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Spring/Summer 2024

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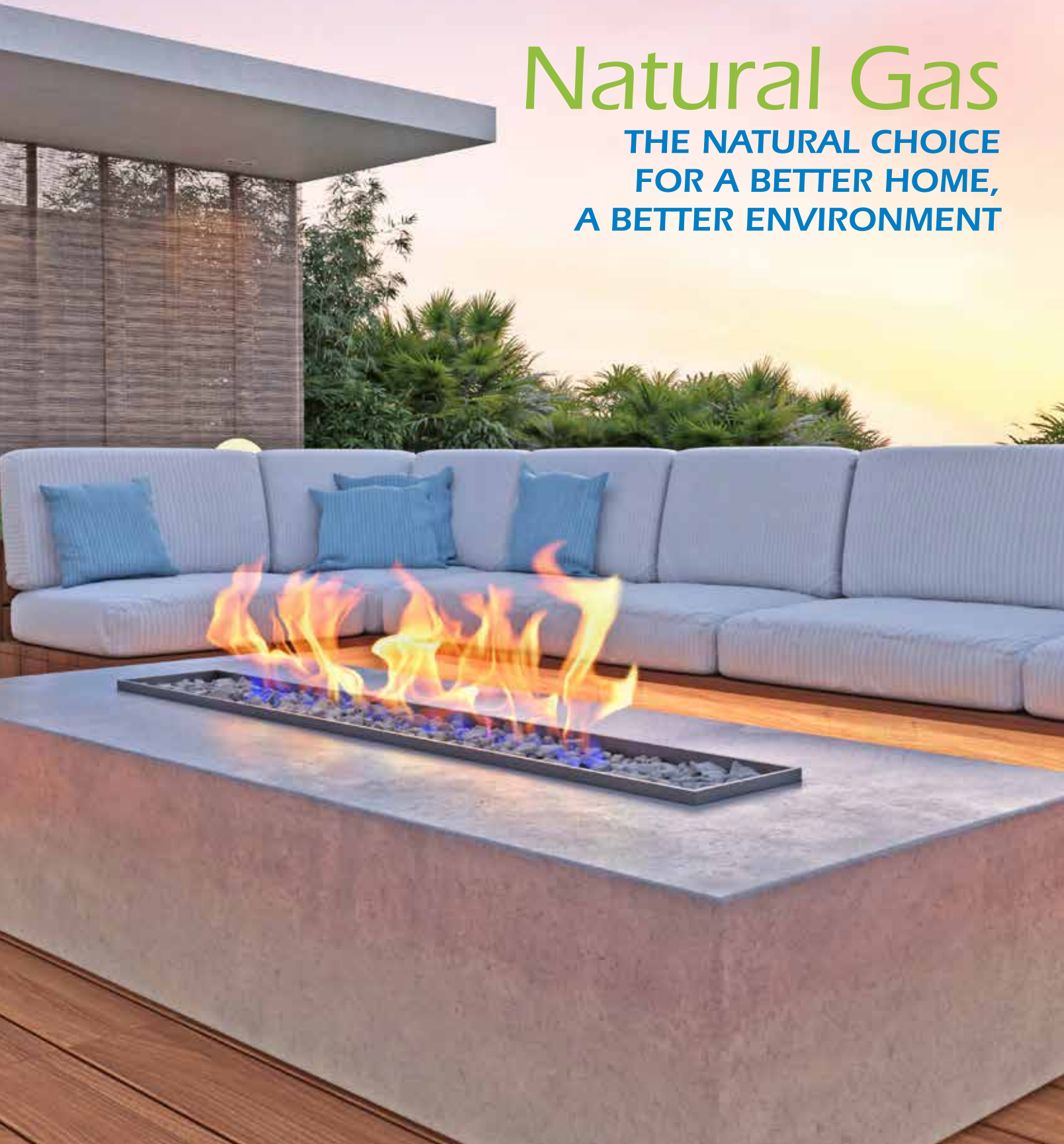

Natural Gas

THE NATURAL CHOICE FOR A BETTER HOME, A BETTER ENVIRONMENT

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FEATURE

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Welcome spring

Get your home ready for warmer weather ahead

By Tonya McMurray

With spring on the horizon, a few simple maintenance tasks can make sure your home is ready for the warmer weather.

Home improvement experts offer the following advice:

- Because winter storms can be hard on outdoor structures, it's important to check outside for damage to railings, stairs, fences, driveways or sidewalks.
- Be sure to clear any debris that may have built up on roofs or gutters. Leaves accumulated on the roof can hold moisture, which can damage roofs if left unattended.
- Replace or repair any leaky or cracked hoses or spigots, and check sprinklers and irrigation systems.
- Clean your patios and decks, using a pressure washer to remove built-up grime, mildew and dirt. Pressure washers are quicker than using a regular hose, so it reduces the amount of water used.
- Check existing outdoor lighting and replace any broken or nonworking lights. Spring is also a great time to consider adding new lighting to your patio, yard or pathways. Natural gas lighting can offer a soft glow and cozy ambiance that will enhance time spent outdoors during warmer months.
- Check your grill to make sure it's ready for summer cookouts. If you're using a gas grill, you don't have to worry about making sure the grill has fuel since natural gas is always readily available, but you will want to check connections and burners to make sure they're in good working order. You should also remove any food drippings or grease build up and clean the grill thoroughly.
- Remove dead plants, prune bushes and trees, reseed bare spots in your lawn, and plan your spring and summer gardens.

