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New LPG-powered bus fleet deployed in San Diego

More mine projects switching to LNG operation in the U.S. and Canada

More CNG buses hit the nation’s streets

Through different programs, the clean buses aim to improve public transport options
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Green Fleets

Arkansas Transit Authority in Little Rock will receive $1,653,498 to purchase CNG buses to replace vehicles that have met their useful life; the Los Angeles County Metropolitan Transportation Authority (LACMTA), California, will receive $10,500,000 for the replacement of buses that have met their useful life with CNG buses to operate in the South Bay LA area; the Hillsborough Area Regional Transit Authority (HART), Florida, will receive $4,273,771 to purchase CNG buses to replace diesel buses that have reached the end of their useful life; the Rock Island County Metropolitan Mass Transit District (Metrolink), Illinois, will receive $391,000 to replace diesel buses that have exceeded their useful life with CNG buses; the Transit Authority of the City of Omaha (Metro), Nebraska, will receive $2,424,240 to purchase new CNG buses and partner with local community and workforce development centers to integrate public transit into the local workforce development experience.

FTA program

The U.S. Department of Transportation’s Federal Transit Administration (FTA) announced the selections for its Bus and Bus Facilities Grant Program that will help provide more modern, reliable bus service for transit riders across the country. 61 projects in 41 states, the Virgin Islands, and Indian Country will receive a share of nearly $211 million to replace, rehabilitate, and purchase transit buses and related equipment, and construct bus-related facilities.

The projects selected to receive 2016 Bus Program funding include: the Mass Transportation Authority in Flint, Michigan, will receive $12.8 million for the purchase of CNG buses and a workforce development training program for mechanics and bus drivers; the Birmingham-Jefferson County Transit Authority, Alabama, will receive $405,000 to purchase a new CNG bus for service in the Birmingham; the Central Arkansas Transit Authority in Little Rock will receive $1,653,498 to purchase CNG buses to replace vehicles that have met their useful life; the Los Angeles County Metropolitan Transportation Authority (LACMTA), California, will receive $10,500,000 for the replacement of buses that have met their useful life with CNG buses to operate in the South Bay LA area; the Hillsborough Area Regional Transit Authority (HART), Florida, will receive $4,273,771 to purchase CNG buses to replace diesel buses that have reached the end of their useful life; the Rock Island County Metropolitan Mass Transit District (Metrolink), Illinois, will receive $391,000 to replace diesel buses that have exceeded their useful life with CNG buses; the Transit Authority of the City of Omaha (Metro), Nebraska, will receive $2,424,240 to purchase new CNG buses and partner with local community and workforce development centers to integrate public transit into the local workforce development experience.

More CNG buses hit the nation’s streets

Through different programs and initiatives, more and more natural gas vehicles are being added to public transportation fleets in cities across the country. The aim is improving transportation options and mobility for thousands of transit riders.
“The Obama Administration is committed to improving transportation options that connect people in rural and urban areas across the country to opportunities,” said U.S. Transportation Secretary Anthony Foxx. “These grants will improve mobility for thousands of transit riders who depend on bus service every day, expanding access to employment, education, healthcare, and other important services in their communities.”

Texas

Nova Bus has received an order for 425 40-foot CNG buses from VIA Metropolitan Transit in San Antonio, Texas. In addition, it has received an order for 80 Nova LFS® model buses, and 20 LFS Artic® model articulated buses from the Metropolitan Transit Authority of Harris County (METRO) in Houston, Texas. The buses will be manufactured in Plattsburgh, state of New York.

“We are thrilled and very proud to partner with both VIA Metropolitan Transit in San Antonio and the Metropolitan Transit Authority of Harris County, two of the nation’s leaders in public transportation,” President of Nova Bus Raymond Leduc said. “This is another milestone in our history of partnership for excellence in public transportation in Texas using vehicles that will help these progressive cities meet their sustainability objectives. Nova Bus is proud of its leadership position in green transportation solutions.”

Nova Bus CNG buses, to be delivered in San Antonio, feature a complete suite of technological systems including GPS, passenger counter, camera system, and public information video screens. They define a new generation of natural gas-powered buses with substantial fuel savings. Delivery will begin at the end of November 2016 and will support VIA’s ongoing
all-CNG fleet conversion. In 2016, VIA became the only public transit agency in the Southwestern United States to earn certification from the International Standards Organization (ISO) for its proactive efforts to provide sustainable service through its Environmental and Sustainability Management System (ESMS).

**Washington DC**

New Flyer of America Inc., a subsidiary of New Flyer Industries Inc. announced the Washington Metropolitan Area Transit Authority (WMATA) exercised options for 100 heavy-duty 40-foot New Flyer Xcelsior® CNG buses. The 100 options valued at approximately $56 million were exercised off a contract signed in June, 2013. To date, 500 buses have been exercised off this contract of which 329 have already been delivered to WMATA and 75 XDE40 or 60-foot buses remain to be exercised.

The buses will be deployed to support the Priority Corridor Network (PCN) focused on improving service of 24 of the busiest routes that today serve half of WMATA’s 440,000 daily riders. New Flyer’s best in class Xcelsior buses will add over 100,000 new daily rides to the PCN and is expected to save each passenger up to 50% on their typical travel time.

WMATA currently provides over 2.3 million trips to over 4 million residents every year across the National Capital Region, with a predicted increase in fleet size from 1,505 buses in 2013 to 2,060 by 2025. WMATA’s growing ridership increases by approximately 40,000 trips per year and has a service area spanning 1,500 square miles.

“With over 1,200 buses delivered to WMATA since 2002, New Flyer is thrilled to continue our relationship with WMATA and be a partner they can continue to rely on,” said Paul Soubry, New Flyer’s President and CEO.

