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Biomethane in Transport

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Opening of world's largest public access biomethane refuelling station

CNG Fuels has opened the world's largest public access biomethane refuelling station in Avonmouth near Bristol, UK. The site will meet the growing demand from major brands such as Amazon and Royal Mail to cut emissions from haulage and save money while supporting the decarbonisation of the UK's road haulage sector, which is responsible for 18% of total UK road transport emissions. Located near the M4/M5 junction just outside the city of Bristol, the site can refuel 80 HGVs per hour from 14 high-speed dispensers, making it the largest public access biomethane refuelling station in the world. When fully utilised, the station will cut 70,000 tonnes of greenhouse gas emissions by taking diesel HGVs off the road. The site forms part of CNG Fuels's nationwide network of eight renewable biomethane refuelling stations, covering the length and breadth of the UK, enabling low-carbon deliveries from Inverness in Scotland down to Cornwall in South West England. The company plans to build a further 12 stations each year to cater to growing demand. Demand for renewable biomethane has increased by 1,000% over the last five years as brands across the country urgently seek to cut haulage emissions. The demand is expected to increase five-fold over the next five years as the UK's 2040 ban on the sale of new diesel HDVs approaches.

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Frigoscandia orders 112 biogas vehicles

Frigoscandia, a temperate food logistics company in Sweden, ordered 112 new trucks, 73 thereof from Scania, representing the largest order of gas-powered heavy trucks in Sweden. The vehicles will be distributed between Frigoscandia's subsidary, Svebol Logistics, which mainly has transport operations in Stockholm area and Mälardalen, and Frigoscndia Åkeri, which operates throughout the country. The

order covers several types of trucks for long-distance transport, regional transport, and local distribution. Of the 69 long-distance trucks, the majority are powered by liquid biogas and the others by rapeseed methyl ester. Frigoscandia's goal is to achieve fossil-free operation by 2025 and these new vehicles are an important step in the transition.
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Iveco adds extended range RNG tanks

Spearheading the largest decarbonization movement in transport for over 20 years, the latest Iveco S-Way operates the most mature gas technology on the market. Gas versions of Iveco's heavy truck enable operators to dramatically reduce their carbon emissions output by up to 95% when running biomethane fuels in either compressed (CNG) or liquefied (LNG) forms. To celebrate Iveco's continued investment in gas power it has expanded its available fuel tank options on its Iveco S-Way CNG 4×2 tractors, increasing the total fuel capacity to 1,052-litres, up by 132L.The CNG fuel tanks consist of four cylinders arranged in to a 'pack', with one pack sitting on either side of the truck's chassis. Maximizing available space, half of the total cylinders on each side remain at 115L, while the balance has been increased to 148L. This additional tank size enables 160kg of compressed natural gas to be squeezed into the tanks, which equates to an impressive 15% proportional uplift in vehicle range. The enlarged fuel tanks require a minimum 5th wheel height of 190mm.
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LBG/RNG for Swiss Heavy Duty Transport

The Swiss Technical University (OST) together with the transport company Krummen and the distributer Lidl evaluated if the replacement of conventional diesel fuel by liquefied biogas in heavy-duty transport in Switzerland is ecologically and economically reasonable.
A number of HDVs and one fueling station were checked for leakage using a Gascam. The fuel consumption and transport distances of the trucks (LNG, HPDI, LNG Otto, diesel) were evaluated. In addition, reference measurements were performed for all three engine technologies using a Portable Emission Measurement System. The trucks were subjected to multiple Real Driving Emissions tests with the same load. The outcome of well2wheel LCAs with LBG was primarily influenced by the renewable electricity and heat supply. The calculations show that emission reductions of up to 82 percent can be achieved compared to fossil diesel. LBG production including liquefaction was calculated at 8 g CO2eq/MJ. The emission of another 9 g CO2eq/MJ was mainly due to venting at the filling station which can be significantly reduced by optimal operation. The project was able to determine initial results on the well-to-wheel analysis of liquefied biogas from various suppliers. Using the example of LBG from a liquefaction plant in Scandinavia (Switzerland has actually no LBG production) showed that despite the transport the overall reduction of GHG emission was more than 70 percent compared to diesel.
More

Chevron, Cummins and Walmart team up on RNG engine

Chevron announced definitive agreements to supply fuel linked to renewable natural gas for a Walmart Inc. demonstration of Cummins new 15-liter natural gas engine for heavy-duty trucks. As part of the agreements, Walmart will provide heavy-duty trucks for Cummins to integrate with the new 15-liter natural gas engine, the X15N™, which runs on compressed natural gas (CNG). After taking delivery, Walmart will field-test the finished trucks at its distribution center in Fontana, California, with Chevron supplying the trucks with CNG linked to renewable natural gas.
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Sandahls Logistik completes the largest order for biogas trucks in Sweden

Haulage and logistics company Sandahls Logistik aims to phase out fossil-fueled transport in its operations by 2025 and has chosen to invest in biogas-powered vehicles for road transport. To this end, Gasum has concluded a new biogas fuel agreement worth several hundred million Swedish crowns with Sandahls Logistik and will now build two new public stations next to the logistics company's terminals.

