

Technology Developments Come to Fruition for the Propane Industry

The propane industry is gaining significant ground on the technology front.

In an industry that is largely recognized as down-to-earth and traditional, favoring human-to-human interactions, there has been no shortage of innovation and cuttingedge technology developments.

With a growing number of people looking to alternative fuels to lower greenhouse gas emissions, propane offers a much-needed solution to myriad industries worldwide.

From propane-powered shipping vessels and space rockets to the importance of cybersecurity for small retailers, the world of LPG is bustling with innovation.

Propane as a Marine Fuel

One such innovation is the usage of propane as a fuel for maritime.

According to Nikos Xydas, technical director of the World LPG Association, propane offers environmental benefits to the marine sector by meeting IMO 2020, a rule from the International Maritime Organization requiring that from Jan. 1, 2020, the sector's greenhouse gas emissions in international waters must be cut down significantly. To meet those goals, the marine sector will have to reduce sulfur emissions by more than 80 percent, to which propane offers a solution.

Xydas says propane meets all current global emissions standards when used as a marine fuel. Propane also requires a lower initial investment and simpler handling onboard when compared to liquefied natural gas (LNG).

The infrastructure required to convert marine vehicles and



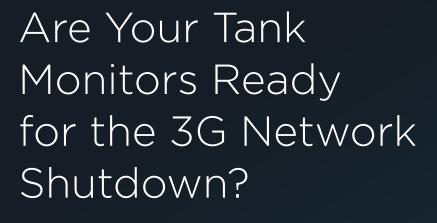
Propane meets all current global emissions standards when used as a marine fuel, according to the World LPG Association's Nikos Xydas. Photo: bfk92/E+/Getty Images

carriers to propane already exists, Xydas says. It is also a drop-in fuel, meaning it can replace LNG on existing ships without changing engines or other parts. Furthermore, renewable propane, also known as bioLPG, can be used in maritime to lower greenhouse gas emissions even more sharply.

Propane is not solely for large carriers in the marine sector. The alternative fuel can also be used in small, personal boats designed for leisure, outboard engines, lifeboats, small ships and short sea shipping boats, as well as tugboats and harbor and work vessels.

Propane-powered vessels are already making headway in the market. For example, BW LPG, a Singapore-based company that owns and operates 46 very large gas carriers (VLGC), unveiled the BW Gemini. The BW Gemini not only transports propane but is the world's first VLGC to be retrofitted with a dual-fuel propane propulsion engine, the company says. In addition, BW LPG is retrofitting the BW Leo to feature the engine.

continued on page 13 >



In 2021 hundreds of thousands of tank monitors will stop working due to the start of a nationwide shut down of the 3G Network.

At Otodata we plan for the future. Our monitors won't be affected by the 3G Network Shutdown.

Don't wait. Upgrade to Otodata tank monitors today and save instantly on your bottom line by switching to a system built to last.

Call and ask about our No Commitment, No Money Down, **3G Monitor Upgrade Plan**











President's Message



Happy New Year! I hope you, your staff, and loved ones are healthy and safe. Thank you to Taft Yeatts, Kevin Lloyd, Brian Atwood, Elizabeth McCormick, John Phillips, Tim Spicer, Taylor Sutton and Meghan Kulinski for handling the PAC

donations and continuing to build on our relationships with senators and delegates. We truly appreciate your efforts!

The Greek poet Archilochus said, "We don't rise to the level of our expectations; we fall to the level of our training." It is easy to have expectations. It is easy to expect that propane will be part of the energy solution to cut climate pollution because it's clean, economical, and domestic. It is easy to expect all of the renewable initiatives and electric vehicle efforts to fail because "the grid can't handle it." One thing I have learned in my experience in this role is that we cannot bring facts to a conversation with people who do not care about facts. The climate crisis movement is emotional. Just watch Hulu's documentary on Greta Thunberg or look up the Sunrise Movement.

I was reminded of this recently in a discussion with the VA DEQ, John Phillips, Elizabeth McCormick, and Zach Eisenman about the VW settlement fund. John pointed out that the intent of this fund was to reduce NOx emissions. The DEQ Deputy Director told us the Governor was clear in his directive on the allocation of the money. The priority was electric. The directive was not "let's look at all the facts including the lifecycle emissions caused by power generation and select the safest, cleanest, most economical solution."

