

ANGVA2U Info 16/2020 9th September 2020 (for ANGVA members only)

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1.0 Selected News / Articles

1.1 Germany

Shell opens its fifth LNG-fueling station in Germany

1st September 2020. By Adnan Bajic

The Hague-based giant Shell has expanded its LNG fueling network in Germany with a new station in Kirchheim unter Teck.



The new facility, Shell's fifth in Germany was opened on Monday, August 31. It is the first LNG-fueling station in Baden-Württemberg.

Shell also noted it is located on a major long-distance route from Munich via Stuttgart and Karlsruhe to France.

Courtesy of Shell

The facility has the capacity to fuel up to 150 trucks per day. It is part of Shell's initiative to support the decarbonisation of heavy-duty traffic. It is also part of a Shell program to expand the German Shell LNG station network to up to 40 stations by the end of 2022.

Shell aims to build a complete supply chain for CO₂-neutral LNG based on liquefied biomethane. The company is planning to build a 100,000-ton gas liquefaction plant in the Rhineland refinery.

The next LNG stations in Shell's construction program are in Weinsberg, Kassel and Stuhr near Bremen, which are due to start in autumn. Further Shell LNG stations are planned for the winter, the company's statement reads.

Source: https://www.offshore-energy.biz/shell-opens-its-fifth-lng-fueling-station-in-germany/?utm_source=lngworldnews&utm_medium=email&utm_campaign=newsletter_2020-09-02

1.2 Belgium

Rolande, G&V Energy open LNG fueling station in Antwerp

28th August 2020. Bt Adnan Bajic

The Dutch LNG market player Rolande has opened its first LNG station in Belgium together with partner G&V Energy Group.



The partners join forces to be able to create a covering LNG network in Belgium, Rolande said in its statement on Friday.

The first LNG station is situated on the right bank of the Antwerp harbor.

Courtesy of Rolande

Commenting on the opening of the new facility, **Jolon van der Schuit**, Rolande CEO, said, *“In succession to the Netherlands and Germany where we opened our first LNG station next month, we now also entered the Belgium market.”*

He added that in this way the company is moving towards creating a *“European LNG network that is necessary to put (Bio-) LNG as fuel even more firmly on the map.”*

“New LNG stations in Habay and Waregem are on the roadmap! Both G&V and Rolande want to play an important role in the transition to alternative fuels,” said van der Schuit.

The new Antwerp station is part of the BIOLNG4EU project, which is 50 per cent co-financed from the Connecting Europe Facility program and stimulated the further roll-out of (Bio-)LNG in road transport.

As part of this project, Rolande invests in the production of Bio-LNG and opens four new stations for Bio-LNG blends in the Netherlands and Belgium.

The Antwerp station is the first of these four stations that are planned for the upcoming period, the company’s statement reads.

Source: https://www.offshore-energy.biz/rolande-gv-energy-open-lng-fueling-station-in-antwerp/?utm_source=lngworldnews&utm_medium=email&utm_campaign=newsletter_2020-09-01

1.3 Malaysia

Petronas launches virtual LNG pipeline

8th September 2020. By Adnan Bajic

Malaysian energy giant Petronas has launched its LNG virtual pipeline system (VPS) via its regasification terminal in Pengerang, Johor.



The project has been developed in line with the company’s push to facilitate the growth of cleaner energy use across Peninsular Malaysia, Petronas said in its statement.

Courtesy of Petronas

The VPS solution that was developed by the Gas & Power business of Gas and New Energy and marketed by Petronas Dagangan Berhad, delivers liquefied natural gas (LNG) using trucks fitted with cryogenic tanks to off-grid customers.

Through the VPS solution, Petronas provides industries in Peninsular Malaysia that are not connected to the natural gas infrastructure with an option to switch to gas as an alternative form of cleaner energy.

As part of the pilot phase, Petronas completed its first delivery of LNG to Continental Tyre Alor Setar Malaysia's manufacturing plant earlier this month.