As the days grow longer and warmer, it's time to plan maintenance tasks to get your home ready for summer.

Check your grill to make sure it's ready for summer cookouts. If you're using a gas grill, you don't have to worry about making sure the grill has fuel since natural gas is always readily available, but you will want to check connections and burners to make sure they're in good working order.

- Fix damaged door and window screens to keep bugs and debris from getting inside.
- Flush tank hot water heaters. Sediment buildup in a tank can reduce heater efficiency, even if you're using a high-efficiency natural gas water heater. To get rid of any accumulated sediment, first be sure to shut off the gas or power to the tank. Cool the water by running a hot water tap on a sink faucet for a few minutes. Then close the heater's water supply valve, run a hose from the tank's drain valve to a bucket or floor drain and open the drain valve. When the flow stops, stir up the sediment by opening the supply valve briefly. Drain and repeat until only clean water comes out. Close the drain valve, open the supply valve and turn on the gas or power.
- Service your air conditioner so it's ready for the upcoming summer months.
- Finally, spring maintenance is an ideal time to check smoke detectors and replace batteries. Smoke detectors should be tested monthly, and batteries should be replaced yearly, so making it part of your spring maintenance routine ensures timely replacement. ■

PHOTO COURTESY OF GENERAC POWER SYSTEMS

Saving the day

Natural gas generators keep homeowners safe year-round

By Monica Stavish Skaggs

It's not a good feeling when the lights go out — and don't come back on. A sudden loss of power will also shut off the refrigerator and other appliances, critical medical devices and access to Wi-Fi and cellular networks. No matter what time of year, storms, power surges, fallen trees and other events often bring unexpected challenges.

For the homeowner who plans ahead and installs a standby natural gas generator, this inconvenience is easily prevented. During a power outage, a generator can provide a seamless transfer of power within 10 seconds. Permanently installed outside the home, a generator connects to the natural gas system and keeps a family safe and comfortable until the power comes back on.

Many homeowners don't consider the impact that power outages can have on their lives until they experience one.

"We're seeing an increase in power outages across the United States," said Randy Sandlin, senior vice president, global product management and industrial design, Generac Power Systems. "With power grid infrastructure rapidly aging and climate change leading to an increased number of severe weather events, power outages are becoming more regular and lengthier than ever."

The concerning trend, Sandlin said, makes backup power less of a luxury and more of a necessity — especially in a world where we rely on electricity for nearly every facet of our lives. For home-based businesses, maintaining power is crucial. In more extreme situations, a generator's power can protect the lives of children and the elderly and can be vital to those who rely on medical devices such as oxygen equipment to breathe.

SAVING THE DAY

Generators switch on automatically during a power outage by using a transfer switch wired into a home's electrical system. With a natural gas generator, homeowners don't have to fuel and start a portable generator or run electrical cords from the generator into the home.

Natural gas generators produced by Generac and other suppliers have literally saved the day.

"Time and time again, Generac generators have proven to be a lifesaver during major outage events such as hurricanes, deep freezes or heat waves," Sandlin said. "In fact, just last summer, homeowners in Texas volunteered to deploy their Generac generators during a heat wave, reducing strain on the grid by up to 1 million watts [MW], enough energy to power 400 to 900 homes, and helping to avoid a potentially catastrophic power outage event."

"We're seeing an increase in power outages across the United States. With power grid infrastructure rapidly aging and climate change leading to an increased number of severe weather events, power outages are becoming more regular and lengthier than ever."

— Randy Sandlin, senior vice president, global product management and industrial design, Generac Power Systems

In terms of cost, generators can be sized and equipped to handle specific loads including heating, air conditioning, kitchen appliances or an entire home. Each situation is different, and homeowners should consider their budget, use and criticality of specific systems or appliances.

"As a baseline, a typical 22- or 24-kilowatt HSB [home standby] air-cooled generator runs about $12,000 for a turnkey install," said Keith Wasula, director of sales — power and utility, Generac.

With a Generac generator, maintenance by a certified Generac dealer is required every two years or 200 hours of use and includes an inspection and oil and filter change. Cost varies depending on region and dealer but is typically in the $250 to $350 range.

When deciding what kind of home standby generator is right, homeowners should consider the size of the home, amount of energy consumption and the number of electrical loads they want to keep powered during an outage. Generac offers a generator sizing tool that can help customers select the right type and size of generator.

Many utility companies offer financial incentives to home standby generator owners through Virtual Power Plant programs, where utilities can turn on participating generators during moments of high demand for power and help protect the grid from blackouts. To learn more, contact your utility to determine if it offers such a program in your area.

Being proactive by installing a natural gas generator is a good line of defense that can save thousands of dollars by preventing burst or frozen pipes, food loss, flooded basements and other power outage-related catastrophes.■

PHOTO COURTESY OF GENERAC POWER SYSTEMS

Stepping out

Tips for creating an inviting outdoor room on a budget

By Tonya McMurray

As days grow longer and warmer, many homeowners look for ways to enhance their outdoor living space. Nearly two-thirds of homeowners say their home's outdoor spaces are very important to them, according to a survey conducted by the New Home Trends Institute and Pro Builder.

Even homeowners on a budget can create an inviting and attractive outdoor room. Regardless of the budget, homeowners should first define how the space will be used.