Moreover, Clean Energy Fuels Corp. recently announced that it has been awarded a multi-year contract for WMATA. The contract covers two transit stations that supply over 580 CNG transit vehicles and represents approximately 6 million Gasoline Gallon Equivalents (GGEs) per year.

San Diego MTS opens facility for natural gas buses

San Diego Metropolitan Transit System (MTS) has opened the East County Bus Operations and Maintenance Facility, located in El Cajon, which will help the region continue to reduce air pollution and will be home to 120 clean burning CNG buses. Moreover, a new natural gas fueling station on site will allow the agency to phase out the existing diesel-fueled buses and replace them with more NGVs.

“MTS is focused on improving all facets of our business to improve efficiency, reliability, passenger amenities and the air we breathe,” said MTS CEO Paul Jablonski. “The new East County Bus Operations & Maintenance Facility helps us achieve all those goals.”

The 34,500-square-foot maintenance building and 10,275-square-foot administrative building involved an investment of $38 million from MTS funds, a Federal Transit Administration competitive grant secured by MTS, Transit Development Act (state) and State Transit Assistance Program funds. The construction contractor was Clark Construction.

“Continuing our county-wide successes in reducing pollution requires the type of investment and forward thinking that MTS is bringing to this fight,” said SANDAG Board Chair Ron Roberts, who also sits on the California Air Resources Board. “Bringing CNG to East County at a modern, energy efficient facility is exactly what our region needs for air quality improvements.”

The new facility serves East County’s urbanized area along the Interstate 8 corridor, as well as rural and unincorporated areas in the county. It employs 115 bus operators and 14 mechanics who will provide bus service for more than 4 million riders annually. Its energy-efficient designs and equipment include on-site renewable energy, LED lighting, reflective windows, water use reduction techniques, drought-tolerant landscaping and temperature control technology. All these features will help the facility secure LEED Silver status by the U.S. Green Building Council.
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Oregon

Clean Energy Fuels Corp. announced that it has opened its first public natural gas station in Oregon (the fourth in the state) on Interstate 5 in Central Point, outside of Medford. The addition of this station gives customers the ability to drive from San Diego to Seattle utilizing Clean Energy’s “America’s Natural Gas Highway™.” The station, located in a Pilot Travel Center Plaza, dispenses both LNG and CNG, and is open to the public 24/7.

Matheson Trucking, a United States Postal Service contracted carrier, is using the station for its California to Seattle runs. “The addition of this station allows us the strategic advantage of being able to rely on natural gas throughout our entire distribution system. With an annual fleet distance of close to 36 million miles, we are always looking for ways to reduce GHG-emissions, and being able to use natural gas will help us do just that,” said Joshua Matheson, vice president of operations for Matheson Trucking, Inc.

The Central Point public station adds to Clean Energy’s presence in Oregon. Earlier this year, Clean Energy expanded its relationship with Fred Meyer Stores, a division of The Kroger Co., in Oregon by providing the large grocery retailer with Redeem™ renewable natural gas for its fleet of heavy duty trucks. Clean Energy also announced the opening of a private station in Wilsonville for long time customer Republic Services, the nation’s second largest solid waste management company.

“Our natural gas fueling infrastructure continues to grow as more and more fleets and consumers turn to natural gas,” said Chad Lindholm, vice president of Sales at Clean Energy. “By opening stations like Central Point and connecting the I-5 corridor, we can offer our customers the fuel and the infrastructure they need to make the transition to alternative fueling as seamless as possible.”

Washington

Clean Energy also announced the opening of a new state of the art, public natural gas station along Interstate 5 in Fife, a suburb of Tacoma. The station adds to Clean Energy’s “Americas Natural Gas Highway™”, allowing fleets to operate from state to state utilizing natural gas vehicle fuel.

The station was designed, built, and will be operated and maintained by Clean Energy. The station consists of two LNG fast-fill pumps, and is open to the public 24/7. Interstate Distributor Co., headquartered in nearby Tacoma, will use the station for its fleet of LNG tractors operating throughout the Pacific Northwest.

“As the first national freight carrier in the Pacific Northwest to use natural gas vehicles for our fleet, we’re very happy to see another station become available that can support our regional distribution network,” said Interstate Distributor Co. CEO Marc Rogers. “We made the transition to natural gas early so we would be ahead of the game, and now that the infrastructure is here, we’re more and more confident each day that we made the right decision.”

“We continue to focus on key transportation corridors like the I-5 to expand our natural gas infrastructure,” said Chad Lindholm, vice president of Sales at Clean Energy. “As our partners like Interstate make the transition to natural gas, we can offer the fueling stations they need to expand along with them.”
FedEx opens CNG station and unveils green fleet in Oklahoma

The multinational courier delivery services company launched a new facility at its Oklahoma City Service Center, including a Clean Energy four-lane “fast fill” station which closely replicates a diesel fueling experience. The new site will serve FedEx new Class 8 CNG tractors.

FedEx Freight, wholly owned subsidiary of FedEx Corp. and a leading U.S. provider of LTL freight services, has purchased more than 100 Class 8 CNG tractors and has installed a CNG fueling station to serve the new CNG fleet at its Oklahoma City Service Center. FedEx Freight contracted with Clean Energy Fuels Corp to design, build, and maintain the fueling station. The station is estimated to dispense approximately 2.5 million gasoline gallon equivalents (GGEs) per year.

The CNG fueling station in Oklahoma City provides efficiency for fueling the fleet through two different methods. The facility includes a four-lane “fast fill” station which closely replicates a diesel fueling experience. Also on site is a “time fill” station which has six zones and 18 hoses. In time-fill applications, drivers connect their vehicles to an automated system in which the tractors are fueled over an extended period of time, typically overnight.

