branding Initiative
- ✓ Expanding LNG Capacity to Serve Customers
- ✓ Profile on Our Customer, Valley Malt



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A Logo That Makes a Mark
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Made with



Made in Holyoke – Carbon-Free A Logo That Makes a Mark

Holyoke paper mills drove much of Holyoke's industry for over a century due to the availability of plentiful and inexpensive hydro power. Fast forward to the 21st Century and the asset of locally generated and inexpensive energy is drawing the next generation of industry to Holyoke. Those industries also highly value the added benefit of powering their enterprises with energy that is green, clean and carbon-free.

The Massachusetts Green High Performance Computing Center is one good example of an enterprise that values efficient, reliable, cheap and renewable energy. It's all here in Holyoke.

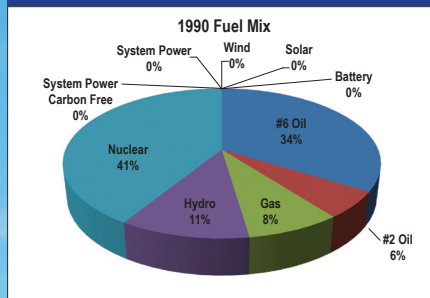
The emerging cannabis industry, many located in the same historic mill buildings that put Holyoke on the map as an industrial center, represents another example of an industry attracted to Holyoke partly by its green energy portfolio.

With this in mind, HG&E has developed a **"Made with Carbon-Free Electricity"** logo and brand that allows emerging businesses (new and old) to display this mark on the products they produce here in Holyoke. It tells the world and their customers about their commitment, and ours as well, to our environment and to a carbon-free future.

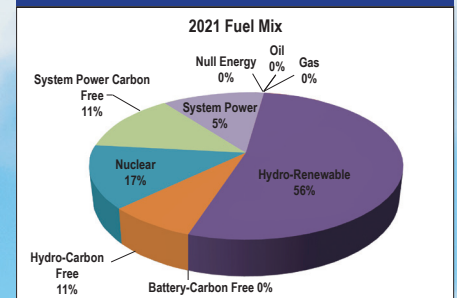
Your Renewable Energy Future



Where We Have Been...



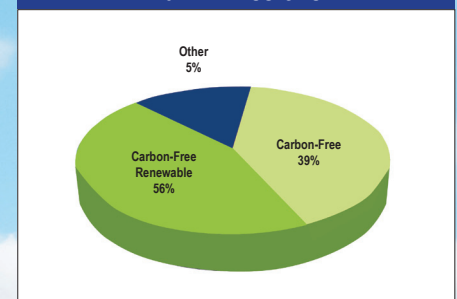
Where We Are...



Holyoke's movement toward a carbon-free energy mix has been steady and forward looking

HG&E's goal is to expand carbon-free sources of electric generation in environmentally sensitive ways and promote the reduction of energy use through energy efficiency programs, all while maintaining some of the lowest electric rates in the Commonwealth of Massachusetts. This successful balance is reflected in the fact that HG&E's carbon footprint is significantly less than that of the average utility in New England. In 2021, 55.95% is renewable and carbon-free, while an additional 39.02% is carbon-free (nuclear, carbon-free system power and hydro). The other category comprises 5.03% of carbon emitting resources. Therefore, 94.97% of HG&E's electrical load for the year was considered carbon-free.

2021 Emissions



Why We Exist

It all started with leaders in Holyoke in the 1800s building an at-the-time leading-edge infrastructure to harness the Connecticut River to power homes and industry in Holyoke. That spirit of innovation has continued through to today and is at the core of Holyoke Gas & Electric. Currently, hydro provides 50 megawatts of energy as HG&E continues to expand its portfolio of renewable energy that includes solar, wind and battery storage. All of these working together play a part in achieving net-zero in greenhouse gas emissions by the year 2050.



Andrea Stanley of Valley Malt says the start-up enterprise moved to Holyoke to take advantage of Holyoke's energy assets.

Sustainability Runs Through Their Grains

Holyoke is a city built on innovation and perseverance. The hard work and entrepreneurial spirit of Andrea and Christian Stanley is contributing to the next chapter in our collective history, as they convert a historic mill building nestled between the Connecticut River and hydroelectric canal system, into a bustling manufacturing facility – underscoring Holyoke's roots as a city that makes things.

In 2011, the Stanleys discovered a gap in the local craft beer supply chain and their small business has been growing, sustainably, ever since. The journey from farm to glass is a complex one and before Valley Malt was introduced to the market there were no truly local craft beers in Western Massachusetts. Valley Malt changed that while introducing good old-fashioned products back into the local economy.