I am not sure exactly what the strategy should be, but I do know we need more engagement. It may not feel urgent to you because you don't supply school buses or have jurisdictional systems, but I'm asking you to be alarmed. A Colorado Energy Office study, as part of the Governor's Greenhouse Gas Pollution Reduction Roadmap, found that electrification in Colorado provides substantial opportunities to reduce GHG emissions, concluding that switching from propane to electrified end-uses is cost effective, and recommended the state consider prioritizing efforts that can help transition customers from propane to electrification.

I urge you to get engaged and come "train" with us. Join a committee and actively participate. You may not agree, but I feel the sustainability of this industry depends on it. If we sit back with our feet kicked up on the desk, we will fall to the level of our expectations. Nicole Sullivan



IndustryNews

Gardner Marsh Gas Equipment Company, Inc. (Raleigh, NC/Florence, SC) and Propane Trucks & Tanks (Apex, NC) announces the retirement of Dale Gardner. Dale had been with GM for 50 years, 33 as owner, and bought PT & T in 1992. Upon his retirement, he sold his businesses. His daughters, Angi Harris and Laura Kedzierzawski have purchased Gardner Marsh. Angi, who has been with the company for 27 years, has been named CEO, and Laura, who has been with GM for 22 years, will be the CFO. Paul Harris (Dale's sonin-law) and Laura Gardner have purchased Propane Trucks & Tanks. Paul has been with PT & T for 27 years and will continue managing day to day operations as CEO and Laura will serve as CFO.

Ray Murray Inc. (RMI) is pleased to announce that effective January 7, 2021, Mike Hopsicker has acquired 100% ownership of RMI. The partnership between Hopsicker and the Murray family started in 2005 when they began working together on a planned transition of ownership. Prior to RMI, Mike





was CEO of Agway Inc., and spent 8 years as the CEO of Agway Energy Products, one of the largest retail marketers of propane and fuel oil in the U.S.

Mike has named two new Vice Presidents named to the leadership team at RMI. Casey Harvey has been promoted to Vice

President of Sales, and Scott Porter has assumed the role of Vice President of Operations on RMI.

COVID and **Propane**

Do you have any stories or photos of how propane is helping through the COVID-19 pandemic? (For example, how propane is heating testing tents, bars, and restaurants, etc.) We'd like to know! Please send your news to Zach Eisenman, Executive Director, at zach@eameetings. **com**. Your news may be published in future newsletters.

2021 Dues MemberClicks

It's almost time for dues renewals. VAPGA's 2021 membership dues will be sent out electronically this month. We will be using our new membership software, MemberClicks, to send and process dues. An invoice for dues will be emailed to each company and can be paid either online with a credit card or by check mailed to our office.

Look for more information soon on how to set up your MemberClick's member profile and how to navigate the member side of the website.

UpcomingEvents

SPRING MEETING

April 25-27, 2021 **Kingsmill Resort** Williamsburg, VA



SUMMER MEETING

July 11-14, 2021 **Marriott Resort Virginia Beach** Oceanfront, Virginia Beach, VA



FALL MEETING

October 10-12, 2021 **The Virginian Hotel** Lynchburg, VA



NPGAUpdate

Major Year-End COVID-19 Relief and Appropriations Legislation Approved

Congress passed H.R. 133 on December 21, 2020, an omnibus package, which includes COVID-19 relief and FY2020 appropriations legislation. This bill contains several significant wins for the propane industry, including appropriations funding for research and development projects through the Department of Energy, an extension of the alternative fuel tax credits, COVID-19 relief for small businesses, and other broad energy provisions.

National Propane Gas Association (NPGA) President and CEO Stephen Kaminski applauded the work of Congress on passing critical year-end legislation that supports small businesses and energy consumers across the country.

"The propane industry is a clear winner in Congress' yearend legislation," Kaminski said. "NPGA worked tirelessly with its member companies and allies in Washington, DC to secure the inclusion of several policy priorities in the final legislative package of the 116th Congress."

Highlights

Appropriations funding opportunities through the Department of Energy

- dimethyl ether (DME)
- ✓ Within available funds (WAF) for micro combined heat and power (CHP) combined with other renewables
- ✓ WAF for CHP micro-grids



One-year extension of the alternative fuel credits

- Alternative Fuel Tax Credit
- ✓ Alternative Fuel Refueling Infrastructure Credit

COVID-19 Relief

- ✓ Tax fix allowing the deductibility of business expenses related to PPP loans
- ✓ Emergency Rental Assistance Program including funds to be used to cover utilities and home energy costs and arrearages

Energy Provisions

- ✓ Commitment to phase out use of Hydrofluorocarbons
- ✓ Successfully lobbied against misguided building codes language that would have impacted housing affordability and favor electrification