“A fact we take very seriously at FedEx is that people want to do business with companies who invest in making the world a better place,” said Michael Ducker, president and CEO of FedEx Freight. “Plus, it’s simply the right thing to do. And given that the state of Oklahoma has been so supportive of sustainable transportation solutions, we felt this was the perfect place to set a strong example within the LTL industry.”

“The use of natural gas by FedEx Freight is a natural extension of our corporate-wide efforts to provide sustainable solutions that benefit the customers and communities we serve,” said Mitch Jackson, vice president of Environmental Affairs and Sustainability, FedEx Corp. “Across the FedEx enterprise, we continuously look for ways to maximize our efficiency while advancing our commitment to connect the world in responsible and resourceful ways.”

Clean Energy announced that it expects to supply the station with its Redeem™ renewable natural gas (RNG) vehicle fuel in the near future. This will expand the use of Redeem, which can reduce greenhouse gas emissions up to 70% as compared to diesel, to yet another state and demonstrates the growing popularity of the fuel to meet companies’ and municipalities’ sustainability goals.

The opening event at the FedEx Freight Oklahoma City Service Center was attended by Oklahoma Governor Mary Fallin, FedEx chairman and CEO Fred Smith, Clean Energy co-founder Boone Pickens, and Clean Energy president and CEO Andrew Littlefair, as well as many other federal, state and local and industry officials.

“As one of the largest logistics companies in the world, FedEx does its homework when charting a new course and their decision to open up a major CNG fueling center was no different,” said Andrew J. Littlefair, CEO and president of Clean Energy. “Led by Fred’s vision, the company has always had a commitment to operate on the highest sustainable level. Transitioning a portion of FedEx Freight’s fleet to a fuel that will substantially reduce greenhouse gas emissions is another example of their leadership.”

To kick off the event, NGVAmerica President Matt Godlewski presented the annual NGV Achievement Award to Michael Ducker, president and CEO of FedEx Freight for his company’s leadership in alternative fuel transportation.

“It was an honor for NGVAmerica to be at such an important event to recognize Mike Ducker and FedEx Freight for their commitment to natural gas fueling,” said Matthew Godlewski, President of NGVAmerica. “As we continue to advocate for the industry to legislators in Washington and businesses around the nation, it’s important that we can point to transportation service providers like FedEx Freight, as an example of leadership when it comes to reducing GHG emissions.”

UPS opens largest CNG station in Midlands area, South Carolina

The Midlands area’s largest CNG fueling station officially began operating in September as a ribbon-cutting ceremony held by UPS, TruStar Energy and public utility SCE&G. The station serves a fleet of 35 UPS tractor trailers designed to run on natural gas.

Located on the campus of the UPS Customer Center in West Columbia, S.C., the station is the largest one in SCE&G’s natural gas service territory. CNG station developer TruStar Energy designed and built the facility, working closely with SCE&G to plan for increased natural gas delivery. To increase natural gas capacity to the site, SCE&G replaced approximately 1,600 feet of pipeline.

“We’re proud to provide clean, safe natural gas to help UPS fuel its South Carolina fleet operations,” said Rusty Harris, senior vice president of gas distribution for SCE&G. “Knowing this fuel will help lower carbon emissions and have a positive environmental impact for communities we serve is an added bonus.”

The new CNG station is one of 12 that UPS has committed to build as a part of the logistics company’s commitment to reduce its greenhouse gas emission intensity 20% by 2020.
APG signed two new Class 8 Authorized Dealers and Certified Installers to help launch APG’s dual fuel technology in the Pacific Northwest. Moreover, the company entered new Authorized Dealer and Certified Installer agreements with Cullen Diesel Power Ltd. to introduce this technology to British Columbia.

Pacific Northwest

American Power Group Corporation announced that its subsidiary, American Power Group, Inc. (APG), has signed two new Class 8 Authorized Dealers and Certified Installers to help launch APG’s dual fuel technology in the Pacific Northwest. The two new APG Dealer/Installers are Portland-based Truck Source, a one-stop-shop for heavy-duty truck sales, service and parts; and Truck ‘N Travel, a full service TA Travel Center located north of Eugene in Coburg, Oregon and operates a Class 8 truck compatible CNG fueling station. APG’s first Pacific Northwest dual fuel customer is GloryBee, which is headquartered in Eugene, Oregon, and has been supplying honey, sweeteners, spices, dried fruits, nuts, oils and other quality ingredients to natural food manufacturers, bakeries, and retail stores for over 40 years as a family-owned business. It is dedicated to multiple sustainability practices to reduce energy usage and lower production of greenhouse gasses to minimize their carbon footprint.

Howard James, GloryBee’s Maintenance Manager, stated: “In 2016, we added APG’s CNG dual fuel technology to two of our trucks running on a 20% biodiesel fuel mix. These dual fuel trucks are expected to produce even cleaner fuel emissions and reduce additional greenhouse gasses compared to our current straight biodiesel initiative. We have been very pleased with APG’s dual fuel performance and expect to expand its adoption to additional trucks in our fleet.”

Lyle Jensen, American Power Group
APG has received online notification from the U.S. Environmental Protection Agency (EPA) that its recent Clean Alternative Fuel Vehicle and Engine Conversion Submission has been approved for the following additional Intermediate Useful Life (IUL) engines: Cummins ISX 14.9L 2013 to 2005.