A news article about a local bakery sourcing ingredients from partners within the Pioneer Valley and a trip to one of Portland, Maine's craft breweries piqued the Stanley's interest in starting a brewery in Hadley. After researching craft brewery methods and discovering a major step in the process was missing in the local supply chain, they put beer on the back burner and became maltsters. At the time, most malthouses were large-scale operations, profiting investors overseas, which was counterintuitive to the "buy local" movement. After launching Valley Malt, the business grew quickly as the Stanleys refined the craft and built a link between farmers and brewers.

After much success in malting, that same local bakery they had read about in 2011 approached the Stanleys about adding organic flour to the product mix in 2019, flour that was rich with nutrients and milled with home-grown grain. Andrea and Christian got right to work on this project and traveled to Vermont to purchase a granite stone mill. Ground Up Flour, their newest business, was born and just in time for a global pandemic that resulted in a flour shortage – they were ready for it.

Demand for local malt and flour has increased significantly since the Stanleys got their start and they have done everything they can to scale up with the local environment and the regional economy in mind. Delivering products in an electric VW Golf until a recent upgrade to a Ford E-Transit, sustainable practices are running through their grains. Workforce development and training is also at the forefront of their business, developing the market and creating a community for farmers, brewers, bakeries, transportation companies, and everyone in between.

Valley Malt supplies malt to local and regional micro brewers, including The People's Pint in Greenfield and Wormtown Brewery in Worcester, and flour to Hungry Ghost Bread in Northampton. They were also recently contracted to supply Smith College with all of their flour needs.

When they outgrew their original facility in Hadley, they started looking for communities that reflected their mission of community and sustainability – Holyoke was at the top of their list.

"We knew we wanted to look in Holyoke because the malting process requires a lot of energy," said Andrea. "With the abundance of hydropower, and HG&E's commitment to clean energy, we thought the community would be a good fit for us. We are so happy here."

With an incredible team of employees, the Stanley's converted an old mill building along Holyoke's canal system into a lively malthouse and milling operation with room to grow. When farmers or brewers come to visit, HG&E's hydro operation is a significant part of the conversation. Valley Malt is the home of HG&E's Valley Hydro unit and looks out onto the Holyoke Dam – both key facilities in the local hydroelectric system, providing the city with low carbon-emitting energy.

According to HG&E's General Manager James Lavelle, "We are thrilled to welcome the Stanleys, Valley Malt, and Ground Up to the City and we look forward to growing together."

Visit valleymalt.com for more information about the organization. To learn more about HG&E's hydro operation and commercial incentives, visit hgcd.com.

Savings for Commercial & Industrial Customers

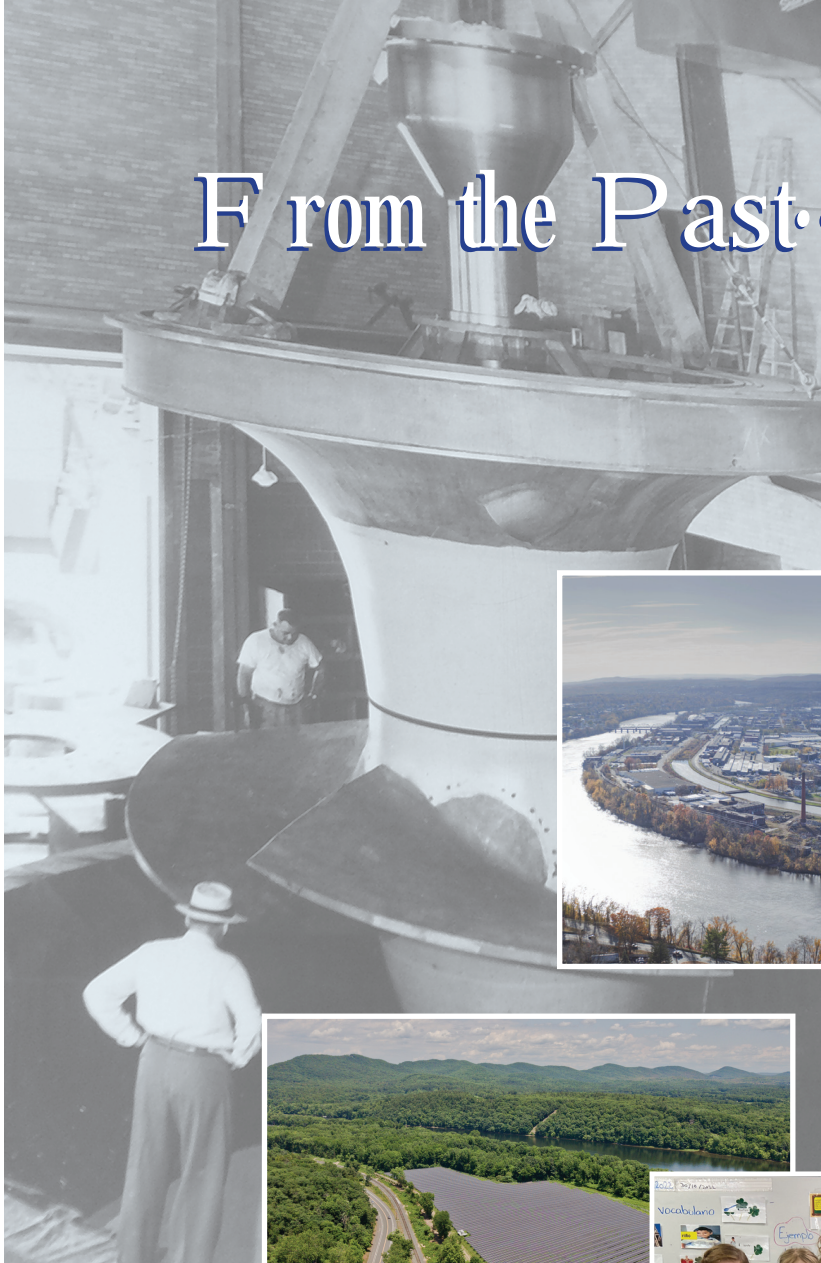
Many commercial and industrial customers require a lot of power at an affordable cost. These organizations are vitally important to a healthy economy in the City. Michael Curtin serves as HG&E's Technical Support Engineer for Commercial and Industrial Customers. Every day, Michael is helping our local businesses save money and energy, while working to retain existing commerce and attracting new industries to Holyoke. As a municipal utility, HG&E has the ability to work one-on-one with customers in order to target their specific needs related to energy. For more information, contact Michael by phone (413) 536-9319 or email mcurtin@hgcd.com.