NPGA engaged Congress throughout the year to build on the success of last year's appropriations efforts. In February, NPGA conducted its first-ever appropriations-based flyin to garner support for funding opportunities through the Department of Energy for vehicle engine technology including DME, micro-CHP combined with renewables, and CHP microgrids. House and Senate Energy and Water Appropriations Subcommittees included these provisions in their annual report, and ultimately in the year-end spending bill.

continued on page 6 >

COVID-19 Vaccinations

VAPGA is continuing to monitor the situation around COVID-19 vaccinations in the Commonwealth. Currently, Virginia is in Phase 1a and 1b of it's COVID-19 vaccination plan. As of now, propane industry essential workers are classified under Phase 1c although there has been no firm indication when the state would move into Phase 1c. We will continue to update the membership as more information and a more concrete timeline for Phase 1c. becomes available. We encourage all members and/or their companies to contact your local city or county health officials for more specific information. The Virginia Department of Health has developed an FAQ and regularly updates their website. To view an interactive map of which phase each county or city is, click here.

The year-end legislation also includes a one-year extension (through December 31, 2021) of the Alternative Fuel Tax Credit and the Alternative Fuel Refueling Infrastructure Credit. These provisions are worth more than \$165 million annually to the propane industry and were set to expire at the end of 2020. In recent months, NPGA worked with a small business coalition to meet with tax-writing committee legislators and send a letter to Congress with signatures from over 400 organizations. These efforts helped secure an extension of the tax credits, which will provide tax certainty to the propane industry and its customers and help transition more Americans to autogas vehicles.

As the COVID-19 crisis continues to impact Americans struggling to pay their energy bills, NPGA engaged Congress for opportunities to help its customers. Although this relief legislation did not include additional emergency funding for the Low Income Home Energy Assistance Program (LIHEAP), it did create the Emergency Rental Assistance Program. This program provides funds for home energy costs and arrearages.

Additionally, NPGA worked with an industry coalition to fix an inconsistency in the Paycheck Protection Program (PPP). Due to Treasury guidance released earlier this year, if participants of the program had a portion of their loan forgiven, they may not have been able to deduct certain business expenses related to PPP loans. The year-end COVID-19 relief legislation fixes this issue, specifying that the IRS will not include forgiven PPP loans as taxable income, and deductions are allowed for expenses paid with proceeds of a forgiven PPP loan. This legislative fix ensures that participants of the PPP will not be hit with a surprise tax liability when filing their 2020 returns.

Congress also included several energy provisions in the year-end deal. The bill contains legislation that would phase out the use of hydrofluorocarbons (HFCs), commercialgrade refrigerants that are a potent greenhouse gas (GHG). Refrigerant-grade propane, better known as R-290, can be applied as an environmentally friendly alternative to HFCs. NPGA supported Congress this year as they drafted this legislation, highlighting propane as a green alternative to reduce HFCs. Additionally and importantly, as Congress considered various energy legislation to include in the package, NPGA successfully advocated to remove a building code provision that would have raised housing costs and favored electrification over the use of propane and other traditional energy sources.

"NPGA applauds the work of our Congressional champions for passing a year-end package that prioritizes small business and clean energy sources, like propane," Kaminski said. "As a near-zero, low-cost, domestic fuel, propane is a fair and fast solution to the nation's emissions reduction goals. The provisions included in this legislation demonstrate to the new Congress and incoming administration Americans' collective recognition that propane provides practical and proven planet protection for today and tomorrow."

Contact Michael Baker, NPGA's Senior Director of Legislative Affairs, with any questions at mbaker@npga.org.



January 29, 11 am to 1 pm

Contact Jon Skipper at jon@vets2techs.com to register.



VAPGA Training

The Education and Safety Committee is currently planning training for the current year. However, with the continued uncertainty surrounding us, it is almost impossible to finalize and publish a training schedule at this time. Last year, in order to avoid commingling employees, we were able to provide in-person training programs on an individual company basis.

While that will again be one option, the committee really needs to hear from our members as to what your needs may be for the coming year. Additionally, while we have no idea what the coming months will bring, suggestions for the preferred method of delivery are welcome and encouraged.

Please take a moment to advise the committee of all specific training or safety programs that will deliver the most value to you this year.

Members can make their needs or suggestions known to **Dennis Cruise** at (434) 841-1636 or propanetrainingservices@gmail.com.