At the same time, Sandahls Logistik will invest in 120 new biogas-powered trucks from Volvo Trucks, which started to deliver them in March this year. The cooperation agreement is one of the biggest in the Nordic biogas sector to date.
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CNG van: the new Volkswagen Caddy TGI has arrived

The new version of the Caddy TGI has been a long time coming. Marketed since the end of 2020 in its classic internal combustion versions, the Volkswagen utility vehicle is finally arriving in its natural gas configuration. The new Caddy Cargo TGI receives a bi-fuel gasoline-NGV engine with 130 horsepower and a 7-speed DSG gearbox. Storing natural gas under 200 bars of pressure, five tanks with different capacities are located on the rear part of the vehicle. With a total capacity of 139 liters, they allow 440 km of autonomy with a full tank. In addition, a small 11.5-liter gasoline tank provides an additional 120 km of range, for a total of 560 km. The Cargo version of the gas-powered Caddy is available in two lengths to suit all needs. While the basic version is 4.5 m long with a useful volume of 3.3 m^3, the Maxi version is 4.85 m long with a capacity of 4.0 m^3. In the passenger car segment, a 5-seat Combi version is also available.
More (in French)

Scania meets growing biogas interest with expanded offer

Scania is now adding several new CBG and LBG tank options to its offer that mean substantial improvements to the range potential including LBG tanks for ranges up to 1 400 km; CBG tanks for ranges up to 750 km; CBG tanks in a rack behind the cab: offers increased range in combination with tanks in regular positions. Ranges up to 1 000 km on tractors with axle distances ≥ 3 900 mm. All these new performance steps will be introduced during 2022.
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CNG car sales jump 40% in Q3 in Europe

According to figures from ACEA, just over 19,000 natural gas cars were registered in Europe in the third quarter of 2022. After a rather sluggish start to the year, sales of gas-powered cars picked up again in the last quarter. With more than 19,400 registrations achieved, the sector is up by more than 40% compared to the third quarter of 2018. In Europe, CNG cars are still mainly driven by a few countries where the sector is particularly developed. Italy remains the leading European market for gas cars with about 50% of the cars registered. The total of 9689 CNG cars in the last quarter correspond to a 56% increase compared to last year. With 2308 registrations and an increase of 130%, Sweden is in second place in Europe, ahead of Germany. In fourth place, Spain increased by 50 percent to 1,472 registrations in the third quarter. In the end, these four European markets alone account for more than 80 percent of all CNG cars sold on the old continent.
The quarterly increase happened despite the decision of the European Parliament to end the sale of internal combustion vehicles as of 2035. Affected are passenger cars and light commercial vehicles under 3.5 tons.
More (in French)

New world record for biogas: 2,934 km

Efficiency races have been around for a long time, but now a biogas prototype has clearly demonstrated the efficiency of combustion engines powered by sustainable fuel at the 2022 EcoGreen Gas Challenge. With just 0.57 kilos of biogas on board, the streamlined CNG racer managed a distance of almost 3,000 kilometres – a world record! The idea for the first efficiency race emerged as early as 1939 in an American Shell research laboratory. The scientists had a bet among themselves as to who would be able to cover the longest distance with one gallon – the equivalent of 4.546 litres – of fuel. In 1976 a hydrogen-powered prototype achieved fuel consumption of 5,385 km/l gasoline gallon equivalent (GGE) at the Shell Eco-marathon in Ladoux (France) in 2005. On the circuit of Loire-Atlantique in Fay-de-Bretagne (France) Vehicles with CNG or hydrogen engines were allowed to take part in 2022. The

prototypes designed, built and driven by students had to cover a distance of 20 kilometers with a minimum average speed of 25 km/h and consume as little fuel as possible – no matter whether biogas or green hydrogen was used as fuel. Before the event, the world record for biogas prototypes to be broken was 2,126 kilometers from a biogas volume equivalent to the calorific value of one liter of petrol. In the 2022 event this record was smashed by a vehicle developed by the students of the Lycée de la Joliverie in Saint-Sébastien-sur-Loire, which is two meters long and only 60 centimeters wide. They bet the previous record by almost 40%. At 2,934 kilometers the vehicle only very narrowly failed to achieve the 3,000-kilometre range.
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CMA CGM partners with Engie to produce biomethane for its ships

The French shipping company CMA CGM is preparing to invest alongside Engie in a biomethane production site. The plant will be based in the Le Havre area and is intended to supply the company's fleet of gas-fired container ships. CMA CGM is committed to acquiring a complete fleet of LNG-powered container ships, and is now tackling the issue of energy. Eager to guarantee its supplies of green gas, the Marseille-based shipping company has approached Engie to co-invest in a biomethane production site. The project will be based on the pyrogasification technique from dry biomass of local wood waste and solid recovered fuels. The site should start up in 2026 with an initial capacity of 11,000 tons of biomethane per year. It will then be gradually ramped up to reach 200,000 tons of renewable gas by 2028. CMA CGM currently has a fleet of 30 "e-methane ready" dual fuel vessels in service. This is to be increased to 77 vessels by the end of 2026. Currently operating with LNG, these vessels are already capable of using bio-LNG and synthetic methane.
More (in French)