From the Past...

...to the Future

HG&E is leading the way to a clean energy future, and the pathway to net-zero will be built on emerging technologies, conservation, customer education, and carbon-free energy development.



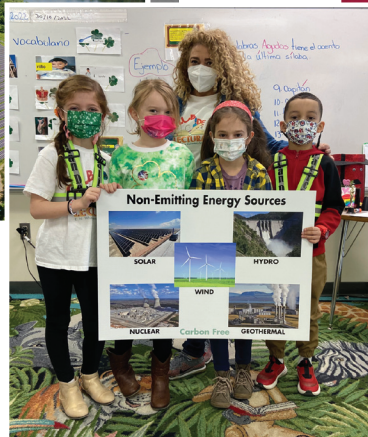
Hadley Unit 1 Hydroelectric Generator, 1955



The Connecticut River supplied 65% of energy needs throughout the community.



HG&E educates our youngest population about safety, conservation, and energy.



Public Power & Natural Gas Event in October educates customers about energy efficiency, electrification, and conservation programs.



Energy Storage Systems (ESS) are used to enhance HG&E's electricity system and help keep electric rates stable by reducing rising demand charges for the utility and its customers.



HG&E purchases power from 18 MW of roof and ground-mounted utility-scale solar facilities throughout the City. Through solar generation, HG&E is ensuring that electricity rates remain low, while protecting the environment.



HG&EV is an outreach program provided by Holyoke Gas & Electric to provide information about the savings and benefits that come from choosing an electric vehicle. Incentives are available for both commercial and residential customers.



LNG Infrastructure & Resiliency Project

A Solution That Supports Our Energy Transition

West Holyoke LNG Facility current footprint, four tanks with a foundation for a fifth tank.

HG&E is committed to providing cost competitive, reliable services to our customers while taking the necessary steps to balance customers' current utility needs with the low carbon-emitting energy future. Our diverse energy portfolio offers customers 95% carbon-free electricity as well as natural gas, the least emitting and most cost competitive heating source for homes and businesses. As part of HG&E's strategic infrastructure planning and forecasting, we have identified system enhancements at our liquefied natural gas (LNG) facility in West Holyoke that will contribute to improved safety, stability, and reliability of HG&E's natural gas system, as well as reduce local emissions and provide for additional economic development opportunities.

As a way to ensure reliable service to Holyoke residences and businesses, HG&E augments its natural gas supply with LNG. For the past 50 years, HG&E has used LNG from its West Holyoke facility, stored in four secure tanks. During periods of high demand, LNG is utilized to meet the needs of customers.

HG&E is proposing to install one new 70,000-gallon LNG storage tank at the existing LNG facility to enhance system reliability and

dependability. There are currently four storage tanks, which have been in operation since 1971.

The addition of one LNG tank represents a non-pipeline solution while increasing LNG storage capacity. This will help HG&E reliably meet Holyoke customers energy needs over the next 20+ years while providing necessary time for HG&E and customers alike to strategically prepare for energy transition.

The facility is located in West Holyoke at HG&E's LNG storage facility and abuts a solar farm that generates carbon-free, renewable energy. The LNG tank would be installed with no required alterations to the surrounding environment and in compliance with all applicable regulations to ensure system, environmental and public safety.