LegislativeUpdate

Virtual General Assembly Begins

As we enter the third week of the 2021 General Assembly session still adapting to the challenges presented by the all-virtual proceedings. So far we have been able to have discussions with legislators and staff on pending issues, but it remains to be seen how input during the all-important committee meetings will happen, if at all. Nevertheless, all parties are subject to the same procedures, and it appears that there will be substantially fewer bills this year than last. To date we have identified several issues impacting the membership which are described below in greater detail.

TCI Gone for Now But Not Forgotten

Virginia announced shortly before Christmas that it would not be signing on to the Transportation Climate Initiative, a proposal that would have eventually eliminated fossil fuels in the Commonwealth. In light of its temporary demise, several bills have been filed to boost the effort to electrify transportation in Virginia. Delegate Rip Sullivan of Arlington has introduced HB 2282, legislation that calls for a State Corporation Commission study of ways to



promote electrification of transportation in Virginia. This bill reads like a consolation prize for those that supported the TCI, but would take no action until completion of the SCC study in 2022. The Sullivan bill would declare it the policy of the Commonwealth to promote electrification of transportations and possibly allow utilities to send ratepayers bills for expansion. Propane marketers would still be responsible for self funding electric chargers or other infrastructure.

Green New Deal

Once again Delegate Sam Raoul is calling for Virginia to adopt a form of the Green New Deal in HB 1937 with the goal of removing carbon from electric generation

continued on page 9 >

2021 VAPGA Bills

House Bills

- **HB 1834** Electric utilities; closure of carbon-emitting generating units.
- HB 1886 Electronic titling; definition of "fleet."
- HB 1919 Local green banks; authorizes a locality, by ordinance, to establish.
- HB 1925 Virginia Brownfield and Coal Mine Renewable Energy Grant Fund and Program; established, report.
- HB 1934 Public utilities; gas pipelines prohibited in residential subdivisions.
- HB 1979 Electric vehicle rebate program; creation and funding, report.
- **HB 2016** Paid family and medical leave program.
- Electric utilities; nonjurisdictional customers, third party power purchase agreements. HB 2034
- **HB 2118** Electric Vehicle Grant Fund and Program; creation, report.
- HB 2200 Electric utilities; triennial review.
- HB 2227 Uniform Statewide Building Code; amendments, energy efficiency and conservation.
- HB 2251 Emergency orders and regulations; limitations, civil penalty.
- Minimum wage; effective dates of scheduled increases; emergency. HB 2270

Senate Bills

- SB 1177 Public weighmasters; license.
- SB 1362 Employers; reporting outbreaks of COVID-19; emergency.
- SB 1374 Carbon Sequestration Task Force; report.
- SB 1375 Workers' compensation; presumption of compensability for COVID-19.

> Legislative Update, continued from page 8

by 80% by 2028 and by 100 percent in 2035 and thereafter. It would also establish a moratorium on major new fossil fuel projects and gas pipelines.

While unlikely to pass in its present form, the bill does have one good provision to establish a commission to assess the fossil fuel industry over time. We have asked Delegate Raoul to include industry trade associations into that provision of the bill arguing that it should not be dominated by environmental groups and labor unions unfamiliar with the industry.

Clean Fuel Vehicles

Legislation is also pending to encourage the Commonwealth to ramp up sales of clean fuel vehicles. This could include mandates of the number of electric cars to be sold each year and subsidized electric charging stations. Other bills would authorize state funded rebates for the purchase of electric vehicles and require that Virginia adopt California's restrictive clean air standards for vehicle emissions and advocate for state subsidies for the purchase of electric vehicles. It lies likely that a number of these ideas will be combined for consideration.

Subsidies for Electric School Buses Only to Be Considered Again

Delegate Mark Keam has once again introduced legislation (HB 2118) to provide subsidies to electric school buses. The legislation also includes the provision to allow utilities to move electricity back onto the grid when the buses are not in motion, but does include language mandating that student transportation must be the primary use of the vehicles. The bill once again prohibits propane from competing for these grant dollars and your leadership is considering all options to rectify that continued discrimination. Additionally, the bill capitalizes the school grant fund by taxing dyed off road diesel for the first time which may well be a bookkeeping nightmare for those that remit motor fuels taxes.

Mike O Connor

Safe Appliance Rebates



2021 Safe Applicance Rebates will open up on February 1, 2021.

Please contact **Tami Guthrie** at tami@eameetings.com

or **804.241.2232**

for additional information or to request an application and pre-approval numbers.