Argentina to convert 400 diesel locomotives to RNG/CNG

Argentina is pursuing a massive program to decarbonize its rail network, which spans about 65,000 km. Within 10 years, the Latin American country intends to become the first in the world to have an entirely "zero emission" network. By abandoning fuel oil and choosing biogas, its government assures that transport by train will be entirely free of nitrogen oxides and fine particles. The contract between Argentina and Optifuel Systems covers 400 locomotives to be modernized and decarbonized, all of which are used for long-distance freight transport and shunting in stations and other marshalling yards. This is in line with the government's investment priorities to increase the share of freight transported by rail. A kit will allow the conversion of the current diesel engines with modular systems (500 horsepower per module) with a power output of between 1,500 and 4,500 horsepower, depending on the needs. The natural gas tanks will be placed on the platform as well as underneath it, to ensure a good weight distribution and to make the best use of the available space. They will be able to hold up to the equivalent of 7,600 liters of fuel oil in natural gas. Finally, Optifuel Systems will have to build between 12 and 15 refueling stations to be distributed along the Argentine railway network. One requirement: they must be able to fill the tanks of a tender in less than an hour.
More (in French)

FPT Industrial presented a hybrid biomethane application

The brand showcased its solution for Power Generation fueled by renewable resources: the Smart Hybrid Hub powered by FPT Industrial, the world’s first variable speed low-pressure natural gas, hybrid, multi-mode, genset concept entirely by FPT Industrial. The concept is based on the first F28 variable-speed, low-pressure biomethane engine for power generation, with all the fuel deriving from anaerobic digestion of agricultural waste and cattle slurry. The engine is coupled to an FPT Industrial Hybrid Control Management system, featuring an open configuration with batteries and inverter equivalent circuit, depending on the mission profile. In addition to fueling the genset, the biomethane produced on site can be used to fuel natural gas-powered tractors lorries and trucks, while the surplus of both electricity and biogas can be fed into the national grid. The F28 Natural Gas engine’s versatility extends well beyond power generation usage. It is actually the engine which powers a New Holland TK Methane

Power tractor prototype, currently working at the award-winning Fontanafredda winery to achieve the first zero-emission Barolo wine by 2025.
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Piaggio Vehicles launches new Apé NXT+ in CNG version

Piaggio Vehicles Pvt Ltd (PVPL), a 100 % subsidiary of the Italian Piaggio Group and India's leading manufacturer of small commercial vehicles, launched an innovative new product in the Passenger Segment – the all new Apé NXT+. The Piaggio is a high mileage three-wheeler giving an Industry Best Fuel Efficiency of up to 50km/kg of the compressed renewable gas (RNG) version. The Apé NXT+ provides best in class space with the capability to perfort represents the product of next generation for urban Indian last mile mobility solution and offers substantial acquisition cost benefits along with best in market cost of ownership.
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Plenty of CNG power from India

India's leading commercial vehicle manufacturer Tata Motors wants to make the domestic fleet smarter, safer and more efficient. To this end, it has introduced five medium and heavy commercial vehicles in the 19 to 28 tonne weight classes for India. The highlight of the vehicles is that they are powered by a CNG engine. In addition to the launch of the country's first CNG-powered medium and heavy commercial vehicles, the company also introduced a new series of advanced tippers and other trucks. These CNG models are available with different wheelbase and load floor lengths and a trim option for customising the cabin. Powered by a proven 5.7-litre SGI engine with a peak output of 180 hp and 650 Nm of torque, they feature a modular architecture and offer a range of up to 1000 kilometers.
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RNG in transport wins energy cost comparison

Due to Russia's war in Ukraine, prices for energy sources are skyrocketing. Even if the price of gas is also skyrocketing at the moment, RNG-powered vehicles are still clearly cheaper than conventional combustion engines or even electric vehicles. The latest energy cost comparison by the German Federal Ministry of Economics and Climate Protection shows that CNG cars are not only ahead in terms of CO2 emissions, but also in terms of energy costs. For this energy cost comparison, the German authority used the consumption data of the three best-selling vehicle models in each of the small car/compact class and mid-range/upper class segments, as well as the respective drive energy required according to the WLTP cycle. At 5.53 Euros per 100 km, the CNG drive performed best for small cars and compact cars and even placed ahead of electric cars at 5.77 euros per 100 km. In the case of mid-size and luxury vehicles, the electric cars came out on top at €5.42 versus €6.56 for gas driven cars, but compared with the €8.17 for a diesel or the €11.55 for a gasoline-powered vehicle, CNG vehicles proved to be a good solution for saving money on mobility. Gas powered vehicles even make it possible to break the dependence on the much-discussed energy supplies from Russia. Filling your tank with RNG instead of CNG, you are driving in a CO2-neutral manner, with a regionally produced energy source. No crops are grown in Switzerland for biogas production. Incidentally, an average of 26.0 percent biogas has already been added to CNG at Swiss gas pumps as of the end of 2021. This proportion will continuously be increased in the coming years
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