"Is it a sanctuary to escape to, a place for large dinners with family and friends, a place for watching sports — or maybe all three?" said Patrick Jardini, president of American Gas Works. "The intentions should dictate the design and amenities needed. Maybe you want to visit a few of your favorite places with outdoor spaces. Restaurants and hotels spend lots of time and money designing spaces that attract people and serve a purpose. You can use their designs to help create your own."

He recommends that homeowners start with a plan that matches their ideal space and then begin looking at pricing options and find creative ways to achieve their desired look. However, he also cautions that it is important to research products to make sure you're getting good quality as well as a good price.

"There are a lot of products out there, so look into the brands and their reviews to determine if what you're seeing is a good deal," he said. "Don't save a penny to spend a dollar."

The key features for outdoor rooms typically include seating, some type of cooking space, heaters or fire features and lighting. All of those can be simple or elaborate, depending on taste and budget.

A few pillows on benches and some well-placed plants can create a relaxed seating area. More elaborate designs can include walls, gazebos or water features.

The Hearth, Patio and Barbecue Association notes that adding a chimenea, outdoor fire table or fireplace to an outdoor room can bring both comfort and an inviting atmosphere. Fire pits are a budget-friendly option for adding a fire feature to the outdoor space.

"Ultimately, the goal of an outdoor space is comfort," Jardini said. "These spaces are designed to help everyone gather and enjoy each other. The actual ambient temperature impacts your comfort level as well. Entertaining into the night can see drastic shifts in heat, so you can better enjoy the evening with outdoor heaters or fire features. For the most power and efficiency, natural gas is the obvious choice for these items."

Natural gas is also the best option for outdoor grills and ovens, providing a heating source that heats up quickly and offers even and precise temperature control. Natural gas is also a clean-burning fuel that produces less smoke and residue than charcoal or wood fires.

An outdoor kitchen area can be as simple as a budget-friendly gas

grill or more elaborate with mini-fridges, storage areas and entertainment systems.

Lighting is also crucial for outdoor rooms, making the space usable well into the night and establishing a cozy atmosphere. Jardini said the temperature and color of the lighting is important. He recommends keeping lighting sources between 2500 and 3000 kelvin color temperature to provide the warm, soft light that is most comfortable.

"Entertaining into the night can see drastic shifts in heat, so you can better enjoy the evening with outdoor heaters or fire features. For the most power and efficiency, natural gas is the obvious choice for these items."

— Patrick Jardini, president, American Gas Works

"Make sure the lighting you choose covers all areas and varies in purpose," Jardini said. "Think of lighting in three categories: task, ambient and accent. Task lighting allows for enough light to cook, move and work. Ambient fills in the gaps of task lighting and is usually softer and more comfortable. Accent lights can add drama to a room with under-cabinet lighting or up lights."

If the budget allows, you can finish out the outdoor room with televisions, stereos and other entertainment features. ■

PHOTO COURTESY OF AMERICAN GAS LAMP WORKS

Lighting and fire features help provide ambiance and functionality for outdoor spaces.

FLEXIBLE DELIVERY: CSST AND CONVENIENCE OUTLETS OFFER SAFE OUTDOOR ACCESS TO NATURAL GAS

By Monica Stavish Skaggs

Convenience outlets and corrugated stainless-steel tubing (CSST), go hand-in-hand.

They are a natural pairing when it comes to connecting outdoor gas grills, patio heaters and other appliances to a natural gas supply.

Convenience outlets easily connect to CSST to provide a plug similar to an electric outlet, eliminating the need for many homeowners to hire a professional to connect new gas appliances.

CSST is a flexible, stainless-steel pipe covered in yellow or black plastic coating, used to supply natural gas in residential, commercial and industrial structures. Installation is quick and easy because it can be routed through, under or along floor joists in walls or over ceiling joists in attics. While CSST costs more than traditional pipe, installation and labor costs are lower.

CSST is becoming a standard for natural gas delivery in homes across the United States. The piping was developed in Japan in the 1980s to help reduce the risk of leaking gas and possible fires following earthquakes. Its flexibility is an advantage over black iron pipe, which is more rigid. U.S. contractors began using CSST in the 1990s.

"The benefits are obvious, as you can run great distances and many directions without joints in the piping system," said Hoss Budde, president, Burnaby Manufacturing Ltd. "All appliances can be hooked up to CSST systems. When you make the choice to use it over copper or steel, there are no restrictions on the appliances that can be hooked up to it."