2020-2021 VAPGA Leadership

OFFICERS

President

Nicole Sullivan, Anderson Propane

President-Elect

Colin Wood-Bradley, Tarantin Industries

Treasurer

Meghan Kulinski, Valley Energy

Secretary

Tony Hoque, *Anderson Propane*

Director to Executive Committee

Scott Turner, *Sharp Energy*

NAPGA State Director

Brian Atwood, *Parker Oil Company*

Immediate Past President

Taft Yeatts, Davenport Energy

DIRECTORS

Tom Krupa, NGL Supply **Joe Pennesi**, *Davenport Energy* **Tim Carlson**, *Centennial Energy* Hayley Karicofe, AmeriGas John Phillips, Phillips Energy

Stephanie Richards, *Elite Power and Energy*

Taylor Sutton, *Tiger Fuel* Chuck Tunnell, CUI

Supplier Representative

Trent McKenzie, Woodgate Petroleum

COMMITTEE CHAIRS

Governmental Affairs

Elizabeth McCormick, *Phillips Energy* elizabeth@peifuels.com

Market Development

Haylel Karicofe, *AmeriGas*

hayley.karicofe@amerigas.com

Safety & Education

Trent Johnson, *Bergquist*, *Inc.* trent.johnson@bergquistinc.com

Membership

Rita Pecilunas, Otodata

rpecilunas@otodatatankmonitors.com

Young Gassers OPEN

Suppliers

Trent McKenzie, Woodgate Petroleum tmckenzie@woodgate-petroleum.com

John Phillips, Phillips Energy jphillips@peifuels.com

MembershipUpdate

While this last year has been an odd one for networking, sharing best practices, and learning opportunities due to our lack of in-person meetings—these are core benefits of active participation in the Virginia Propane Gas Association. The

role of the Membership Committee is not only to recruit new members to our association so that these dues dollars can be used to enhance our marketing, lobbying, and training efforts; but to make membership in VAPGA more valuable. When we are finally back to "normal" and can gather again, we'll need your help more than ever. In the meantime, here are things you can do from your office:

Speakers and Trainer Suggestions

An integral part of our meetings is to provide true takeaway learning that you can apply to your business upon your return. It is important that we keep our fingers on the pulse of new training opportunities, regulatory and legislative shifts, safety protocols, and ways to motivate our teams and recruit new team members. The membership committee welcomes suggestions for our meetings so we can ensure that participation is impactful and far outweighs the cost of membership and travel.

common everyday people express these matters."

New Member Recruitment

As the industry continues to evolve with acquisitions and new players in the field, it is incumbent on every member of VAPGA to look for and recruit new members into our association. There is strength in numbers and with additional revenue we can have a much bigger impact on legislative issues, our industry's "brand," and the trust our customers place in us as fuel providers. Also note that together, we have a lot of buying power and count many industry leaders and trailblazers in our circle. Therefore, membership also benefits our suppliers, equipment manufacturers, and other service providers. Please make sure to extend this opportunity to these partners as well.

Please feel free to contact me with any ideas that will help us achieve our membership goals. Until we meet again and can belly up to a bar together, I wish you a cold winter and some "normalcy" and joy wherever you can find it.

Rita Pecilunas

VA Membership Committee Chair RPecilunas@OtodataTankMonitors.com or (630) 988-8910

PAC Outreach and Donations

Thank you to the VAPGA members who volunteered to assist with PAC outreach this past year. VAPGA's PAC is just a small part of our government affairs efforts, however, and it's up to each of us to advocate for the propane industry in the Commonwealth. VAPGA member **Tim Spicer** from Foster Fuels met with Delegate Kathy Byron (R-Bedford) ahead of this year's General Assembly session, and Kathy asked for help (from members, employees, etc.) to get the word out on energy issues in their local communities.

The mission of VAPGA's PAC is to distribute contributions to candidates for the state legislature who, by their acts, demonstrate support of the propane industry and the private enterprise system. Your donations help VAPGA gain visibility and leverage access to promote our industry.

She stated, "it is one thing for voters to hear a politician talk about it, it's a whole new meaning when

If you'd like to make an investment in the future of Virginia's propane industry, contact Zach Eisenman, Executive Director, at zach@eameetings.com, or John Phillips, VPAC Committee Chair, at jphillips@peifuels.com.

From Brass to Bobtails . . .

Delivering Quality, Service & Dependability Gardner Marsh Gas Equipment Co., Inc.

Raleigh, North Carolina & Florence, South Carolina Toll Free: (NC) 800-334-9245 (SC) 800-868-8988

www.gardnermarsh.com











Propane Trucks & Tanks, Inc.

