

NGVJournal.US is a publication of AltFuels Communications Group, a publishinghouse and fairs-conferences organizer, which exclusively covers the NGV market in the United States and Canada. In addition to NGV Journal.US, AltFuels has four magazines that reach the whole world (with their respective online versions): CNV Latinoamérica, Asian NGV



Agility and Hexagon, two partner firms strengthening positions in the fleet sector



Galileo unveils on-site flare reduction solution at Bakken Shale region

NGV *Journal*.us

Natural Gas and Other Clean Fuels for All Applications

JOURNAL #19
APRIL 2016



Strong private and public investments in CNG infrastructure

Both public and private sectors are betting on the development of more natural gas stations and fleets.



MARKETS & MORE

- Construction advances on LNG powered ship for Puerto Rico
- Canadá: Hyundai delivers first fuel cell vehicle in Ontario
- Largest hydrogen refueling network opens in California



Sen. Inhofe reinforces support to NGVs and sends letter to EPA administration

ALTERNATIVE FUELS CONFERENCES & WORLD FAIR

May 25-28, 2016
Bologna, Italy

CONFERENZE
& FIERA MONDIALE
DEI COMBUSTIBILI ALTERNATIVI

Sponsor:



Methane hosted by:



Endorsement:



LPG hosted by:



Endorsement:



Organized by



+39 335 189 3249

info@altfuels2016.com

www.altfuels2016.com



04

Strong private and public investments in CNG infrastructure



06

Agility and Hexagon, two partner companies that strengthen positions in the fleet sector



08

On-site flare reduction solution launched at Bakken Shale region



10

Sen. Inhofe reinforces support to NGVs, sends letter to EPA administration

12 US largest CNG fueling facility opens in Central Florida

17 Canada: Hyundai delivers first fuel cell vehicle in Ontario

13 CalNGV names new President

19 Largest hydrogen refueling network opens in California

14 Construction advances on LNG fueled ship for Puerto Rico's trade

20 Nestle Waters expands Autogas fleet with 155 new trucks

16 University of Ontario releases natural gas and electric vehicle study



www.ngvjournal.com

NGVJournal.US is a publication of AltFuels Communications Group, a publishinghouse and fairs-conferences organizer, which exclusively covers the NGV market in the United States and Canada. In addition to NGV Journal.US, AltFuels has four magazines that reach the whole world (with their respective online versions): GNV Latinoamérica, Asian NGV Communications (Asia-Pacific Region), The Gas Vehicles Report (Europe), and Prensa Vehicular (Argentina). The group as a whole has the website www.ngvjournal.com as its main channel. From there, the company creates its current products and outlines the future. Contact us: sales@ngvjournal.us | Tel: +39-335-189-3249

The signed articles are exclusive responsibility of the authors, as well as advertising companies and agencies are responsible for the published ads.

USA
1001 Texas Ave., Suite
1400 - PMB 174,
Houston, TX 77002, USA
Tel: +1 713-490-5780
Fax: +1 713-490-6781

ITALY
Vicolo Gonzaga 13 ·
46045 Marmirolo (Mn)
Tel.: +39 0376 294055
info@thegvr.com
www.thegvr.com

ARGENTINA
Victor Hugo 370 1er Piso n
C.A.B.A.
Phone/Fax: + 5411 5199
3102 / + 54 911 6621 4257
info@prensavehicular.com

KOREA
300-5, Changchon-Ri ·
Namsan-Myun Chuncheon-
Si · Kangwon-Do · 200-911
Tel. +82 33 260 3419
Fax. +82 33 260 3459
asia@ngvgroup.com



Strong private and public investments in CNG infrastructure



World's largest package delivery company UPS has embraced NGVs with new \$100 million investment in the United States. On the public sector, Pennsylvania Department of Transportation is rolling out an \$84.5 million project to build CNG stations. Moreover, the ARPA-E from the Department of Energy has awarded \$3 million to develop new CNG refueling solutions.

UPS case

UPS will build an additional 12 CNG fueling stations and add 380 new CNG tractors to its growing alternative fuel and advanced technology fleet. The CNG fueling stations and vehicle purchases totaling \$100 million are part of UPS's ongoing commitment to diversify its fuel sources and reduce its environmental impact.

"At UPS, we own our fleet and our infrastructure. That allows us to invest for the long-term, rather than planning around near-term fluctuations in fuel pricing," said Mark Wallace, UPS senior vice president global engineering and sustainability. "CNG is part of a broad investment in a variety of alternative fuel vehicles. Taken together, all of our alternative fuel vehicles represent 6% of the more than 100,000 UPS global fleet, and have driven a 10% annual reduction in use of conventional fuel."

UPS is working to meet its goal of logging one billion miles with its alternative fuel and advanced technology fleet by the end of 2017, using a Rolling Laboratory approach to determine the right alternative fuel solutions to meet the unique needs of route-specific driving environments.

The 12 new CNG stations will be built by TruStar Energy in Amarillo, Texas; Chattanooga, Tenn.; Columbia, S.C.; El Paso, Texas; Fort Worth, Texas; Kansas City, Kan.; Phoenix, Ariz.; Reno, Nev.; San Antonio, Texas; Tifton, Ga.; Trinidad, Colo., and Willow Grove, Pa. The new CNG tractors to be deployed in these cities will be manufactured by Kenworth. Agility and Quantum Fuel Systems will provide the CNG storage systems. This investment builds on the company's existing 18 CNG fueling stations in Alabama, California, Colorado, Georgia, Kansas, Kentucky, Louisiana, Oklahoma, Pennsylvania, Texas, Virginia and West Virginia and operates CNG vehicles in Germany, the Netherlands and Thailand.

The 12 CNG stations will feature Ohio-made Ariel gas compressors packaged by ANGI Energy Systems. "TruStar Energy is proud to use Ariel compressors exclusively for our station designs requiring 100 HP units or higher. Their quality and commitment to TruStar Energy and our customers is simply untouchable by any other compressor manufacturer. Our customers and TruStar Energy's reputation rely on the quality of American-made Ariel compressors. Since 2009, we've fielded 160 Ariels for a reason: they have no equal," said Jeffrey Swertfeger,

Director of Marketing, TruStar Energy.