Source: https://www.offshore-energy.biz/petronas-launches-virtual-lng-pipeline/?utm_source=lngworldnews&utm_medium=email&utm_campaign=newsletter_2020-09-09

1.4 United States of America

RNG to support Smithfield Foods' carbon-negative target

8th September 2020.



Major US pork producer and food processing firm Smithfield Foods has become the first major protein company to commit to becoming carbon negative in all company-owned operations in the US by 2030.

The announcement, which involves the use of renewable natural gas (RNG), builds on Smithfield's goal to reduce greenhouse gas (GHG) emissions by 25% by 2025 across its entire supply chain, which it announced in 2016.

In 2017, the company launched Smithfield Renewables, a platform to unite its carbon reduction and renewable energy efforts. To become carbon negative in its US company-owned operations, Smithfield will 'tap' the resources and expertise of a range of partners to accelerate projects within its renewables programme, while continuing to drive progress toward its '25 by 25' goal across its scope 1-3 emissions.

According to the firm, some of the most significant opportunities for carbon improvements are located on its farms. Smithfield is focusing efforts on ensuring crops are grown with efficient fertiliser and soil health practices and implementing renewable energy projects that reduce emissions, such as RNG.

Smithfield's biogas programme captures methane from pig manure on farms and transforms it into RNG. The company and its partners are implementing RNG projects across most of its finishing spaces in North Carolina, Utah, Virginia, and Missouri, as well as other states.

Kraig Westerbeek, senior director of Smithfield Renewables and hog production environmental affairs at Smithfield Foods, said: "Renewable energy is a cornerstone of our strategy to become carbon negative, and we have spent decades investing in and perfecting our approach.

“Capturing methane and transforming it into RNG removes at least 25 times more GHGs from the atmosphere than are released from its end-use in power plants, homes, vehicles and businesses, creating a cleaner environment and even more sustainable farms.”

Kenneth M. Sullivan, president and CEO of Smithfield Foods, commented: “As the world grapples with environmental challenges impacting our planet, consumers are looking to companies to take deliberate, bold action to address issues such as climate change.

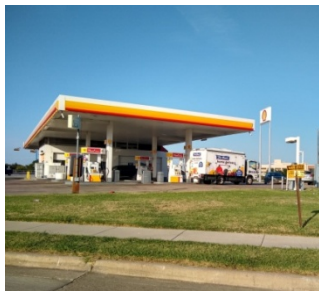
“The world is at an inflection point. To feed a growing world population, with finite resources available to grow and produce the food we need, we must limit our environmental impact.

“At Smithfield, we are utilising our expansive reach to lead efforts to eliminate our carbon footprint in our company-owned operations and remove GHGs from the atmosphere.”

Source: <https://www.bioenergy-news.com/news/rng-to-support-smithfield-foods-carbon-negative-target/>

1.5 United States of America Commercial trucking’s future is in the details

8th September 2020. By Rick Mihelic



Courtesy of Connor Mihelic

One downside of a career as an engineer is that you are trained to notice detail.

Robert Downey Jr., playing Sherlock Holmes in the 2011 movie "Sherlock Holmes: Game of Shadows," is asked what he sees. His answer: "Everything. That is my curse." It can make you the invaluable go-to person for information and analyses, and it also

can make you the brunt of sarcasm and stereotyping. You are what you are.

I had my son snap this photo as we were driving. I thought this one image captured a great deal of salient points I’ve learned after several years of researching medium- and heavy-duty alternatives such as battery electric, fuel cell electric and a variety of hybrid systems for the North American Council for Freight Efficiency (NACFE).

Let’s start with the obvious first:

- Feeding North America requires trucks and truck drivers.
- Trucks require energy.
- This energy has to be replenished regularly.

COVID-19’s impact on the North American supply chain, hopefully, has heightened everyone’s appreciation that while food does grow on trees, a truck and driver probably has to get it to you. Over 70 percent of all freight moved in the United States is on trucks. If the trucks don’t move, you do not get food, toilet paper or masks.

Those trucks are driven by people. They are taking risks now, and always have, to get you products you need to survive. The trucks need energy, whether diesel, gasoline, natural gas, electricity, hydrogen, propane, etc. That has to come from somewhere on a reliable and consistent basis or you do not get fed.