Apex, North Carolina & Florence, South Carolina
Toll Free: 888-362-5150
pharris@propanetrucksandtanks.com
www.propanetrucksandtanks.com



- Propane Bobtails (New & Re-chassis)
- Cylinder Exchange Trucks
- Service & Crane Trucks
- Bobtail and Transport Repairs and Service
- Required MC-331/DOT Tank & Equipment Inspections
- Meter Proving/Calibration
- Technical Support
- Blasting and Painting
- Large Inventory of Parts for Repair or Ordering.



| WorkforceUpdate

Today's workforce challenges may be the greatest in history and are not expected to get better. Finding skilled candidates, providing effective technical and soft skill training, managing today's worker, and retaining good people are universal challenges. For this reason, VAPGA leadership has made workforce development a priority for 2021. The Safety and Education Committee and the newly appointed Workforce Development Committee are working together to provide solutions aimed at helping our members. The planned solutions for 2021 include:

- 1. Military Recruitment VAPGA has engaged Vets2Techs to connect the propane industry with military job seekers.
- 2. **Technical Training** Partnerships with plumber and gas fitting instructors to teach propane in a blended learning of classroom and lab environments are being developed. We are also working with PERC on its new modularized CETP training and are planning our traditional classroom CETP training taught by Dennis Cruise.
- 3. Learning Management System (LMS) The PERC LMS is a useful resource for the propane marketer to easily provide on-line training and to keep record of the training completed by each employee. VAPGA will facilitate PERC's roll out and support of this tool for our members.
- 4. NPGA Apprenticeship Program VAPGA will facilitate the communication of this program to the membership to encourage participation.
- 5. **Bobtail Rodeo** We are pursuing the reintroduction of this event as effective training for our bobtail drivers.

You can benefit from VAPGA's efforts simply by being engaged with us. Watch for planned classes or events. Participate in the veterans recruiting. Schedule time for your employees to attend in-person training. Finally, let us hear about your needs. We want your feedback.

> Irent Fohnson Safety and Education Committee Chair trent.johnson@bergquistinc.com

Randy Doyle Workforce Development Committee Chair rdoyle@holtzmancorp.com



2924 Emerywood Parkway, Suite 202 Richmond, VA 23294 804.249.2241 fax 804.747.5022

Newsletter Editor

Zach Eisenman, Executive Director zach@eameetings.com

Design & Advertising

Lorraine Meade, Communications Manager lorraine@eameetings.com

VAPGA 75th Anniversary Match Game

Can you match the VAPGA Presidents of the past 25 years with the company they worked for?

VAPGA 75th An Match Ga

Can you match the VAPGA F past 25 years with the company of the variety of the variety

Company

Anderson Propane Anderson Propane Davenport Energy Davenport Energy Dixie Gas & Oil Heritage Propane **Hutchens Petroleum Kinetic Energy Papco Propane** Parker Oil & Propane **Phillips Energy Revere Gas Revere Gas Sharp Energy Southern States Suburban Propane Tarantin Industries Tiger Fuel Tiger Fuel Valley Energy Woodgate Petroleum**

(answers on page 15)

> **Technology**, continued from page 1

"LPG [presents] only advantages," Xydas says. "It is a proven solution. It is simple. It is efficient. It is economical, and it is available everywhere around the world to be used in all types and all sizes of boats. With the coming of bioLPG, the environmental advantages become even more important."

LPG Engines

Several new propane engines are in the works for the coming years, according to the Propane Education & Research Council's director of research and sustainability, Gokul Vishwanathan.

First is a 6.7-liter medium-duty engine that the industry aims to make available in 2024. It is a clean sheet engine that can surpass diesel in performance at significantly lower costs than diesel and compete in terms of efficiency.

"The engine has all the bells and whistles of the New Age technologies," Vishwanathan says.

Vishwanathan is also researching Stirling engines, which are external combustion engines, rather than internal. Stirling engines contain regenerators, or heat exchangers, inside the engine that ultimately conserve heat from one cycle to be used in future cycles, according to American Stirling Co.'s official website. Stirling engines can be clean when it comes to burning because they do not contain an exhaust from inside the engine.

Vishwanathan says the council is currently looking at the telecom markets, as well as residential, light commercial and combined heat and power applications.

BioLPG-powered Space Rockets

Propane usage is taking off this year – in more ways than one.