"We applaud UPS for its commitment to using abundantly available, domestically produced CNG as fuel for its corporate fleet," said Robert Drews, Director of Marketing, Ariel Corporation. "Additionally, we appreciate TruStar's selection of Ariel's gas compression equipment for the project via ANGI, one of Ariel's CNG Packaging Distribution Partners."

Ariel Corporation offers separable reciprocating compressors engineered specifically for CNG. Ariel CNG compressors now feature ultra-low emission packings, which are used to reduce fugitive emissions at CNG stations.

PennDOT CNG stations

Pennsylvania Department of Transportation (PennDOT) Secretary Leslie S. Richards announced that the Trillium CNG team, which includes Larson Design Group of Williamsport, has been selected for the PennDOT's CNG transit fueling station Public-Private Partnership (P3) project. Through the \$84.5 million project, Trillium will design, build, finance, operate and maintain CNG stations at 29 public



transit agency sites through a 20-year P3 agreement.

The stations will be constructed over the next five years and the firm will also make CNG-related upgrades to existing transit maintenance facilities. "The department is excited to partner on this project that will bring benefits for the state, our transit partners and the public for years to come. The project's aggressive schedule means that we'll realize cost, environmental and operational benefits quickly," Richards said.

As part of Trillium's proposal, CNG fueling will be accessible to the public at seven transit agency sites, with the option to add to additional sites in the future. PennDOT will receive a 15% royalty, excluding taxes, for each gallon of fuel sold to the public, which will be used to support the cost of the project. The team has guaranteed at least \$2.1 million in royalties over the term of the agreement. When the project is completed, the fueling stations will supply natural gas to more than 1,600 CNG buses at transit agencies across the state.

PennDOT also expects transit agencies and the department to see significant savings due to the project. Based on current CNG, diesel and gasoline prices as well as fuel usage, agencies can save a total of more than \$10 million annually. Due to these expected savings, transit agencies' sustainability is increased and dependency on state operational subsidies is reduced. After 10 years, the department estimates that the project will pay for itself with the estimated \$100 million in savings.

Moreover, using the P3 procurement mechanism allows PennDOT to install the fueling stations faster than if a traditional procurement mechanism was used for each site, resulting in significant estimated capital cost savings of more than \$46 million.

Department of Energy

Onboard Dynamics, Inc. (ObDI), an innovator in compressed natural gas refueling, has received \$3 million from the U.S. Department of Energy's Advanced Research Projects Agency – Energy (ARPA-E), Portland Seed Fund, NW Natural and other utilities, and private investors. ObDI is currently pursuing two CNG refueling solutions, based on novel technology for both on and off vehicle applications: a fully integrated onboard engine-compressor

California invests in high-efficient natural gas projects

The California Energy Commission approved \$4.3 million in grants for projects to increase the efficiency of natural gas technology used in industrial, agriculture and water processes. The Gas Technology Institute received two grants totaling nearly \$2 million to demonstrate new waste heat recovery systems for industrial furnaces and steam boilers.

Joseph Gallo Farms received a \$1 million grant to demonstrate a waste heat recovery system using advanced absorption chiller technology, and ergSol Inc. received a \$1 million grant to demonstrate an integrated high-efficient solar thermal system in the Central Valley.

The Gas Technology Institute also received a \$1 million grant to develop and demonstrate an advanced natural gas engine to be installed in 18 vehicles such as delivery trucks and school buses. The engine will help improve air quality in Southern California.


Moreover, the City of Petaluma received a \$3 million grant to design and operate an anaerobic digestion system to produce 150,000 gasoline gallon equivalents of renewable natural gas from food and beverage waste and use the gas to fuel refuse trucks. The goal is to recycle waste and reduce dependence on fossil fuels.

system, and a standalone, mobile, self-powered compressor system.

"This additional funding commitment puts Onboard Dynamics on track to become a financially sustainable provider of affordable CNG refueling solutions," said Rita Hansen, CEO of Onboard Dynamics. "Over the next 18 months we will complete development, testing and market introduction of our first products."

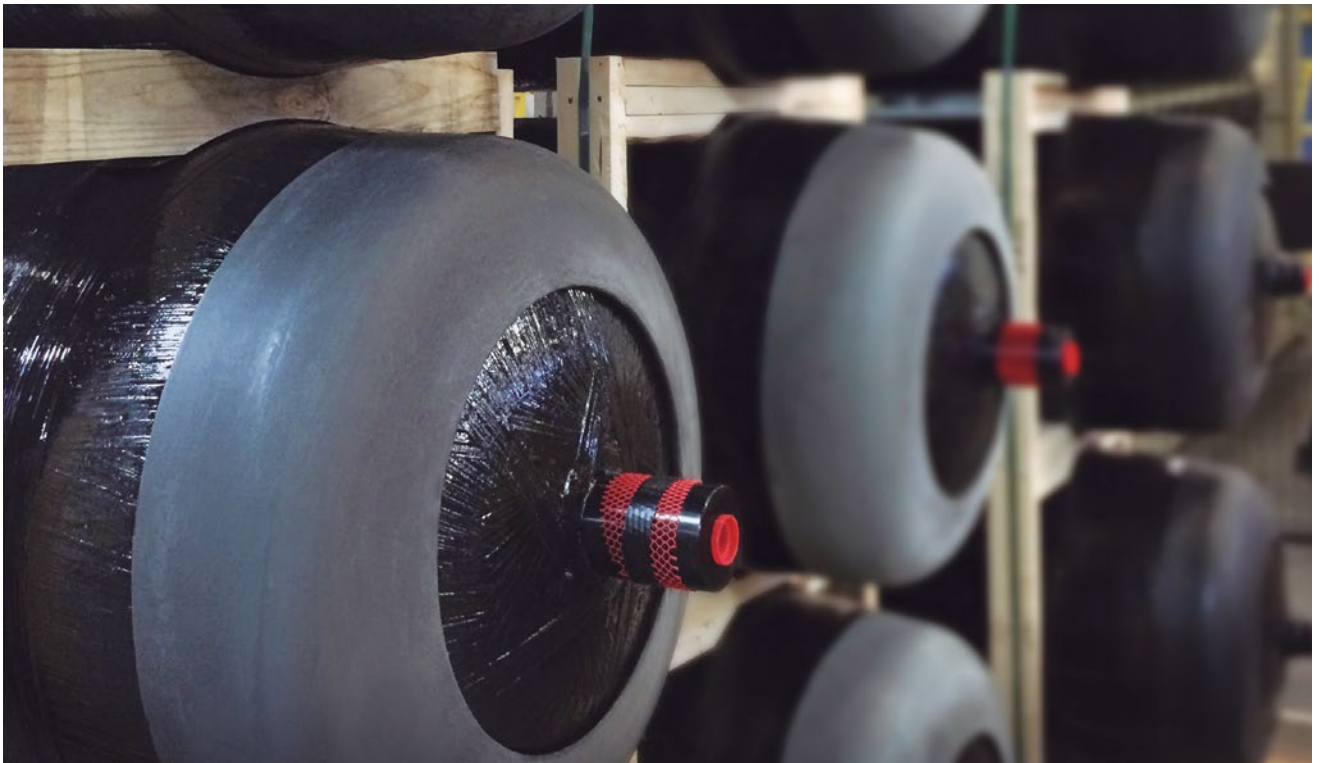
The lack of fueling stations nationally has inhibited the widespread adoption of CNG vehicles. ObDI's technology uses the automotive engine's own power to