The submission utilized APG’s V5000 Dual Fuel Turbocharged Natural Gas® technology which is required to meet specific design, componentry and emission compliance criteria per the EPA Final Rule 40 CFR Parts 85 and 86. Thirteen Cummins ISX 14.9L engine families became APG’s fourth IUL approval covering Selective Catalyst Reduction (“SCR”) engine technology which meets or exceeds the current 2010 EPA OEM certified engine emission standards. APG leads the industry with 487 OUL and IUL approvals covering six of the top OEM engine platforms including and industry record 31 IUL approvals for 2013-2010 OEM engine families with SCR engine technology.

Lyle Jensen, American Power Group Corporation’s President and CEO, stated, “We are pleased to add Cummins ISX15 late-model year engines to our list of previously EPA approved engines. The Cummins ISX15 enjoys a market leadership position in big-bore engines where retention of power and torque is critical. The U.S. heavy-haul trucking market does not have a viable natural gas engine option for 450HP to 600HP Class 8 trucks except for APG’s dual fuel solution. During 2014, several dedicated natural gas engine OEMs cancelled or delayed their 13-liter and 15-liter natural gas engine development leaving a significant gap in the Class 8 natural gas engine coverage. With APG’s Cummins ISX15, Detroit Diesel DD13/DD15, and Volvo/ Mack D13 IUL approvals, we fill in that gap with a natural gas solution that does not compromise power. We have identified over 20,000 registered Cummins ISX15 owners representing approximately 100,000 trucks for engine production years 2013-2010.

This target list will be marketed through our natural gas supply partners and our authorized dealer network. We estimate there are 600,000 - 700,000 Class 8 trucks that fall into the total eligible IUL designation.”

Jensen concluded, “In the high horsepower truck markets, APG’s dual fuel system displaces more diesel fuel per invested dollar than any other natural gas engine technology. A fleet owner can purchase one new dedicated 11.9L natural gas truck for approximately $180,000 and displace around 18,000 gallons of diesel fuel per year. The same $180,000 investment, a fleet owner can convert six of his existing high-horsepower diesel tractors to dual fuel and displace on average 55%-60% or 60,000 gallons, of diesel fuel per year which is 3.3 times higher diesel displacement per invested dollar.”

Corporation’s CEO, said: “The natural gas fueling infrastructure is starting to expand in the Pacific Northwest and we look forward to supporting the region and GloryBee’s future sustainability objectives with more dual fuel trucks. Existing Class 8 heavy-duty diesel trucks are a top contributor to poor air quality across the United States. Each year corporations can improve their sustainability results by replacing diesel fuel with natural gas, especially in the transportation of goods and services.”

British Columbia

American Power Group Corporation announced that its subsidiary, American Power Group, Inc. (APG), has entered an Authorized Dealer Agreement and a Certified Installer Agreement with Cullen Diesel Power Ltd. to introduce APG’s Turbocharged Natural Gas® V5000 Dual Fuel Systems to British Columbia.

The first APG dual fuel order for ten systems will be installed on conversions for Clark Freightways from Coquitlam, British Columbia and funded through a local natural gas conversion incentive program. Shipment of the initial ten APG systems is scheduled for September 2016.

Cullen Diesel Power and its subsidiaries will manage all aspects of the APG V5000 Dual Fuel dual fuel conversions in British Columbia. Moreover, Clark Freightways’ management team is leader in green initiatives and is committed to reducing their carbon footprint through continual research, investment, and implementation of fuel conservation and emission reduction solutions.

Lyle Jensen, American Power Group Corporation’s CEO, stated, “We look forward to working with Cullen Diesel Power and Clark Freightways and fully support the various incentive programs to open up the British Columbia market to the economic and environmental benefits of APG’s Turbocharged Natural Gas® Dual Fuel Technology. There are reported to be over 50,000 registered Class 8 trucks in BC and many are heavy-haul high horsepower route profiles which only have dual fuel natural gas technology as a solution in order to retain the required power and torque performance. This pilot program is a ‘win-win’ scenario for the fleet owners and citizens of British Columbia.”
New 'Near Zero' NOx natural gas engine under production

In October Cummins Westport Inc. announced that the production of the ISL G Near Zero (NZ) heavy duty natural gas engine commenced. The engine development was partially granted with a subsidy from the California Energy Commission.

The California Energy Commission approved in September a $1 million grant to develop a 12-liter natural gas engine that produces near-zero nitrogen oxide (NOx) tailpipe emissions. The engines would be suitable for heavy-duty vehicles.

The South Coast Air Quality Management District (SCAQMD) will work with Cummins Westport, Inc., to develop the engine. Cummins has a history of developing natural gas engines for heavy-duty application, and its engines are being used globally in a variety of commercial vehicles.

The grant focuses on existing engine research and consists of engine development and on-road vehicle demonstration. The engine will offer fleets an option for larger vehicles, such as drayage trucks equipped with natural gas near zero technology. Drayage trucks are used to haul cargo containers from ocean ports to distribution centers and rail yards.

The development of the natural gas engine will help meet California Air Resources Board 2010 emissions standards and support efforts to improve air quality in the South Coast and San Joaquin Valley air basins.

According to the Air Resources Board’s Sustainable Freight Action Plan, transportation – and heavy-duty vehicles in particular – play an important role in achieving California’s emission reduction goals. Additionally, these near-zero engines, when fueled with California-produced renewable natural gas, become a near-term and viable solution for greenhouse gas emission reduction efforts.

Production underway

In October Cummins Westport Inc. announced that orders were being processed and production of the ISL G Near Zero (NZ) natural gas engine commenced. The ISL G NZ is the first MidRange engine in North America to receive emission certification from both U.S. Environmental Protection Agency (EPA) and Air Resources Board (ARB) in California to meet the optional 0.02 g/bhp-hr. Near Zero NOx Emissions standards are eight years in advance of the 2023 California Near Zero NOx schedule and contributing to California Clean Air initiatives.