International aerospace company Orbex, which has headquarters in Scotland and additional locations in Denmark and Germany, is turning to renewable propane to power its space rockets.

Orbex builds small rockets that take satellites to lowatmosphere locations. According to Orbex CEO Chris Larmour, large rockets are significantly more efficient than small ones, which presented a problem that the company was determined to solve: How does Orbex increase its efficiency? The answer: propane.

Larmour explains that the company turned to LPG to power its rockets because of its unique physical property in that it does not freeze when chilled down to a similar temperature as liquid oxygen.



Aerospace company Orbex is turning to renewable propane to power space rockets. Photo courtesy of Orbex.

Traditional rocket micro launcher tanks are stacked with a kerosene fuel tank on top of the liquid oxygen tank, adding significant mass to the vehicle. Orbex adopted a different architecture called the Orbex Coaxial micro launchers, where the fuel is contained within a "jacket" of liquid oxygen. Propane can live in proximity with liquid oxygen without freezing, making it an ideal fuel for the coaxial tank.

By chilling propane to such low temperatures, Orbex is also able to densify the fuel and make it more efficient per cubic liter, Larmour says. Ultimately, propane's usage reduces the structural mass of the vehicle by 30 percent.

"From a point of view of designing a rocket and making it work more efficiently and with high performance, this is a good system for us and this class of vehicle," Larmour says.

In addition to the key benefits of increased efficiency and performance, Orbex opted for the alternative fuel due to its environmental impacts and commercial advantages.

Using renewable propane in place of kerosene lowers carbon dioxide emissions by 90 percent, according to Larmour. In addition, the fuel is non-coking, meaning the rockets remain clean after usage, reducing the extra amount of work required when reusing the engines in the next vehicle.

Furthermore, the cost of propane for rockets is 99 percent lower than the cost of conventional kerosene-based fuel, making it a much more economical choice for Orbex.

Hydronic Heating

Most households in the country's warmer regions have a heat pump with electric coils that offer warmth on moderate-temperature days. But when the temperature drops below 35 degrees and the pump's electric coils turn

continued on page 14 >

> **Technology**, continued from page 13

on, residents are left chilly at best, says Armistead Mauck, vice president and owner of North Carolina-based propane retailer Cherry Energy.

Mauck and other retailers have been working with manufacturer Rinnai on what is known as hydronic heating, a system that offers a solution for colder days by incorporating a hot water heater that uses conduction to quickly heat the water. The hot liquid pumps through and heats the house, including the flooring, during cold weather, leaving residents feeling warmer than they would with the "emergency heat strip" of traditional heat pumps.

"The benefits are comfort, cost and efficiency," Mauck says. "Those three things are not applicable 365 days a year, but they are applicable in the cycling of the season.

"In southern states, we have a lot of shoulder-season temperatures in the fall and spring, and then we have short winters," he adds. "Heat systems need to do it all by delivering registered temps that are not too hot when the outdoor temps are moderate, while at the same time being able to really crank the heat out when it drops below 35 degrees."

With hydronic heating, the user only needs to adjust the water temperature, which changes the register's

temperature and what is coming out of it, he explains.

"If you want to really take it to the next level, integrate your technology and make the water temperatures variable, figure out what the temp is outside at the same time, and let it do all the thinking for you. Then the consumer can drive that system.

"What it does for us as propane marketers is make our value to the consumer that much higher because we delivered two critical solutions to their home: a hot shower and a warm winter," Mauck adds. "And that just screams comfort."

Rinnai brought an air handler with hydronic fuel to the market as a multi-family housing solution. Developments for consumers were briefly slowed due to the pandemic, but Mauck hints that 2021 will be more fruitful to the single-family household hydronic heating market.

"Stay tuned," he says. "In 2021, there will be a second announcement."

Cybersecurity

Perhaps one of the most important steps a retailer could take to ensure smooth operations and positive customer experiences is invest in cybersecurity software.

continued on page 15 >

The Better Dispensers by Bergquist

The finest dispensers, all designed with you in mind.

Custom built to your specifications.

the 'Original' the 'Compact'

the 'Walk-In'

the 'Skid Mount'

the 'Hybrid Dispenser'





Your questions answered by the people who know propane equipment.

DegreeDays | 14

> **Technology**, continued from page 14

Without the proper security measures, a hacker could potentially access sensitive information, jeopardizing both the business and its customers.

"At the end of the day, the most confidential information [retailers] have is people's addresses and credit card numbers," says Marty Kirshner, a partner at Gray, Gray & Gray. "And all it takes is one hacker to break through the technology and compromise that data, which will, in turn, force the retailer to tell all his or her customers that their data has been compromised.