compress natural gas during the refueling process, which would open up the existing natural gas distribution system to CNG vehicles.

"Portland Seed Fund was the first investor in ObDI because we saw the transformative potential of the technology and believed this was the right team to make it a success," said Jim Huston, managing director of Portland Seed Fund. "Not only would their technology make natural gas more economically feasible for fleet vehicles, but it would help reduce transportation-related air pollutants and greenhouse gas emissions." 



Announcement of PennDOT's initiative



Agility and Hexagon, two partner companies that strengthen positions in the fleet sector

The joint venture Agility Hexagon has reached an engineering win with US largest fleet. Moreover, each company keeps developing products to strengthen its share in the industry: Agility has introduced the lightest 160 DGE CNG fuel system, while Hexagon Composites is expanding its position in North America.

Agility Hexagon partnership

The joint venture between the two companies continues to develop unique technologies to keep their customers at the forefront of innovation. The largest commercial fleet in the United States has announced its plan to deploy new heavy-duty trucks using Agility's Behind-the-Cab CNG system with improved aerodynamics and additional freight space, and an enhanced 27-inch Hexagon Composites tank enabling a 700 mile capacity. The systems are due for delivery in the third quarter of 2016. "NOx emissions from heavy-duty diesel trucks pose one of the greatest threat to our climate," said Chet Dawes, Vice President CNG Automotive Products, Hexagon Composites. "Compressed natural gas is one of the cleanest burning fuels available and is

key to long-term fleet strategies around the world."

"Our vision is to transform the transportation industry with the cleanest natural gas systems in the market," commented Kathleen Ligocki, CEO, Agility Fuel Systems. "Collaboration between our companies consistently delivers engineering excellence to our products."

Agility's lightest CNG system

Agility Fuel Systems, developer and manufacturer of natural gas fuel systems for heavy-duty vehicles in North America, announced the launch of their new state-of-the-art 2016 160 DGE Behind-the-Cab CNG fuel system. The new system is mounted up to six inches closer to the cab for improved aerodynamics

and leaving more available rail space. Weighing just 2,150 lbs., this brand new model is the lightest in the industry. Its compact design sets the bar in performance, durability and safety while also filling significantly faster than competition.

This new CNG system from Agility boasts the following key features: a weight of only 2,150 lbs.; more compact design (mounted up to six inches closer to the cab, it offers improved aerodynamics and more available rail space); fastest fills (up to 13% faster fill-ups than the nearest competitor); more durability (aircraft-grade aluminum structure mounted on rubber isolators to reduce stress on components); reduced stress (neck-mounted, anti-tank spin design eliminates tank rotation that can stress fuel lines); best hardware (geomet™ coated fasteners offer the ultimate in corrosion

protection); outstanding finish (pretreated aluminum covers painted at our automated world-class, automotive-grade paint facility); and reliability (track-tested for one million miles).

“Our vision is to transform the transportation world by designing the most innovative, clean natural gas systems in the market today to ensure a more sustainable future tomorrow,” stated Kathleen Ligocki, CEO of Agility Fuel Systems. “Our latest product, the 2016 Behind-the-Cab 160 DGE CNG fuel system, offers our customers a unique value proposition in performance, weight, fill time, durability and aesthetics... well ahead of the curve in our industry.”

Hexagon Composites in North America

Hexagon Composites’ wholly owned subsidiary Hexagon Lincoln continues its prominent position in the North American transit bus market by signing a long-term agreement with one of its key customers, New Flyer Industries. The multiyear agreement presents an estimated overall delivery value of USD 45 million (approximately NOK 380 million).

The overwhelming majority of CNG transit buses in North America use Type 4 fuel tanks produced by Hexagon Composites. Demand for these vehicles continues to grow as they



Hexagon Lincoln signs long-term deal with bus builder New Flyer

play an important role in lowering emissions and particulates in urban areas. This agreement affirms the Company’s position as the leading supplier of fuel tanks to this market.

“Our companies have a 20 year history of working together. We are pleased to have Hexagon Composites as our preferred supplier for CNG tanks and ancillary products. We are working together to implement new technologies to improve the

value proposition for our customers,” said Raul Ramirez, Director of Strategic Sourcing, New Flyer Industries.

“Our team is providing valuable support to help engineer a more efficient system with new product offerings for these vehicles,” said Chet Dawes, Vice President of CNG Automotive Products, Hexagon Composites. “This agreement is a reflection of the dedication and long-term collaboration between our companies.”



Cryobox® units and LNG storage. Buquebus LNG facility, San Vicente, Buenos Aires Province, Argentina

Now, LNG can drive your projects

The Cryobox® Nano LNG-Station is a fuel producing unit that can be delivered in a single truck to offer 10k gallons of LNG per day. Its plug-and-play and redeployable configuration works within a wide range of inlet pressures of natural gas, from both —commercial pipelines and associated gas wells. This unmatched alternative ensures a clean fueling solution wherever needed.



Call us at +54 11 4712-8000 or follow us on:
www.galileoar.com



GALILEO
Technologies



On-site flare reduction solution launched at Bakken Shale region

Argentinean company Galileo Technologies has introduced an on-site flare reduction solution to Terra Energy at the Bakken Shale region. The solution includes a ZPTS® Gas Conditioning Plant, and a Cryobox® Nano LNG-Station. The equipment is fully modular, electric driven and reliable when operating under the harsh conditions of North Dakota's oil fields.