Exhaust emissions of the ISL G NZ are 90% lower than the current EPA and ARB NOx limit of 0.2 g/bhp-hr. and also meet the 2017 EPA greenhouse gas (GHG) emission requirements. Cummins Westport natural gas engines have met the 2010 EPA standard for particulate matter (0.01 g/bhp-hr.) since 2001. The ISL G NZ can operate on CNG, LNG or biomethane.

“The start of production of the ISL G Near Zero natural gas engine offers a game-changing solution for the reduction of urban tailpipe and engine related emissions,” said Rob Neitzke, President of Cummins Westport. “Combined with the reliability and operating improvements on the base ISL G engine, the ISL G Near Zero is now at the forefront of cost-effective and dependable emission reduction strategies in transit, medium-duty truck and refuse applications.”

In addition to the dramatic reduction in NOx, the ISL G NZ will feature Closed Crankcase Ventilation, reducing engine related GHG methane emissions by 70%. Leveraging the technology improvements of the ISL G, the ISL G NZ offers a range and performance with the lowest emissions, utilizing maintenance-free Three-Way Catalyst (TWC) aftertreatment. The engine also offers low emission performance and efficiency with engine ratings from 250-320 horsepower, and 660-1,000 lb-ft torque available.
Casino and Selwyn Chihong signed a deal with Ferus NGF for LNG supply to the proposed Casino and the Selwyn Chihong mine projects located in the Yukon and Northwest Territories (NWT). Moreover, GFS Corp announced that it has received an order to convert an entire fleet of Caterpillar 785 trucks, expected to be operating on LNG by late January 2017, at an undisclosed mine in the United States.

Canada

Vancouver-based Casino Mining Corporation (Casino) and Selwyn Chihong Mining Ltd. (Selwyn Chihong) have signed a Memorandum of Understanding (MOU) with Ferus Natural Gas Fuels Inc. (Ferus NGF) for LNG supply to the proposed Casino and the Selwyn Chihong mine projects located in the Yukon and Northwest Territories (NWT).

To ensure proximal and long-term security of supply for the mines, Ferus NGF plans to build and operate a two-phase LNG plant in the vicinity of Fort Nelson, British Columbia (BC). The Fort Nelson area was strategically chosen to minimize the cost of transporting the LNG to the mines, contributing to supply reliability and strong project economics. Each phase, anticipated to be commissioned in 2020 and 2022 respectively, will produce 300,000 US gallons per day of LNG (equivalent in energy to approximately 175,000 gallons per day of diesel) and will supply the power generation plant and mining operations for the two projects.

The proposed LNG plant in Fort Nelson is expected to meet world class safety and environmental performance standards and will be completed in close collaboration and consultation with the relevant community and First Nations groups in northeast BC, Yukon and NWT. Furthermore, this plant will create direct construction and fuel transportation jobs in the region, and with the liquefaction of up to 50 mmcf/day of natural gas, could indirectly create jobs by re-activating some upstream drilling activity.

“The use of LNG instead of diesel in our operations will significantly reduce the cost of power generation and will eliminate 140,000 tons per year of CO2 emissions over the current 11-year mine life.”

“In signing this MOU and adopting LNG as part of the energy portfolio for their projects, Casino and Selwyn Chihong are demonstrating progressive thinking and remarkable leadership,” said Dick Brown, President & CEO of Ferus NGF. “Not only does this fuel choice make their projects cleaner and more competitive, demonstrating their commitment to building modern, environmentally responsible mines, it may also benefit neighboring mines, industries and communities currently powered by diesel by making the LNG more broadly available.”

United States

GFS Corp announced that it has received an order to convert an entire fleet of Caterpillar 785 trucks at an undisclosed mine in the United States. The trucks are planned to be operating on LNG by late January 2017. The company’s newest EVO-MT(R) 7850 and EVO-WL(TM) 9920 LNG retrofit systems will be added to the company’s growing list of proven LNG systems for the mining industry.

The new systems join GFS Corp’s product lineup that include NG+D® systems for the Caterpillar 777 and 793 as well as the Komatsu 830 and 930 haul trucks. Trucks with these systems have successfully accumulated over 400,000 hours of runtime to date, in mine service, substituting lower cost, cleaner burning LNG for a substantial portion of the diesel fuel that the truck would have normally used.

“The Caterpillar 785 is a very common model of haul truck, used in mines in many parts of the world where LNG is readily available and diesel costs are relatively high,” said Jason Green, GFS Corp’s President and CTO. “We are excited to be able to add these new systems to our product offerings.”

Moreover, the EVO-WL™ 9920 represents the company’s first LNG solution for wheel loaders. The first of these will be operational in early 2017. Systems for other wheel loaders are scheduled to be released in the second half of 2017.
NASSCO delivers two ECO Class tankers in San Diego

The shipyard recently delivered the Constitution and the Bay State, two LNG-conversion-ready product tankers, whose design represents the emerging direction of the shipping industry in the U.S. toward cleaner, more fuel-efficient modes of transporting product.
On Saturday, August 27, shipbuilders at General Dynamics NASSCO celebrated the christening and launch of the Constitution, the sixth ship in a series of eight eco-friendly tankers constructed or under construction at the company’s San Diego-based shipyard. The Constitution was built for SEA-Vista, a partnership between SEACOR Holdings Inc. and Avista Capital Partners, and will be operated by Seabulk Tankers, Inc.

In September NASSCO also delivered the fourth vessel in a series of five ECO Class product tankers under contract with American Petroleum Tankers. The Bay State was delivered during a special signing ceremony at the NASSCO shipyard in San Diego.