As part of the public process, HG&E will be seeking approval from the Massachusetts Energy Facilities Siting Board. It is estimated that the project will take two years to complete and construct.

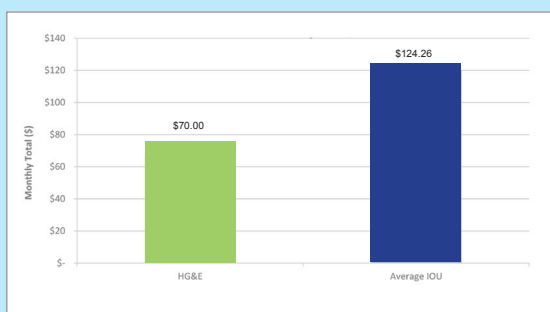
Please visit www.hged.com/LNGProject or email LNGProject@hged.com for more information.



This project fits within our long-term clean energy goals and allows for a manageable, cost-effective transition to a cleaner future. Visit HG&E's Clean Energy Dashboard for more information at www.hged.com.

Our Rates vs. Investor-Owned Utilities

2021 Residential Electric Rate Comparison
500 kWh Consumption/Month



2021 Commercial & Industrial Electric Rate Comparison
13 kW - 3,000 kWh Consumption



Commercial Energy Audit for Your Business

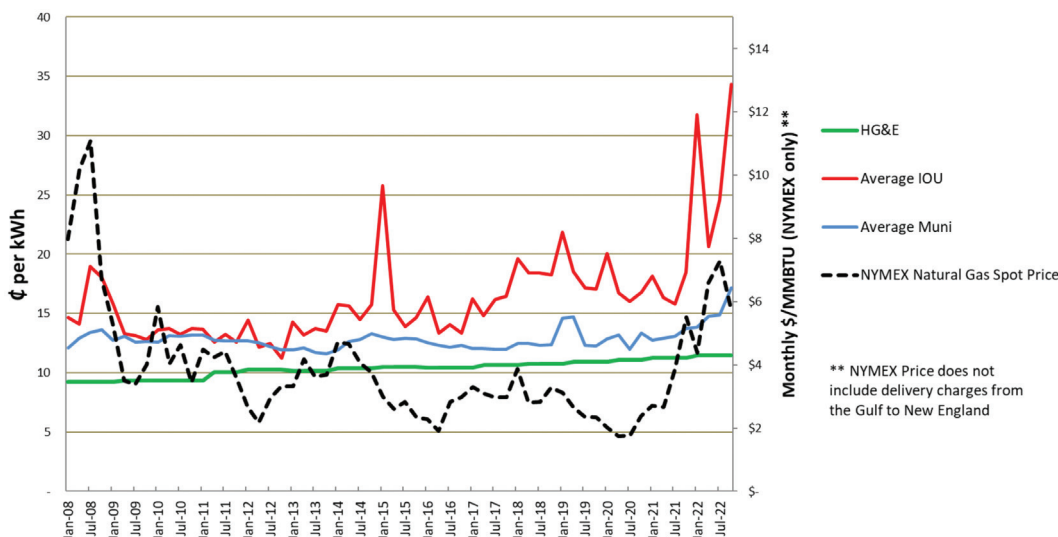


Having an energy audit completed for your commercial facility can help you gain valuable insight into the most cost-effective ways to improve your building's energy use and reduce your energy bills. The options available for energy audits vary in depth, complexity, and cost, depending on the potential at a specific site for energy and cost reductions and the objectives determined by the customer. According to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards, there are three levels of energy audits, ranging from brief on-site survey and walk-through of the building(s), to more detailed data gathering and cost and savings projections/calculations with a high level of detail.

If you are interested in a commercial energy audit, consider taking advantage of HG&E's Commercial Energy Conservation Program, which provides financial assistance at 0% interest for energy audits as well as various energy efficiency and electrification projects. Qualifying industrial customers may be eligible for a free facility audit through the UMass Industrial Assessment Center, which is supported by the U.S. Department of Energy. For more information, contact Michael Curtin by phone, (413) 536-9319, or email mcurtin@hged.com.

Stable & Reliable Energy Rates for Our Customers

Electric Rates January 2008 – October 2022 (Commercial/Industrial – 350 kw 126,000 kWh, 50% Load Factor)



As a municipal utility (not owned or operated by an Investor-Owned Utility) HG&E is vertically integrated, meaning HG&E owns power generation, the transmission lines and secures power from other sources, bringing the generation resource from HG&E directly to the customer. This allows us to stabilize our rates by strategically managing our portfolio to protect ratepayers from being exposed to volatile energy market conditions. We also have a variety of programs and assets that assure reliable service and lessen the load of other parts of our portfolio (battery storage, for instance). Collectively, these assets allow HG&E the flexibility and local control needed to serve our customers.