Galileo Technologies, in partnership with SPATCO Energy Solutions — one of its distributors in North America, has just commissioned an innovative solution for Terra Energy in North Dakota’s Bakken shale region to integrate flare gas capture and liquefied natural gas (LNG) production right at the wellhead.

The core of this solution, engineered at Galileo Technologies’ headquarters in Buenos Aires, Argentina, includes a ZPTS® Gas Conditioning Plant, and a Cryobox® Nano LNG-Station, which turns natural gas into 7,800 to 8,500 gallons (12.3 to 13.4 Tons) of LNG per day based on production output from the wells. The equipment is fully modular, electric driven and reliable when operating under the harsh conditions of North Dakota’s oil fields, which are home to frigid winters and scorching summers.

Thanks to this innovative design, the LNG produced is stored on-site while the boil-off gas is recovered and re-liquefied. LNG is then transported and consumed for drill-rig power generation and frac-water heating. LNG is obtained through the gas from a well pad owned and operated by one of the

largest producers and holders of natural gas reserves in the US, located less than 50 miles (80 km) from the sites where LNG is consumed. “This is a complete solution,” said Dustin Hancock, President of Terra Energy Group. “We turned the flaring problem into an opportunity. The technology supplied by Galileo allows us to significantly reduce the waste of flaring using that energy to produce additional oil and gas.”

“The abundance of shale and tight gas in certain regions, such as Bakken in the US or Vaca Muerta in Argentina, increases the relevance of natural gas as a source of clean energy. However, the dispersion of shale gas sources in these isolated areas can make the laying of gas-gathering lines economically unsustainable and creates an environmental problem”, explained Osvaldo Del Campo, Galileo Technologies CEO.

“In recent years and due to this barrier, more than 25% of the natural gas produced in North Dakota has been flared rather than sold to customers or consumed on-site. We believe that more of the unconventional gas can be monetized through methods such as the ‘Distributed LNG Production’ solution

we developed for Terra Energy,” added Del Campo.

“When long distances are involved, our ultra-compact gas conditioning and liquefaction modules allow us to distribute clean natural gas, affordably and without pipelines. This technology facilitates the collection of fuel from scattered sources and its distribution to consumers, applying road distribution logistics similar to those of other liquid fuels”, he concluded.

“As gas capture requirements continue to ramp up, expecting to reach 90% by 2020, Galileo’s liquefaction technology will give the upstream Oil & Gas sector a means to master their challenges with profitability,” remarked Jeff Dailey, President and CEO of SPATCO Energy Solutions.

“The industry is experienced in the use of compressed natural gas (CNG) to reduce flaring, so LNG represents the advantage of cheaper distribution, beyond 100 miles (150 km). LNG just makes more sense if we consider that the industry needs to fuel high horsepower applications at remote locations, such as rigs, frack crews, heavy duty trucking and railways”, Dailey added. ■



Sen. Inhofe reinforces support to NGVs, sends letter to EPA administration

He said even though EPA has favored electric vehicles in the past and inevitably will continue to do so, they are not the only answer to mitigating the Volkswagen emissions issue. "Instead of picking a specific technology winner, EPA would gain more value from including natural gas vehicles," he said.

U. S. Sen. Jim Inhofe (R-OK), who serves as the chair of the Environment and Public Works Committee, recently wrote to Environmental Protection Agency (EPA) Administrator Gina McCarthy regarding her agency's investigation into the diesel emissions violations of Volkswagen.

"I understand that EPA has requested Volkswagen produce light duty electric vehicles (EV) as part of the settlement," said the letter. "While EPA has favored EVs in the past and inevitably will continue

to do so, EVs are not the only answer to mitigating the Volkswagen emissions issue. If the purpose of the settlement is to remediate the excess nitrogen oxide and other pollutants emitted by compromised Volkswagen light duty vehicles, requiring light duty EV production will have little overall impact."

Inhofe's letter was sent as the EPA deadline provided to Volkswagen for submission of the company's plans to solve its emissions problems approached. Inhofe specifically mentioned the EPA's status in terms of considering electric vehicles and natural gas

vehicles.

"In regards to the Volkswagen case, however, natural gas vehicles should not be dismissed offhand," the letter stated.

"Instead of picking a specific technology winner, EPA would gain more value from including natural gas vehicles — including heavy duty trucks — in the agreement to complement the EV path this administration continues to favor. This could significantly improve air quality in a less expensive, manageable way than choosing to only support the advancement of electric light duty vehicles." ■



Asian NGV Communications

Number 110 April 2016

China: 200 LNG-powered vessels planned in Chongqing by 2020



Clean Energy welcomes Inhofe's letter

Clean Energy Fuels Corp., CEO Andrew J. Littlefair gave his strong support to Senator Jim Inhofe (R-OK) and the letter he delivered to EPA Administrator Gina McCarthy, detailing how the EPA should incorporate natural gas vehicles into remediation efforts when investigating the Volkswagen diesel emissions issue.

"Senator Inhofe has given the EPA a proven path to significantly remediate the excess diesel emissions caused by Volkswagen. Natural gas vehicles with the new 'Near Zero' engine, available on the market today, lower nitrogen oxide emissions by 90% or more over their diesel counterparts, and provide a cost-effective real-world answer to this challenge. Only a comprehensive solution including both light duty electric vehicles, and natural gas vehicles in the medium and heavy-duty trucking markets, will be able to correct the damage caused to our environment," said Littlefair.

Natural gas fuel costs less per gallon than gasoline or diesel, depending on local market conditions. The use of natural gas fuel not only reduces operating costs for vehicles, but also reduces greenhouse gas emissions up to 30% in light-duty vehicles and 23% in medium to heavy-duty vehicles. In addition, nearly all natural gas consumed in North America is produced domestically.



Senator Jim Inhofe



India
15,000 vehicles converted to CNG in Delhi this year



Emirates
MAN showcases natural gas buses in Dubai



US largest CNG fueling facility opens in Central Florida

Nopetro has opened the nation's largest public/private compressed natural gas fueling facility. The P3 project with Central Florida's LYNX transit system includes fueling infrastructure, maintenance facility improvements, CNG bus fleet conversion and a revenue sharing component.