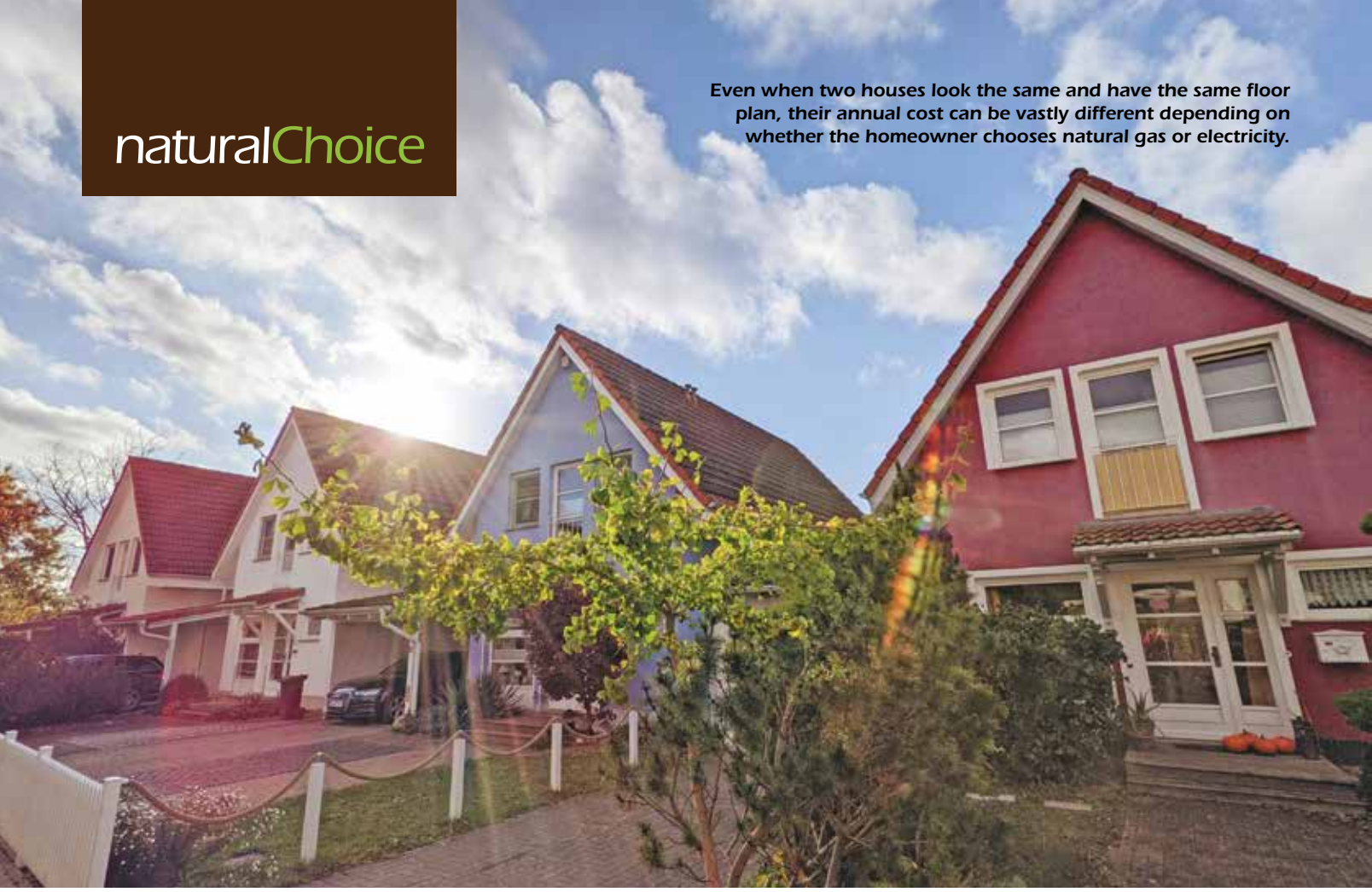
Gas convenience outlets are used most commonly in residential and commercial environments where rearranging appliances may be necessary. An outlet will commonly be used with appliances such as gas grills, fire pits, or patio heaters. The outlet also allows quick disconnect so that the user can 'unplug' the outdoor appliance and move it or store it for the winter. Convenience outlets connect to appliances by using a flexible hose up to 10 feet long so that homeowners can move appliances around the patio or yard. Double outlets are also available so homeowners can plug in two devices at the same time, adding more convenience and flexibility.

Corrugated stainless-steel tubing (CSST), like above, is becoming a standard for natural gas delivery in homes across the country.

Convenience outlets are a combination of a manual valve that is interlocked with a quick disconnect coupling. They are also equipped with several safety features. They automatically shut off if the temperature reaches 300 degrees, and most require that the manual valve be shut off before the appliance is connected or disconnected. For safety purposes, when connecting to CSST, homeowners should ensure the CSST lines are both bonded and grounded. Building codes require CSST to be bonded to prevent electric shock and grounded to prevent damage or fire from an electrical surge.

"When using CSST as a piping system with convenience outlets, you will get the safest gas system on the market today, with the added benefit of having a proper termination, versus rough piping," Budde said. "Also, there are suppliers of CSST piping that have approval for direct burial in the ground, which can be very useful."

Burnaby has produced products for the natural gas and propane industry since 1992. Their products include a line of approved outlets and emergency gas shut offs designed for both indoor and outdoor installations. The company's line of gas outlet boxes eliminates the need for portable tanks for patio appliances. ■



Even when two houses look the same and have the same floor plan, their annual cost can be vastly different depending on whether the homeowner chooses natural gas or electricity.

PHOTO BY PAUL KAPISCHKA ON UNSPLASH

A tale of two houses

Natural gas proves more efficient and economical fuel source

By Tonya McMurray

Two homes in the same neighborhood with the same square footage and number of people can have vastly different energy bills depending on the energy source chosen by the homeowners.

The U.S. Department of Energy (DOE) estimates that natural gas is 3.4 times more affordable than electricity and other residential fuels. And that affordability has saved families $147 billion over 10 years, according to the American Gas Association (AGA).