"That could just cause a collapse of business," he adds.

To prevent such an event, Kirshner recommends that all owners of retail propane operations perform an assessment on the company's cybersecurity infrastructure. That would typically entail an IT professional to analyze the company's current system and report on how it would weather a breach in security.

In addition, Kirshner urges retailers to train employees on what he refers to as "security awareness," which includes learning how to spot bad emails. He recommends checking out cybersecurity training company KnowBe4, which offers short but comprehensive videos on the topic.

Retailers can also implement multi-factor authentication, which requires anyone who has access to company data to sign in with two forms of identification, typically a password paired with a phone number or security question.

"[A hacker] could get your password, but they might not have your phone number," Kirshner says. "So it creates an added level of authentication, which I think would be really important for back-office software."

Kirshner also suggests that retailers look into IT cybersecurity programs such as Okta or Duo to enable multi-factor authentication.

Investing in cybersecurity won't break the bank, and small businesses are more vulnerable than large corporations to a security breach, Kirshner explains.

"These are inexpensive, little things to implement versus trying to overhaul your entire server," he says.

COVID-19 a Catalyst to Adopt New Technologies

In a recent LP Gas survey, we asked propane retailers: "Has COVID-19 led the company to use or consider the use of more digital processes and technology in daily operations to help employees and/or customers?"

Of the respondents, 40 percent said that yes, the coronavirus pandemic did in fact prompt them to use or consider using more technology to improve operations.

Some examples noted were enabling customers to order and pay online; advertising on digital media; having customers sign digitally for work orders; and asking for Google reviews to enhance SEO performance. Others shared that tank monitoring and email address acquisition became a normal part of daily operations. With many employees working from home, several companies adopted virtual meeting platforms such as Zoom and GoToMeeting, as well.

Several respondents noted that their companies were already pursuing new technology to implement prior to the pandemic, but the onset of the virus and the need to go digital accelerated those efforts significantly.

About the Author

Carly McFadden is associate editor at LP Gas Magazine. She is a graduate of Ohio University's E.W. Scripps School of Journalism and a native of Cleveland, Ohio. McFadden can be reached at cmcfadden@northcoastmedia.net.

Reprinted with permission.

Answers to VPGA 75th Anniversary Match Game

2000 2001	Maul Frieda	Daviera Cas
2000 - 2001	Mark Frizzle	Revere Gas
2001 - 2002	Danny Alexander	Dixie Gas & Oil
2002 - 2003	Frank Conley	Tiger Fuel
2003 - 2004	Tim Hutchens	Hutchens Petroleum
2004 - 2005	Bill Woodward	Tarantin Tank
2005 - 2006	Peter Ryan	Papco Propane
2006 - 2007	Ruth Barnard	Davenport Energy
2007 - 2008	John Holland	Heritage Propane
2008 - 2009	Tim Spicer	Tiger Fuel
2009 - 2010	John McKenzie	Woodgate Petroleum
2010 - 2011	Brian Atwood	Parker Oil & Propane
2011 - 2012	Tom Krupa	Suburban Propane
2012 - 2013	Bill Bigham	Kinetic Energy
2013 - 2014	Bill Murphy	Valley Energy
2014 - 2015	Mark Anderson	Anderson Propane
2015 - 2016	Scott Turner	Sharp Energy
2016 - 2017	Carlton Revere	Revere Gas
2017 - 2018	Elizabeth McCormick	Phillips Energy
2018 - 2019	Kevin Lloyd	Southern States
2019 - 2020	Taft Yeatts	Davenport Energy
2020 - 2021	Nicole Sullivan	Anderson Propane



CHOOSE PARACO

We have a unique approach to acquisitions. After building over 50 partnerships, we understand there is no one size-fits-all solution. One option is our Joint Venture Program, which allows you to stay in the game and continue to grow your legacy. Let our family business join with yours.



We Care About Your EMPLOYEES

Career opportunities and a competitive compensation package for employees.



We Care About Your CUSTOMERS

Quality service and level of safety they've come to expect.



We Care About Your LEGACY

Providing a safe, best-in-class service to help your legacy carry on.

LET'S TALK!

Start planning your company's next big play with a confidential and personal conversation.

- Christina Armentano Executive VP
- 914.364.0073
- carmentano@paracogas.com
- & Carl Kaplan Business Dev. Associate
- 914.364.1443
 - carl.kaplan@paracogas.com