Nopetro, Florida's CNG fueling infrastructure provider, announced the grand opening of the nation's largest public/private compressed natural gas fueling station. The facility, located at the intersection of John Young Parkway and LYNX Lane, is part of a public-private partnership (P3) with the Central Florida Regional Transportation Authority (LYNX). The six-acre facility, inclusive of five CNG dispensers, with the capacity to distribute 40 gallons per minute, comprises two stations within one location – a private station for LYNX, and a second station open to the public at large.

The P3 also included providing environmentally sustainable upgrades to LYNX's existing maintenance facility, as well as coordinating the conversion of the existing public bus fleet to CNG vehicles. As part of the P3 agreement, Nopetro built the CNG fueling station and upgraded the maintenance facility. The fueling facility is completely privately funded, a rarity for this level of infrastructure investment, and also includes a shared-revenue component with the regional bus service. Another integral

partner in making this unique facility a reality was TECO Peoples Gas, who was responsible for bringing the natural gas utility service to the project.

"This P3 showcases LYNX's commitment to sustainable public transportation, and puts us at the cutting edge of a nationwide movement," said Orange County Mayor Teresa Jacobs, Chair of the LYNX Board of Directors. "LYNX will proudly be home to the nation's largest facility of its kind. We very much look forward to working with Nopetro on this transformative opportunity."

Under the terms of the public-private partnership, switching from diesel to CNG is expected to provide LYNX with annual positive returns. LYNX is projected to have more than 150 CNG buses within the next five years, resulting in a more fuel-diversified and environmentally friendly fleet. "Converting LYNX's fleet to CNG is a complete win/win for our communities," said Jacobs. "It is positive from a fiscal standpoint, positive from an environmental standpoint, and positive for the millions of riders who utilize the system."

Converting to CNG offers more than financial savings to local government agencies. Experts note that switching to CNG cuts emissions drastically, including particulate matter by 89 percent, carbon monoxide by 70%, carbon dioxide by 25% and nitrous oxide by 80%.

Nopetro has a strong track record in developing world-class CNG fueling operations. The company operates one of the nation's most successful public-private partnerships for CNG fueling - a tri-government P3 in Florida's capital, with the City of Tallahassee, Leon County and Leon County Schools. Nopetro also has CNG P3 projects in development with St. Johns and Charlotte Counties.

"Nopetro is extremely excited to be working with the LYNX team and to bring this proven and sustainable model to the region. Our P3 approach to CNG infrastructure development is best in class and flexible to suit the specifics of any U.S. government fleet," said Jorge Herrera, co-founder and CEO of Nopetro. ■





California Natural
Gas Vehicle Coalition

CalNGV names new President

Thomas Lawson is the new President of the California Natural Gas Vehicle Coalition. "His breadth of knowledge and capabilities will lead our efforts in promoting NGVs as an important tool for reaching California's clean air and greenhouse gas reduction goals," said Todd Campbell, CalNGV's board chairman.



The board of directors of the California Natural Gas Vehicle Coalition (CalNGV) announced the appointment of Thomas Lawson as CalNGV's president, effective immediately. Lawson, who has spent his career in public policy and advocacy in California, served in multiple roles at the state government, including most recently as the Director of Legislative Affairs, Department of Justice, Office of the Attorney General.

"CalNGV's board is enthusiastic about the experience and relationships that Thomas brings to the role of president," said Todd Campbell, CalNGV's board chairman. "His

breadth of knowledge and capabilities will lead our efforts in promoting natural gas vehicles (NGVs) as an important tool for reaching California's clean air and greenhouse gas reduction goals."

Lawson will use his significant experience in Sacramento and across the state to educate state officials on the benefits of NGVs and to advocate for the 25 member companies that make up the coalition.

"I am humbled that the board has given me the opportunity to not only continue my work in public policy, but also to lead an association that is making California a better place to live in," said Lawson. "Being able

to advocate for an issue which will make a positive impact on the quality of living in California now and into the future will be very rewarding."

Lawson will replace Tim Carmichael, who has led the association since 2010. "On behalf of the board and the entire membership of CalNGV, I want to personally thank Tim for his leadership, tireless work and vision that he has provided," said Campbell. "Tim led our association through extraordinarily complicated and impactful legislative matters, many of which serve as the industry standard for natural gas vehicle policies throughout the nation, and not just here in California." ■

Prensa Vehicular

Argentina + Latinoamérica

GAS NATURAL Y OTROS COMBUSTIBLES LIMPIOS PARA
TODO TIPO DE APLICACIONES

Reserve su espacio en info@thegvr.com
www.ngvjournals.com

The image shows a stack of 'Prensa Vehicular' magazine covers. The top cover is the most prominent, featuring a large headline 'Repercusiones ante la suba del GNC' (Implications of the rise in GNC prices) with a photo of a gas station. Other headlines include 'Nueva comisión CAPEC' (New CAPEC commission), 'Galileo en EE.UU.' (Galileo in the US), and 'El Metro de Santiago no es solo un tren' (The Metro of Santiago is not just a train). The magazine is published by 'GNC PLUS' and 'Aspro'. The cover also includes the text 'GAS NATURAL Y OTROS COMBUSTIBLES LIMPIOS PARA TODO TIPO DE APLICACIONES' and 'Argentina + Latinoamérica'.



Construction advances on LNG fueled ship for Puerto Rico's trade

Crowley has reached a new milestone with setting of LNG engine in new ship El Coquí, the first of two new vessels that will be used in the ocean cargo trade between Jacksonville and Puerto Rico.



Crowley Maritime Corporation reached another critical milestone with the recent setting of the main engine onto El Coquí, the first of two new, Commitment Class ConRo (combination container and Roll/On-Roll/Off) ships that will be powered by LNG for use in the ocean cargo trade between Jacksonville and Puerto Rico.

“This state-of-the-art engine technology will add efficiency while continuing to reduce impacts on the environment, one of Crowley’s top priorities,” said John Hourihan, senior vice president and general manager, Puerto Rico services. “Utilizing this green technology is just another way we are demonstrating our commitment to the people of Puerto Rico, our customers and the environment. It also bears mentioning that neither of these ships, which have been design specifically for the Puerto Rico trade, gets built without the Jones Act.”

The engine was placed using a series of heavy lifts by 500-ton cranes in the shipyard of VT Halter Marine, a subsidiary of VT Systems, Inc., where El Coquí (ko-kee) and sister ship, Taíno (tahy-noh), are under construction. The engine has a total weight of 759 metric tons and measures 41 feet high, 41 feet in length, and 14.7 feet wide.