Even as electrical appliances become more energy efficient, natural gas remains the best choice to lower both energy bills and greenhouse gas emissions. A 2023 AGA report — Comparison of Home Appliance Energy Use, Operating Costs, and Carbon Dioxide Emissions — shows that a typical new home using natural gas has energy costs that are 49% lower than a comparable all-electric home. Natural gas energy costs are also 53% lower than oil and 46% lower than propane, according to the study.

The AGA report evaluated energy costs and emissions for common home appliances with different appliance configurations, fuel types and efficiency levels. The analysis also used a full-fuel-cycle approach that accounts for energy that is used or lost during the generation and transmission of electricity, which provides a more comprehensive view of efficiency and emissions for consumer appliances.

In the study, a one-story, single-family home with 2,072 square feet of heated space with appliances rated at the minimum DOE efficiency requirements would have an energy bill of $1,068 a year using natural gas for space and water heating, cooking and clothes drying. If that home had high-efficiency gas appliances, the energy bill would drop to $899 a year. The same home using all electric appliances with appliances rated at the DOE's minimum efficiency ratings had an estimated annual energy bill of $2,090. If the all-electric home used a more energy-efficient cold-climate heat pump, the energy cost dropped to $1,458.

A SIDE-BY-SIDE COMPARISON

Homeowners who want to see the difference in the energy cost of

The U.S. Department of Energy estimates that natural gas is 3.4 times more affordable than electricity and other residential fuels. And that affordability has saved families $147 billion over 10 years, according to the American Gas Association.

natural gas and electricity for their own homes can use the Residential Energy Calculator (https://esc.energydepot.com/user-information/home). The tool allows homeowners to enter the size of their home, the number of occupants, number of loads of clothes dried each week and other information to compare the cost and energy efficiency of natural gas to other fuel sources.

For a 2,000-square-foot home for a family of four drying an average of six loads of laundry each week, cooking meals on a stovetop and oven and using a high-efficiency furnace and standard tank water heater, using gas instead of electricity would save an estimated $1,614.44.

Most of that savings comes from space heating, with natural gas estimated to cost $502 for the year compared to $ $1,540 for electric heat. The annual cost for water heating with natural gas is estimated to be $245 compared to $696 for electric water heating. Cooking with natural gas will save $57 a year while a natural gas clothes dryer results in an annual savings of $69 compared to an electric clothes dryer.

The Residential Energy Calculator also allows homeowners to enter appliance and installation costs and any local rebates to determine how quickly costs would be recovered for a switch from electric to gas appliances.

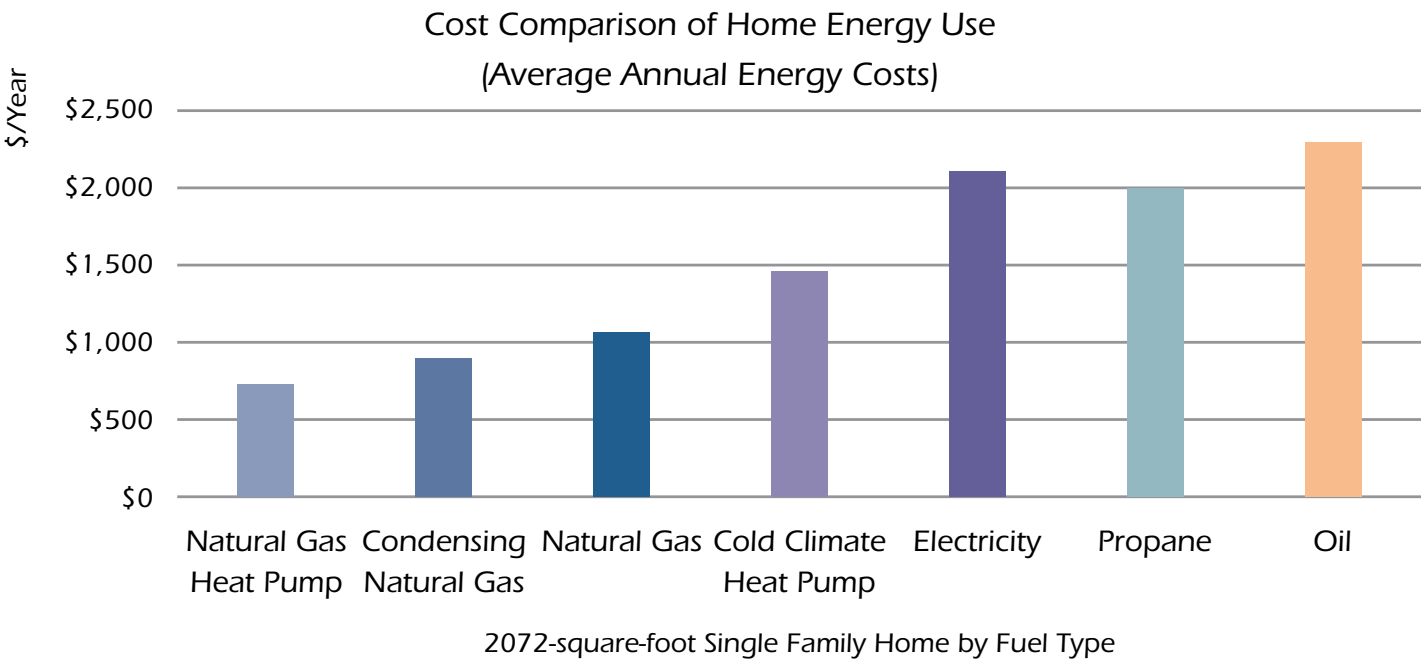
ENVIRONMENTALLY FRIENDLY

Using natural gas instead of electricity also reduces greenhouse gas emissions equivalent to removing 6.9 cars from the highway or planting 8.6 acres of trees. The calculator shows annual carbon dioxide emissions of about 10,306 pounds for natural gas compared to about 30,863 for electricity.