The Constitution and the Bay State are 610-foot, 50,000 deadweight-ton, and LNG-conversion-ready product tankers with a 330,000 barrel cargo capacity each. The new ECO Class design symbolizes the emerging direction and transformation in the U.S. shipping industry toward cleaner, more fuel-efficient modes of transporting product.

“The construction of a ship represents an entire community of highly-trained and highly-skilled individuals working together – from design conception to delivery – toward a common purpose: to revolutionize the future of American shipping with the construction of innovative, cost-saving, and environmentally-sound vessels,” said Kevin Graney, vice president and general manager for General Dynamics NASSCO. “The christening and launch of a ship represents the hard-earned efforts of this community.”

“These ships are the product of world-leading design, engineering and construction,” added Graney. “We take pride in knowing we are delivering other high-quality vessels to our partners.”

In July 2016, NASSCO marked its seventh ship delivery in just over a year. Equivalent to more than 100,000 tons of steel, notable deliveries within that year included three lead ships: the world’s first containership powered by LNG, the U.S. Navy’s first Expeditionary Sea Base, and the nation’s most fuel efficient product tanker.

The construction and operation of the new ECO Class tankers are aligned with the Jones Act, requiring that ships carrying cargo between U.S. ports be built in U.S. shipyards. The Jones Act is responsible for more than 500,000 good-paying jobs countrywide and supports American shipyards, such as NASSCO.

NuBlu Energy has begun the construction of a natural gas liquefaction plant in Port Allen, LA. Strategically located along the Mississippi River, NuBlu’s facility will support the region’s high-horsepower fueling applications such as rail, marine, long haul transportation, power generation, gas interruption, asphalt and other energy markets. The site is slated to be operational and producing high-quality LNG in the second quarter of 2017. Total planned capacity is 90,000 gallons per day with an initial start-up capacity of 30,000 GPD.

“This project represents the inauguration of a new direction for the LNG energy market. By ‘Making LNG Local’, NuBlu will foster the growth of LNG consumption for all current and future consumers of this clean energy fuel. Our patented process allows the production of LNG at a fraction of the cost per gallon of other existing liquefaction technologies and our modular design allows the facilities to be deployed at a relatively low capital outlay,” said Cory Duck, General Partner, NuBlu Energy.

Utilizing NuBlu’s patented technology, the first phase of the Port Allen facility will be capable of producing 30,000 gallons per day of LNG and will feature a storage capacity of 100,000 gallons. The facility will also employ an industry leading transfer system that will allow the loading of both LNG transport trailers as well as ISO containers to meet the requirements of the regional customer base.

“Our site selection process was intense. We wanted to be positioned to meet the demands of the emerging marine market for both brown water and blue water fueling and we absolutely believe we have achieved that goal,” added Josh Payne, General Partner, NuBlu Energy. “We have the ability to invest in the entire supply chain – from LNG conversions to fueling solutions.”
Californian hydrogen network breaks records surpassing two million miles of clean driving

It took nine months for True Zero network to reach the first million miles. 60 days after this milestone, they achieved the two million miles, reflecting the significant ramp up of the adoption of hydrogen fuel cell vehicles in California.
True Zero, which operates the world’s largest network of hydrogen refueling stations, has powered two million miles of zero-emission driving on California roads, 60 days after reaching its first million miles. By comparison, it took nine months for the company to reach the first million miles, reflecting the significant ramp up of fuel cell cars in California.

Toyota began retailing its Mirai fuel cell vehicle in California late last year and Honda will begin deliveries of its Clarity fuel-cell car in California by year end. Mercedes-Benz and Hyundai have also announced plans to begin retailing a fuel cell car in the near future.

True Zero has built 16 hydrogen stations in its statewide hydrogen network spanning from San Diego, through Orange County and Los Angeles, to Santa Barbara, the San Francisco Bay Area, and Lake Tahoe, including a station on the I-5 corridor at Harris Ranch.

“With a hydrogen network that spans across California and allows drivers to charge up in four minutes, electric fuel-cell cars with over 300-mile range are proving they can replace gasoline cars,” said Joel Ewanick, Founder and CEO of FirstElement Fuel, True Zero’s parent. “This kind of ramp means customers are choosing fuel cells as a vehicle that does it all, but with zero emissions.”

True Zero is developing its hydrogen charging stations with grants from the California Energy Commission, the South Coast AQMD, and the Bay Area AQMD as well as financing from Toyota and American Honda. In addition to completing its first 16 hydrogen charging stations at an unprecedented speed, True Zero is beginning construction of two more stations, and is in the process of permitting a third station for construction.

“It’s thanks to the monies and commitment from the State of California and our other funding partners that this retail hydrogen network has been brought to life,” said Ewanick.

Since opening for retail vehicle charging, the True Zero Network has performed nearly 12,000 charges totaling more than 33,800 kilograms of hydrogen. That translates to True Zero’s stations having powered more than 2,000,000 zero-emission miles in hydrogen cars and having eliminated 1.9-million pounds of CO2 emissions.
New campaigns to encourage adoption of hydrogen fuel cell cars

Two nationwide initiatives were presented to help introduce zero-emission vehicles in all the country and to educate and inform the public on the benefits of hydrogen as an alternative energy option.

“Zero Emissions. Zero Compromise” campaign

Hydrogen-powered fuel cell vehicles (FCVs) are already making their mark with California drivers, and the Fuel Cell & Hydrogen Energy Association (FCHEA) wants to expand the experience to the northeastern states. FCHEA is launching “Zero Emissions. Zero Compromise” to emphasize the driving excitement of emissions-free FCVs and the important roles they play by fostering technological innovation, curbing transportation-related emissions, and increasing U.S. energy independence.