“Customers will not only be able to experience the same reliable and dedicated service they have with Crowley today, but also will have the added benefit of lower emissions once these two ships join the Crowley fleet,” said Jose “Pache” Ayala, Crowley vice president, Puerto Rico. “Crowley is making a significant investment in the Puerto Rico trade to provide faster transit times while continuing with the ability to carry and deliver the containers, rolling cargo and refrigerated equipment our customers count on.”

The ships

Designing, building and operating LNG-powered vessels is very much in line with Crowley’s overall EcoStewardship® positioning and growth strategy. The company formed an LNG services group in 2015 to bring together the company’s extensive resources to provide LNG vessel design and construction management; transportation; product sales and distribution, and full-scale, project management solutions.

These Commitment Class, Jones Act ships are designed to travel at speeds up to 22 knots while maximizing the carriage of 53-foot, 102-inch-wide containers. Cargo capacity will be approximately 2,400 TEUs



Crowley receives third LNG-ready tanker

Crowley Maritime Corp. took delivery of Louisiana, the third of four new, Jones Act product tankers being built for the company by Philly Shipyard, Inc. (PSI), the sole operating subsidiary of Philly Shipyard ASA. The delivery marks another highpoint for Crowley’s petroleum services group as its tankers are at the forefront of the industry for their potential future conversion to LNG propulsion.

Louisiana, which is 50,000 dead-weight-tons (dwt) and capable of carrying 330,000-barrels of product, is scheduled to be christened in New Orleans on May 5. Crowley’s fourth product tanker is under construction at PSI, and delivery is planned for third quarter 2016.

Louisiana joins sister ships Ohio and Texas, which were received by Crowley in 2015 as the first-ever tankers to receive the American Bureau of Shipping’s (ABS) LNG-Ready Level 1 approval. The approval allows Crowley to

convert the tanker to LNG propulsion in the future.

“The Louisiana’s delivery continues to enhance the services we are able to provide to our petroleum customers,” said Crowley’s Rob Grune, senior vice president and general manager, petroleum services. “We celebrate new tonnage and the advanced technology, but most important to us and to our customers are the highly trained men and women of Crowley who are committed to transporting their fuel in the safest, most reliable way possible.”

The new 50,000-dwt product tankers are based on a proven Hyundai Mipo Dockyards (HMD) design that incorporates numerous fuel efficiency features, flexible cargo capability and the latest regulatory requirements. The vessel is 600 feet long and is capable of carrying crude oil or refined petroleum products, as well as various chemical cargoes.

(20-foot-equivalent-units), with additional space for nearly 400 vehicles in an enclosed Ro/Ro garage.

The Jones Act is a federal statute that provides for the promotion and maintenance of a strong American merchant marine. It requires that all goods transported by water between U.S. ports be carried on U.S.-flag ships constructed in the United States, owned by U.S. citizens, and crewed by U.S. citizens and U.S. permanent

residents.

Crowley has served the Puerto Rico market since 1954, longer than any other carrier in the trade, and occupied the 75-acre Isla Grande Terminal the entire time, making it the longest continual occupant of any Jones Act carrier in the trade. The company, with over 250 Puerto Rico employees, is also the No. 1 ocean carrier between the island commonwealth and the U.S. mainland with more weekly sailings and more cargo carried annually than any other shipping line. ■



Zero-emission truck under development

Loop Energy announced that it has been awarded a \$7.5 million grant from Sustainable Development Technology Canada (SDTC) to accelerate deployment of the company's new zero-emission powertrain for heavy-duty trucks.

Diesel trucks are a primary contributor to the release of greenhouse gases in North America, comprising four percent of total vehicles but accounting for twenty percent of emissions and oil use from the entire transportation sector. Without implementing solutions for heavy duty trucking, it will be impossible to reach emission reduction goals that 195 nations committed to at the recent COP21 Paris Climate Conference.

"SDTC is a real leader in vetting and supporting green technologies that will solve climate change," said Ben Nyland, President of Loop Energy. "This award reflects their conviction that Loop's zero-emission powertrain is a commercially competitive solution for heavy duty trucks, and that's a huge validation for us."

Loop zero-emission heavy duty powertrains enable the annual reduction of 64 tonnes of carbon dioxide per truck, equal to removing 15 automobiles each year from our roads. The Loop powertrain is ideally suited for urban freight applications, such as yard trucks and delivery trucks operating at commercial distribution centers, and drayage trucks operating at ports. The SDTC grant will accelerate the deployment of the Loop system in Class 8 trucks built by Peterbilt that will be put to work at a customer location.

"Sustainable Development Technology Canada (SDTC) is incredibly proud to support Loop Energy," said Leah Lawrence, President and CEO. "Our mission is to help Canadian cleantech entrepreneurs move their ground-breaking technologies to commercialization by bridging the funding gap between research and market entry. This zero-emission powertrain for heavy-duty trucks is the kind of technology that has the potential to generate jobs, growth and export opportunities, and to bring lasting economic, environmental and health benefits to Canadians and the world."

University of Ontario releases natural gas and electric vehicle study

According to the research, natural gas and electric vehicles offer clear benefits to Ontario's environment and economy: \$76 billion savings in transportation fuel costs and reduced greenhouse gas emissions of more than 100 million tons by 2050.

Research presented by Dr. Daniel Hoornweg, University of Ontario Institute of Technology (UOIT), at the Ontario Energy Association's (OEA) Speaker Series, Exploring Alternative Transportation Options in Ontario: Electric & Natural Gas Vehicles, states Ontario can save billions of dollars in fuel costs and significantly reduce greenhouse gas emissions (GHG) by 2050 if it addresses transportation issues and implements solutions that include increased reliance on natural gas and electric-powered vehicles.

"As a minimum, the proposed approach which includes making the switch to other cleaner, safer and more affordable energy alternatives, would provide fuel savings costs of some \$76 billion and reduced greenhouse gas emissions of more than 100 million tons by 2050," said Dr. Hoornweg.

The research study from UOIT led by Dr. Hoornweg, was prepared as part of ongoing transportation work through the university's Jeffrey S. Boyce Research Chair in Natural Gas as a Transportation Fuel. The research takes an integrated retrospective view from 2050, and concludes that a long-term approach focusing on clean and affordable

solutions is feasible with the use of electric-powered personal vehicles and natural gas-powered buses and heavy-duty trucks.