Natural gas is the cleanest burning fossil fuel, resulting in lower greenhouse gas emissions than homes using electricity, oil or propane. The AGA report notes that homes using natural gas have carbon emissions 21% lower than those using electricity, 27% lower than those with oil and 16% lower than homes fueled by propane.

Natural gas is also a more efficient choice because less energy is lost in generation and distribution, according to the AGA. In the process of transporting natural gas from the wellhead to the consumer's meter, less than 10% of the energy is lost. By comparison, producing and transmitting electricity from the power plant to the consumer home results in the loss of almost 63% of the energy produced.

Because of its low cost and efficiency, natural gas benefits both the environment and the consumer's pocketbook. ■



SOURCE: COMPARISON OF HOME APPLIANCE ENERGY USE, OPERATING COSTS, AND CARBON DIOXIDE EMISSIONS


H2
HYDROGEN

The right combination

Using a hydrogen-natural gas blend to reduce carbon emissions

By Drew Robb

Emissions from natural gas are far lower than those from coal. But that doesn't mean they can't be further reduced. The natural gas industry is working on just that by pursuing several avenues.

One solution gaining momentum is blending natural gas with hydrogen. Several gas companies in North America are already doing this successfully. One example dates to 2016. A partnership between Southern California Gas Co., the University of California, Irvine (UCI) and Proton OnSite is using hydrogen produced from excess renewable electricity that would otherwise go to waste.

"One of the big challenges in adding wind and solar to the grid is what to do with excess electricity," said Jack Brouwer, director of the Clean Energy Institute at UCI. "We've shown you need not halt renewable power generation when demand is low. Instead, the excess electricity can be used to make hydrogen that can be easily integrated into existing natural gas pipeline infrastructure."

Proton OnSite provided an electrolyzer, which takes in water and uses electricity to power an electrochemical reaction that splits it into hydrogen and oxygen. The latter is released into the atmosphere, and the hydrogen is added to UCI's natural gas pipeline. Hydrogen mixed with natural gas is used to generate electricity and heat for the campus. After this successful pilot, SoCalGas is building a larger-scale hydrogen-blending station on the UCI campus that is slated to open in 2024.

BLENDING HYDROGEN IN PIPELINES

The United States is crisscrossed by hundreds of thousands of miles of pipelines. Adding a small amount of hydrogen and blending it with natural gas significantly impacts the carbon footprint of the gas delivered to homes and businesses.

How much hydrogen? A series of projects across North America are determining the exact amount that can be safely blended.

As hydrogen is a smaller molecule than natural gas, the pipeline network could not be switched completely to hydrogen as the joints, valves and even the pipes themselves would have to be replaced to prevent hydrogen from escaping. However, small amounts can be combined with natural gas without causing problems. Some experts say 5% hydrogen by volume, some 10% and a few are experimenting with as much as 15%. Customers receiving this hydrogen-natural gas blend continue to receive safe, reliable service using existing appliances and continue to pay normal natural gas rates.

CenterPoint Energy Inc. is among the natural gas utilities taking the lead in hydrogen blending with a project near downtown Minneapolis, Minnesota.

"The goals of the project are to reduce the carbon content of our delivered energy and study the effects on the distribution system of various low levels of hydrogen injection," said Andrew Rockwell, an engineering manager at CenterPoint Energy.

The project's one-megawatt electrolyzer can produce up to 432 ki-

PHOTO COURTESY OF CENTERPOINT ENERGY INC.

CenterPoint Energy Inc. is one natural gas utility taking the lead in hydrogen-natural gas blending.

lograms of hydrogen gas per day, using about two gallons of water per minute. The water is sourced from the municipal water supply and purified before it enters the hydrogen production system. Hydrogen is added in concentrations of up to 5% in a low-pressure section of CenterPoint Energy's local distribution pipeline system. It avoids about 1,200 tons of CO2 emissions per year.

Similarly, Xcel Energy Inc.'s hydrogen-natural gas blending demonstration project at the Heartland Hydrogen Hub aims to use hydrogen at commercial scale in Minnesota, Wisconsin, South Dakota, North Dakota and Montana.

The company plans to use its nuclear, solar and wind resources in the Upper Midwest to produce hydrogen to blend into power generation, existing natural gas distribution systems and other agricultural and industrial applications. The hub will reduce carbon emissions by more than one million metric tons per year, the equivalent of taking 220,000 gasoline-powered cars off the road.

MORE GAS UTILITIES GET INVOLVED

While hydrogen is new in many communities, more and more natural gas utilities are getting involved. Hawai'i Gas has been safely providing hydrogen-blended natural gas to customers for decades. Enbridge Inc. supplies hydrogen-blended natural gas to 3,600 customers in Markham, near Toronto, Ontario. An Enbridge subsidiary, Gazifère, is adding hydrogen into its natural gas network for customers in Quebec, and ATCO Gas and Pipelines Ltd. serves hydrogen-blended natural gas to 2,100 customers in Alberta, Canada.