Fuel cells generate electricity using hydrogen electrochemically, not by combustion, so the only byproducts are water vapor and heat. Today, hydrogen is produced from renewable local sources such as wind, solar, and biogas, and from America’s abundant natural gas supply.

Two FCVs, the Hyundai Tucson Fuel Cell and Toyota Mirai Fuel Cell Vehicle, are now available to California customers. Honda will introduce its Clarity FCV later this year, with Mercedes-Benz to follow in 2017 with its GLC F-CELL. Other premier global automotive
companies also plan to sell FCVs in the next few years. To date, automakers have logged over fifteen million miles of safe and efficient FCV driving.

“These innovative fuel cell vehicles are appealing because they provide a clean choice without compromise,” notes FCHEA President Morry Markowitz. “FCVs are zero-emission vehicles that work like the ordinary car you drive today with a range of 300-400 miles and refueling times of just three to five minutes, with only water emitted from the tailpipe.”

“Leading automakers, industry, and the state of California have made critical investments in infrastructure to ensure that drivers in the state have both the vehicles and the hydrogen filling stations they need,” Mr. Markowitz added. “Other incentives play an important role in encouraging consumer adoption of fuel cell vehicles and station owners to develop hydrogen stations.”

The Zero Emissions. Zero Compromise campaign will continue and build upon California’s success, as well as help introduce FCVs to the northeastern states. The campaign will host meetings and events for stakeholders to experience FCVs first hand, showcasing the transformational vehicle technology and demonstrating how they will help meet state and regional clean air goals.

**Ohio transit authority opens hydrogen fueling station**

The Army Tank Automotive Research, Development and Engineering Center (TARDEC) and General Motors unveiled an energy-efficient tactical vehicle that could one day save lives on the battlefield. According to Kevin Centeck, team leader for Non-Primary Power Systems, Ground Vehicle Power and Mobility Directorate, TARDEC, the ZH2 hydrogen fuel cell vehicle prototype is a “collaborative effort” between TARDEC and GM, and comes with several advantages for the Army and Soldiers in the field.

First, the ZH2 operates on hydrogen fuel instead of traditional diesel. It uses much less fuel than traditional tactical vehicles. At idle, it is “extremely efficient,” Centeck said. This should reduce the logistics train. Second, it has an extremely low acoustic signature, meaning it is very quiet. “It’s silent mobility, silent watch. You don’t give away your position by turning on the engine,” he added.

Third, the ZH2 has a radically reduced thermal signature because it does not operate as hot as a diesel engine, which means the heat signature is harder to pick up by enemy thermal sensors, providing additional stealth for Soldiers. A fourth, less direct, but nonetheless important advantage is that the ZH2 demonstrated that the Army could build such a vehicle rapidly, using mostly off-the-shelf parts. The ZH2 took just one year from concept to delivery. The vehicle itself is basically a Chevy Colorado platform.

Delivery of the ZH2 from GM to the Army will take place April 1, Centeck said. Following delivery, user evaluations will take place over the course of a year with Soldiers at Fort Benning, Georgia; Fort Bragg, North Carolina; and, Fort Carson, Colorado. Over the course of the next few years, the Army will examine how it can best support hydrogen supply in the field. Department of Energy tacticians and logisticians will help conceptualize the solution and provide a plan.

**Let’s Clear the Air™ platform**

In Support of National Hydrogen and Fuel Cell Day, Air Liquide Launches www.letscleartheair.com and Collaborated With the California Fuel Cell Partnership (CaFCP) to Create a Hydrogen Infrastructure App

Air Liquide joins the nation in celebrating National Hydrogen and Fuel Cell Day to raise awareness of fuel cell and hydrogen technologies that provide reliable and resilient power, reduce greenhouse gas emissions, and increase America’s energy security. In celebrating this day, Air Liquide launches the Let’s Clear the Air™ platform and the hydrogen station finder app.

Let’s Clear the Air™ platform is designed to educate and inform the public on the benefits of hydrogen as an alternative energy option, outline the differences between sustainable options for mobility in the automotive space, and encourage others to interact with and contribute to this platform and engage their community to learn about the current initiatives going on in their state.

The “hydrogen station finder app” enables users to find the nearest hydrogen station, view station status, rate and review the stations and connect with an online community designed to provide accurate and up-to-date data on the infrastructure as provided by the CaFCP. The app is free and available on the Android and iOS platform.

Ole Hoefelmann, CEO of Air Liquide Advanced Technologies U.S. LLC and Vice President of Air Liquide advanced Business & Technologies (aB&T) Americas, commented: “Cultivating an enriched community of hydrogen believers, Let’s Clear the Air™ is a platform fully dedicated to encouraging the creation and use of a hydrogen fuel cell infrastructure to help power sustainable mobility and transportation. By promoting the benefits of hydrogen and other efficient energy sources, we can support sustainable mobility and improve the health, environment, and economy for generations to come.”
UCLA becomes first public university in California with electric vehicles

UCLA reached this milestone when two zero-emissions electric buses replaced the last diesel buses in the BruinBus transit fleet. The new vehicles are five times more efficient compared to diesel technologies, what translates into hundreds of thousands of dollars in savings per bus from the reduced cost in fuel and maintenance.

Combined with the 14 current CNG buses in UCLA’s fleet, UCLA’s first electric buses switch the BruinBus fleet to all clean fuel, and continue to reduce the university’s reliance on fossil fuel. The move is also in step with the University of California’s systemwide goal of carbon neutrality by 2025. UCLA has already met its 2020 goal of using less energy per square foot of buildings than in 1990, in part by converting more than half of its campus fleet to alternative-fuel vehicles and growing its roster of LEED-certified green buildings.