"Some private trucking firms and municipal bus fleets have already transitioned from diesel to liquefied natural gas as a transportation fuel," says Dr. Hoornweg. "Natural gas is particularly cost-effective in areas of high-volume transportation like Southern Ontario. It is less expensive, burns cleaner and dramatically reduces greenhouse gas emissions."

The OEA has also advocated that fuel switching (greater adoption of LNG/ CNG vehicles) will significantly improve the emissions profile of Ontario's transportation sector.

"The transportation sector is the single largest source of GHG emissions in Ontario and reducing transportation emissions will go a long way to reaching the government's reduction targets," says Bob Huggard, OEA President and CEO. "With an increased use of natural gas and electric powered vehicles, the proposed strategy offers effective solutions for both Ontario's low-carbon economy and climate change mitigation goals." ■



Canada: Hyundai delivers first fuel cell vehicle in Ontario

Hyundai was the first to deliver its Tucson Fuel Cell to customers in Canada with a focus on BC in 2015. First customer in Ontario extends Hyundai's leadership in the fuel cell vehicle segment. Tucson Fuel Cell is a zero-emissions vehicle that uses hydrogen gas stored in tanks with oxygen from the atmosphere to generate electricity for mobility.



After becoming the first automotive brand in Canada to deliver zero-emissions, hydrogen-powered Tucson Fuel Cell Electric Vehicles (FCEV) to B.C. families in 2015, Hyundai Auto Canada Corp. extended its leadership with this advanced technology by handing-over the keys to a customer in Ontario. On March 10, Joseph Cargnelli, Chief Technology Officer and Co-Founder at Mississauga-based Hydrogenics Corporation, took delivery of his 2015 Tucson Fuel Cell vehicle. The transaction was managed by two Hyundai dealership representatives from Don Valley North Hyundai: Arthur Leung, General Manager, and Ashkan Mavandadi, Sales Consultant.

"I am extremely proud to be Hyundai's first customer in Ontario to take delivery of a fuel cell vehicle," said Cargnelli. "Hydrogen-powered fuel cell technology has the incredible potential to revolutionize our world by delivering clean energy to meet our every need; this is especially true when it comes to transportation. By offering the Tucson Fuel Cell to customers, Hyundai is taking a significant step toward a brighter and cleaner automotive future; I have been

eagerly awaiting the opportunity to drive my new fuel cell vehicle and showcase this technology every day."

"Everyone at Don Valley North Hyundai was honored to have the responsibility of delivering the first Tucson Fuel Cell to a customer in Ontario," said Leung. "The Tucson Fuel Cell is the ultimate expression of Hyundai's deep expertise in developing advanced technology through its substantial investment in research and development. By making this next-generation powertrain available to customers, Hyundai is furthering its role as a leader in the eco vehicle space."

In November, 2014, Hyundai Auto Canada announced it would become the first Canadian automotive company to offer its Tucson FCEV to actual, real-world customers. Since the first vehicle delivery took place in February, 2015, six Tucson FCEVs have been delivering thousands of zero-emissions kilometers on the roads of British Columbia. With the expansion to Ontario, the company is further demonstrating the capabilities of FCEV technology and calling for investment in infrastructure development. "There is no doubt in my mind that fuel cell

powertrains are ready for prime-time. We have proven that time and again," said Don Romano, President and CEO of Hyundai Auto Canada. "The Tucson Fuel Cell is exceeding expectations with its versatility, range, ease-of-use, and features. We believe that fuel cells are the future for the automotive industry and Hyundai has shown the technology has matured. The next step facing governments at all levels is investing in a network of hydrogen fueling stations so more customers can enjoy zero-emissions driving."

Hyundai's advanced fuel cell technology effectively replaces the battery pack used in an electric vehicle by generating electricity from an electrochemical process that involves stored hydrogen and oxygen from the atmosphere. The process does not involve hydrogen combustion, and there are no moving parts within the fuel cell stack. The only by-product is pure water vapour, making the Tucson FCEV a zero-emissions electric vehicle. Further, unlike battery electric vehicles, the Tucson FCEV takes less than five minutes to refuel with hydrogen gas and can deliver an estimated 426 km of emissions-free driving. ■

the GVR

The latest and most important
news of the European
NGV market



You cannot miss it!

Reserve your
space at
info@thegvr.com

www.ngvjournals.com



Largest hydrogen refueling network opens in California

The first 15 True Zero stations were brought online at an unprecedented speed and scale throughout Silicon Valley, the greater Los Angeles area, Lake Tahoe area, and Harris Ranch in the San Joaquin Valley. When phase one of the network is complete, the CO2 reductions could be equivalent to planting a forest nearly the size of San Francisco.

Significantly larger numbers of electric fuel-cell cars will go on sale in California this year following decades of hard work by thousands of automotive engineers, policymakers, and government-agency personnel. The simultaneous launch of the True Zero Network, a series of hydrogen-charge stations being established by start-up FirstElement Fuel Inc., will help eliminate the major roadblock facing these types of cars: anxiety over finding a reliable place to charge.

"In the past the lack of a fueling network kept fuel-cell vehicles off the road, and has been hampering activity in recent years," explained Joel Ewanick, chief executive officer of Irvine-based FirstElement Fuel. "Soon, a short stop for a four-minute charge of True Zero hydrogen will enable drivers of all-electric fuel-cell cars to confidently get to their destination without the worry of range anxiety."



The first 15 True Zero stations were brought online at an unprecedented speed and scale throughout Silicon Valley, the greater Los Angeles area, Lake Tahoe area, and Harris Ranch in the San Joaquin Valley. An additional four stations are expected to be online by year's end. The projects are being funded in large part by grants from the California Energy Commission, South Coast AQMD and Bay Area AQMD, as well as partnerships with automotive firms Toyota and Honda who are first to market with fuel-cell electric vehicles. This network gives confidence to the hydrogen community that

the industry can quickly bring on line the required stations to meet the demand and timing of the OEM's.

"We owe a special thanks to the State of California and to the automakers committed to fuel-cell vehicles for their persistence and support," said Ewanick. "It goes well beyond the financial assistance; the technical assistance has also been critical. We knew building out this network was going to be challenging. Having completed 15 stations in 18 months is an unprecedented achievement."