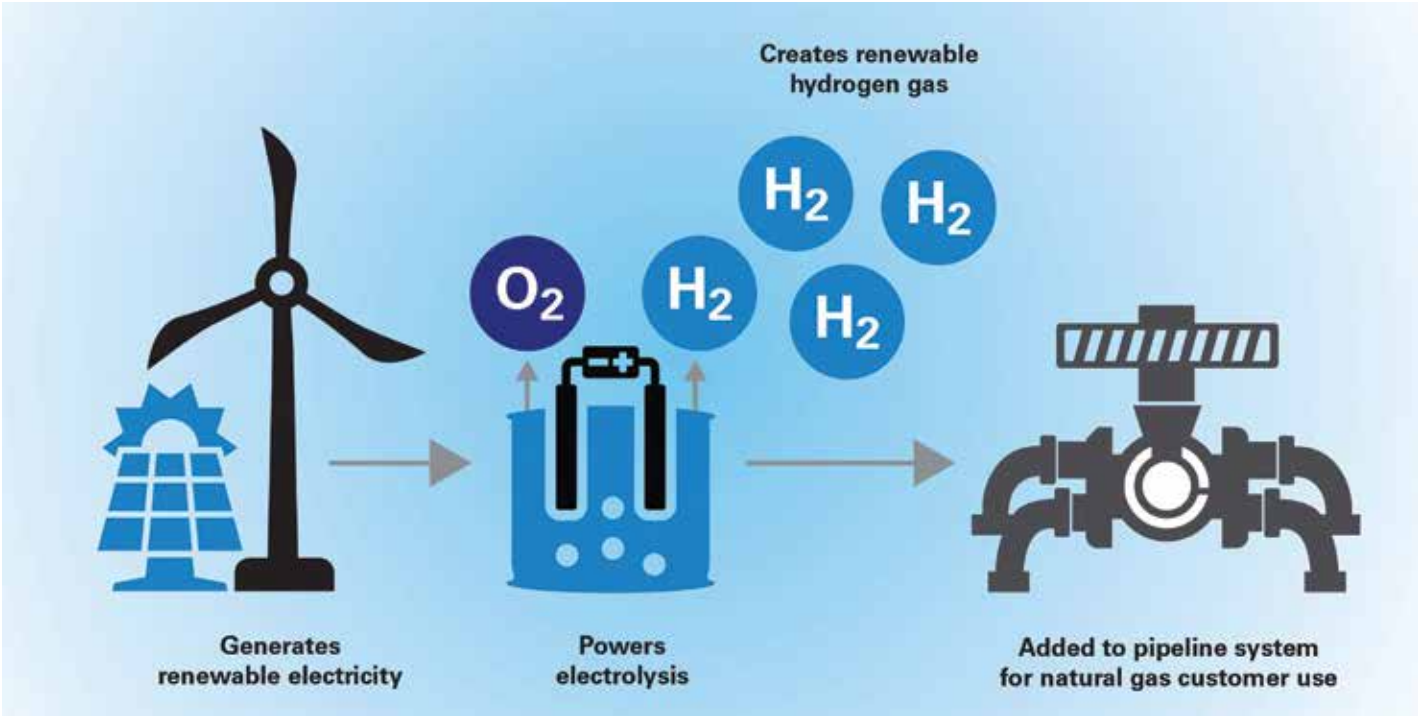
"The goals of the project are to reduce the carbon content of our delivered energy and study the effects on the distribution system of various low levels of hydrogen injection."

— Andrew Rockwell, engineering manager, CenterPoint Energy Inc.

New Jersey Resources Corp., (NJR), too, operates a hydrogen-natural gas blended system in Howell, New Jersey, that powers homes and businesses. At the heart of the project is a 175-kilowatt electrolyzer produced by Norwegian hydrogen equipment manufacturer Nel ASA. The unit produces 65 kilograms per day of hydrogen, which NJR injects into a gas distribution line. NJR currently uses electricity from wind resources to power the electrolyzer.

The company has begun more conservatively than other projects. Its initial blend is less than 1% hydrogen. But the area is one of high potential. Some 75% of New Jersey residents consume natural gas in their homes through connections to 35,000 miles of distribution infrastructure, according to NJR. New Jersey Natural Gas has already invested $2.3 billion over the past decade to upgrade its infrastructure. Most of its pipeline system now consists of plastic or protected steel pipe. This positions the utility to begin flowing larger amounts of hydrogen, which might otherwise compromise some steel piping grades. ■

SOURCE: CENTERPOINT ENERGY INC.



GOT HYDROGEN? IT COMES IN MANY COLORS By Drew Robb

The supply of hydrogen varies depending on how it is produced. A system of colors has been devised to highlight its origin.

"There is a rainbow of colors beginning with green hydrogen, which is produced without any greenhouse gas emissions," said Rainer Kurz, manager of gas compression engineering at Solar Turbines Inc. "It is made by using electricity from renewable sources, like solar or wind power, to electrolyze water."

Green hydrogen is made by feeding renewable energy into electrolyzers, which use an electrochemical reaction to split water into its components, hydrogen and oxygen. Green hydrogen is the type of hydrogen most favored by utilities. However, there currently aren't many electrolyzers in existence and most of them are too small to produce hydrogen in the quantities needed for large-scale use. It will take years for this infrastructure to build out. Hence, other types of hydrogen must be used to make up the shortfall.