“UCLA Transportation began its commitment to operating alternative-fuel vehicles in its university fleet 18 years ago,” said Renée Fortier, executive director of UCLA Events and Transportation. “Adding two new emission-free electric buses to the BruinBus transit fleet is an exciting and natural progression of our efforts to move sustainable transportation from ideas to practice.”

The project also aligns with UCLA’s Sustainable LA Grand Challenge, a university-wide research initiative to transition the Los Angeles region to 100% renewable energy, 100% local water and enhanced ecosystem health by 2050.

“In California, transportation is estimated to create almost 40% of our greenhouse gases, so a huge part of reducing emissions and improving public health comes down to clean fuel,” said Nurit Katz, chief
sustainability officer for UCLA.

Bruins first boarded the new electric buses after a ribbon-cutting ceremony at the BruinBus stop by Dickson Court. UCLA Transportation hopes to order additional electric buses later this year. The department is also conducting a feasibility study on the installation of solar-powered charging stations so that zero-emission buses would also be powered by clean energy, Fortier said.

The iron-phosphate batteries, designed by the company BYD, can run for up to 145 miles of typical driving on the service routes, and can recharge in four hours. The department can charge the buses overnight using low-cost, off-peak electricity to provide additional cost savings.

“UCLA is the first University of California campus and the first California public university to have electric buses,” said Clinton Bench, the director of UCLA Fleet and Transit. “This supports our commitment to reduce greenhouse gas emissions from university fleet vehicles.”

The new buses are five times more efficient compared to diesel technologies. This translates into hundreds of thousands of dollars in savings per bus from the reduced cost in fuel and maintenance, according to UCLA Transportation. UCLA students on campus will notice something unexpected as well — the new fleet addition will be half as loud as buses operated by fossil fuels.
Green Fleets

New LPG-powered bus fleet deployed in San Diego

The new vehicles will reduce greenhouse gas emissions by 2 million pounds per year. Moreover, MTS will realize a total cost savings of nearly $5.8 million during the 5-7-year operational lifecycle of the buses.

In line with the city Climate Action Plan and to reduce air pollution, the San Diego Metropolitan Transit System (MTS) announced the first of 77 buses powered by LPG have arrived at its Copley Park facility. These are the first propane buses in San Diego’s transit fleet and are estimated to reduce greenhouse gas emissions by 2 million pounds per year.

“MTS has made great strides to reduce its carbon footprint in San Diego over the past decade. Propane-powered buses are the latest example,” said MTS Chief Executive Officer Paul Jablonski. “Over the life cycle of all 77 propane buses purchased, the San Diego region will experience a reduction of more than 13 million pounds of greenhouse gas emissions.”

MTS operates a fleet of 37 minibuses and 173 paratransit buses, primarily for its complementary ADA paratransit operations and some low-capacity fixed routes. To upgrade the existing fleet, MTS purchased 31 LPG minibuses and 46 LPG paratransit buses which are scheduled for delivery at various times within the next 10 months. The new paratransit buses are 2016 Starcraft Allstars on Ford E-450 chassis. The minibuses are 2016 El Dorado National-Aero Elite 320 on Ford F-550 chassis.

By converting 77 buses to propane, MTS will realize a total cost savings of nearly $5.8 million during the 5-7-year operational lifecycle of the vehicles.

The City of San Diego’s Climate Action Plan calls for annual emissions to be cut in half during the next two decades. California’s emissions reduction goals include a 40% reduction from 1990 levels by 2030. MTS has been aggressively helping San Diego and California reach these goals in many ways, including phasing out all diesel buses from the fleet.

MTS operates 95 bus routes and three Trolley lines on 53 miles of double-tracked railway. Every weekday more than 300,000 passenger trips are taken on MTS bus and Trolley services in 10 cities and the county. In FY 2016, MTS served 92.6 million riders.

Michigan transit authority rolls out LPG fleet

The recent delivery of LPG vehicles to the Flint, Michigan Mass Transportation Agency signals the largest rollout of Blue Bird Propane Visions for commercial use. According to Flint MTA, the new alternative fuel buses cut costs, reduce harmful emissions and take advantage of a domestically produced fuel. Compared with the diesel buses they replaced, each bus will cut down on 800 pounds of nitrogen oxide and 35 pounds of particulate matter annually.

“These new buses allow Flint to provide green, affordable public transportation while saving taxpayer dollars,” said Ed Benning, general manager and CEO for Flint Mass Transportation Agency.

Flint MTA purchased the buses with Federal Transit Administration funding. The FTA New Model Bus Testing Program (known as Altoona testing) rates new buses on safety, structural integrity and durability, reliability, performance, maintainability, noise and fuel economy. “These federal funds cover 80% of the alternative fuel vehicle cost, with a 20% local match,” Benning explained.

“This roll-out signals an expansion for Blue Bird into the transit bus market,” said Phil Horlock, president and CEO of Blue Bird. “We are bringing decades of experience in school buses and expertise in affordable, alternative fuel buses to transit agencies and public transportation riders.”

The commercial version of the Blue Bird Propane Vision, which comes with a 5-year, 100,000-mile warranty, is Altoona-test rated for 350,000 miles or 10 years. Each 39-seat bus is equipped with a 6.8L Ford engine, a ROUSH CleanTech fuel system and a 100-gallon fuel tank.

“In addition to providing cleaner operations, the propane, medium-duty buses cost only one-third of the price of heavy-duty transit buses, so they are an extremely cost-effective way to augment our transit bus fleet,” Benning said.
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