True Zero represents the world's largest network of hydrogen-charge ports ready for retail consumers. Customers are now able to charge their vehicles at stations throughout California.

"These 15 stations are on the verge of being open for the first wave of hydrogen-electric vehicle customers," said Ewanick. "Even though we are achieving 99% uptime – we strive to perfect the stations – we don't want to leave anyone stranded. As with any new technology we continue to work through glitches surrounding the launch of a product that is cutting-edge. Opening a True Zero charging station is not the finish line, it's the starting line. It's all about the customer experience and 100% reliability."

Zero emission vehicles

This generation of vehicles powered by fuel cells will be able to travel more than 300 miles on a single charge and a "fill up" of True Zero will take four minutes or less. "So customers will be able to drive an electric fuel cell car seamlessly throughout California, through the San Joaquin Valley and out to Lake Tahoe, just like they drive a gasoline, car thanks to the True Zero Network," added Ewanick.

"True Zero symbolizes the ultimate goal – a vehicle fuel with zero pollution, zero use of fossil fuels and zero greenhouse gases in both its production and use," explained Ewanick. "It's about the drive towards zero emissions from well to wheels; towards zero impact on the environment from a motor vehicle."

As a fuel, hydrogen is similar to electricity in that it is produced from a variety of sources. In California one third of the hydrogen produced today comes from renewable sources, with the remaining two thirds incorporating natural gas and water. An electric vehicle powered by hydrogen uses its fuel cell to convert the hydrogen into electricity to run the motor. The only emission coming from the vehicle is water. Once its 19 initial charging ports are completed, it is estimated the True Zero Network will have the capacity to replace 2.5 million gallons of gasoline with domestically sourced hydrogen and reduce CO₂ emissions by 34 million pounds each year, or the equivalent to planting a forest nearly the size of San Francisco. ■

12 new sites planned in northeastern US

Air Liquide announced locations of four hydrogen fueling stations planned for the northeastern region of the United States. The stations will be open to the public, providing consumers in the region with the infrastructure required for zero-emission hydrogen fuel cell vehicles. The facilities will be located in the following cities: Hartford, Connecticut; Braintree, Massachusetts; Mansfield, Massachusetts; and Bronx, New York.

The stations are the first of twelve hydrogen stations planned by Air Liquide in the northeast U.S., in collaboration with Toyota Motor Sales USA, Inc. Initially, the network of hydrogen stations will span approximately 300 miles across five states and will support the introduction of hydrogen fuel cell vehicles on the East Coast, including the Toyota Mirai. The stations are slated to open to the public by early 2017.

The hydrogen supplied by Air Liquide will be

produced off-site and delivered to the stations. The stations, designed and constructed by Air Liquide, will be capable of fueling a hydrogen fuel cell vehicle in approximately 5 minutes and will offer a typical vehicle fueling experience. Hydrogen vehicles can have a range of more than 300 miles (500 km) per fill, depending on the model. The stations have the capacity to support other auto manufacturers as they begin to bring hydrogen fuel cell vehicles into the region.

Ole Hoefelmann, CEO of Air Liquide Advanced Technologies U.S. LLC and Vice President of Air Liquide advanced Business & Technologies (aB&T) Americas, commented: "Air Liquide firmly believes in the potential of hydrogen as a clean and reliable source of energy for the transportation sector, both in the United States and worldwide. We are deeply committed to enabling the widespread deployment of hydrogen fuel cell technology and the required infrastructure."



Ready Refresh
JUST CLICK AND QUENCH

NESTLÉ WATERS N.A., INC.
LABOR 257995

Ready RefreshSM

JUST CLICK AND QUENCH



ReadyRefresh.com

Nestlé Waters expands Autogas fleet with 155 new trucks

The popular company will add more than 150 Ford F-650 trucks fueled by LPG. The beverage delivery vehicles will reduce carbon dioxide emissions by more than 24.6 million pounds, and will help Nestlé save on maintenance and fuel costs.

Environmental stewardship is the main reason Nestlé Waters North America is adding more than 150 medium-duty beverage delivery trucks fueled by LPG: over the vehicles' lifetime, the 155 Ford F-650 trucks will reduce carbon dioxide emissions by more than 24.6 million pounds. These units will be deployed as of April.

"Becoming a better steward of our environment is a priority for Nestlé Waters," said Bill Ardis, national fleet manager for Nestlé Waters North America, speaking at the NTEA Work Truck Show. "We have been running propane autogas vehicles since 2014. Because of the proven emissions reductions and cost savings, we knew it was the right choice to expand our fleet with this domestically produced alternative fuel."

The new medium-duty delivery trucks, added

to the company's existing Autogas fleet, will also help the company save on maintenance and fuel costs. "Autogas allows us to operate without compromising standard delivery methods and reduce operational costs. Customers have already noticed that our trucks operating on Autogas are quieter and cleaner," Ardis added.

Each delivery truck is equipped with a California Air Resources Board- and Environmental Protection Agency-compliant ROUSH CleanTech propane autogas fuel system with a 45-usable gallon fuel tank.

The Nestlé Waters North America propane trucks deliver products to customers across the country including Los Angeles, San Francisco, Washington, D.C., Milwaukee and Fort Lauderdale. Deployments in 2016 will include New York City, Boston, Dallas, Houston, Chicago, Philadelphia and Baltimore.



YOU
choose
WE
deliver!

Powered by
CLEAN BURNING
PROPANE AUTOGAS

NGVJournal.com, always with you

Customized version for cell phones and tablets



SUBSCRIBE
FOR FREE





You can read it on your phone and your tablet, as easily as on your computer. Site 100% responsive.



Renovated esthetics and structure. It is now easier to read and access all contents in just one click.



Direct connection with social networks. Share our news with your colleagues instantly.

THE
NEW  **NGV**
journal HAS ALREADY
ARRIVED!



The Largest Diameter Type 3 Cylinders in the World!



- 37% More Gas at Fast Fill compared to the Type 4 design
- Better heat dissipation through the aluminum liner

- 13% more DGE per tank than listed; 28% less fuel stops
- Lower price per DGE



Fast Fill. Safe Fill. Full Fill.

CNG cylinders international

Ph: +1 (805) 278-8060 • Fx: +1 (805) 278-8090
info@cng.us.com • www.cng.us.com