Blue hydrogen is produced by a process known as steam reforming, where natural gas and steam react to form hydrogen with CO2 as a byproduct. For hydrogen to be designed as blue, the CO2 must be captured and not expelled into the atmosphere. Gray hydrogen is the same as blue hydrogen except the carbon is not captured.

Black and brown hydrogen are both generated by partial oxidation and gasification of coal. Traditional black coal produces black hydrogen. Lignite (known as brown coal) results in brown hydrogen.

"Black and brown hydrogen are the types that create the largest amount of environmentally damaging byproducts," Kurz said.

Red hydrogen — sometimes known as pink or purple hydrogen — is generated by electricity sourced from nuclear energy. It uses a similar electrolysis process as that used by green hydrogen. The byproduct of red hydrogen is nuclear waste.

Yellow hydrogen also uses electrolysis derived directly from solar energy. Instead of generating electricity, the energy from solar panels is fed directly into the electrolyzers.

There are a couple of other unusual forms of hydrogen:

- White hydrogen is naturally occurring geological hydrogen, which is a rare commodity. Capturing it entails drilling and fracturing the bedrock; there is currently no large-scale exploitation of this source.
- Turquoise hydrogen is made from methane with the byproduct of solid carbon. This one is largely in the experimental stage.

GREEN IS IN SHORT SUPPLY

There is only a tiny amount of green hydrogen currently produced in North America. But various utilities aim to change that. Duke Energy Corp. has announced a demonstration project in DeBary, Florida, which will create a system capable of producing, storing and combusting 100% green hydrogen. The hydrogen system is being developed in collaboration between Duke Energy, Sargent and Lundy LLC and GE Vernova.

This existing 74.5-megawatt (MW) DeBary solar plant in Volusia County, Florida, will be used to feed two 1-MW electrolyzer units to split water molecules into oxygen and hydrogen atoms. Oxygen will be vented into the atmosphere and green hydrogen will be captured, delivered and housed in local reinforced containers for safe storage.

"DeBary will be home to Duke Energy's first green hydrogen production and storage system connected to existing solar for power generation," said Melissa Seixas, Duke Energy Florida's state president. "At times of peak energy demand, the system will deliver the green hydrogen to a combustion turbine modified with GE technology and capable of operating on a natural gas-hydrogen blend."

Construction of the DeBary plant project will begin later this year. Duke Energy expects the system to be installed and fully operational in 2024. ■

BAKED ZITI

INGREDIENTS

2 tbsp. olive oil
1 whole large onion, diced
3 cloves garlic, minced
1 lb. Italian sausage
1 lb. ground beef
28 oz. can whole tomatoes, with juice
2 14.5 oz. cans tomato sauce or marinara sauce
2 tsp. Italian seasoning
1/2 tsp. red pepper flakes
Kosher salt, to taste
Ground pepper, to taste
16 oz. ziti or mostaccioli, cooked until not quite al dente
15 oz. tub whole milk ricotta cheese
1 1/2 lb. mozzarella cheese, grated and divided
1/2 c. grated parmesan cheese
1 whole egg
Fresh minced parsley

DIRECTIONS

1. Preheat oven to 375°.
2. Heat the olive oil in a pot over medium heat. Add the onion and garlic and sauté for several minutes, or until starting to soften. Add the Italian sausage and ground beef and cook until browned. Drain off fat, leaving a bit behind for flavor and moisture.
3. Add the tomatoes, tomato juice, salt, pepper, Italian seasoning and red pepper flakes. Stir and simmer for 25 to 30 minutes. After that time, remove 3 to 4 cups of the sauce to a different bowl to cool down.
4. Mix the ricotta cheese, 2 cups of the grated mozzarella, parmesan, egg, salt, and pepper in a separate bowl. Stir together just a couple of times (do not mix completely).

5. Drain the pasta and rinse under cool water to stop the cooking and cool it down. Pour it into the bowl with the cheese mixture and toss to slightly combine (there should still be large lumps.) Add the cooled meat sauce and toss to combine.
6. Add half of the coated pasta to a large casserole dish. Spoon half of the remaining sauce over the top, then top with half of the remaining mozzarella cheese. Repeat with another layer of the coated pasta, the sauce, and the mozzarella. Bake for 20 minutes, or until bubbling. Remove from oven and let stand 5 minutes before serving. (Sprinkle chopped parsley over the pasta before serving)!

SOURCE: THEPIONEERWOMAN.COM

OVEN-ROASTED ASPARAGUS

INGREDIENTS

1 bunch asparagus
4 tbsp. (up to 5 tbsp.) olive oil
Kosher salt, to taste
Freshly ground black pepper, to taste

DIRECTIONS

1. Preheat oven to 425°.
1. After you wash the asparagus thoroughly, stack a bunch together and lop off the tough/thick bottom an inch or so.
1. Spread out the asparagus in a single layer on a rimmed baking sheet. Pat it as dry as you can, as you don't want any water to "steam" the asparagus in the oven.
1. Begin by generously drizzling olive oil all over the asparagus and then sprinkle the asparagus generously with kosher salt and freshly ground black pepper.
1. Roast the asparagus for about 10 minutes. The secret here is for the oven to be very hot so the asparagus can begin to brown on the outside without overcooking and getting too flimsy. You want the finished asparagus to still have a bite to it. Enjoy!

SOURCE: THEPIONEERWOMAN.COM