Diving deeper into the photo:

- Fleets are commercial businesses that exist to deliver product to you.

"Free delivery." It's a great advertising tag line, but there are no free rides; someone always pays somewhere.

Buried in the cost of products are the costs of getting the product from its point of origin to you, the consumer. You may never see it, but fundamentally at some level you understand that the primary purpose of businesses is to be profitable. Embedded in the price you pay for goods are things such as vehicle maintenance, insurance, driver labor, warehouse labor, packaging labor, fuel energy, transport tolls, packaging disposal and, of course, profit margin.

Profit is the whole reason a business exists in the first place. Companies that do not make a profit eventually collapse. Little of this detail is visible to you as a consumer. You generally have just a price and applicable taxes on your receipt. Occasionally "shipping and handling" are itemized, but this is probably only the last leg of the delivery. The "supply chain" is all of that infrastructure that gets the product to your door.

- Many corporations exist to make money from finding and delivering energy to transportation.

There is a phenomenal amount of money invested, profits made and infrastructure tied to transportation related energy. They know change is coming.

Energy providers such as Shell want to be around for a long time, so they are diversifying into a number of possible energy streams. Vehicle and component manufacturers are similarly diversifying with examples such as Cummins trying to cover most of the alternative technologies in their product portfolio.

Utilities such as Duke Energy are getting engaged as well, forecasting major growth in demand for electricity, whether that's for charging battery electric vehicles or for producing fuels such as hydrogen for fuel cell electric vehicles. Fleet operators such as UPS are experimenting with many alternatives trying to get experience to aid in planning investments. Venture capitalists also are everywhere seeking the next great investment.

NACFE presented in its "Viable Class 7/8 Alternative Vehicles Guidance Report" the "messy middle" future, where a wide range of powertrains and energy forms are competing for market share. The future is not known yet.

This diversity of choices is powering investment in all the alternatives as companies try to position themselves for this future. Prudent regulators are attempting to be technology-neutral while incentivizing significant improvement in market adoption, performance, affordability, emissions and durability.

Fifteen states have signed a memorandum of understanding to develop action plans to ensure 100 percent of all new medium- and heavy-duty vehicle sales are zero-emission by 2050 with

an interim target of 30 percent zero-emission sales by 2030. California already has enacted regulations requiring all trucks and vans sold in the state to be zero-emission by 2045.

The near future may be the "messy middle," but the longer view is heading toward zero-emission technologies.

- The gas station/truck stop paradigm is not necessarily the future.

It's an easy trap to fall into that we predict the future based on past experience. Psychologists label this sometimes as a familiarity bias. The gas station/truck stop paradigm we have evolved into may not reflect the future of transportation.

Think of past examples. When the Eisenhower administration rolled out the national highway system in the 1950s, fuel stations and towns on venerable Route 66 suddenly found that they had been bypassed by the new multi-lane freeways. Higher speeds enabled by the freeways enabled fuel stations to be farther apart and co-located at key exits.

The transition from coal steam trains to diesel electric ones in the 1940s and 1950s saw many fundamental shifts in infrastructure, with trains no longer needing water and coal refill stops.

The development of jet commercial aviation in the 1960s largely eliminated the passenger rail system in the U.S. The advent of portable cellular phones has eliminated the ubiquitous phone booth system and all its infrastructure.

Today, transportation is seeing daily innovations in alternative energy powertrains in parallel with major innovations in automation. The future is not known, but I bet the traditional gas station/truck stop will not look or operate like the ones of today.

Even simplistically, a fully autonomous truck will not need to stop for food, snacks or a bathroom break. It won't need to be located near convenient shopping or restaurants. As the alternative powertrains mature and become more capable, ranges will improve dramatically.

When EVs come into existence that are capable of traveling 500 to 600 miles, energy stations planned around vehicles with a 100- to 200-mile range may be as endangered in the future as were the Route 66 gas stations in the past. Concepts in Europe to electrify highways with either in-pavement wireless or overhead catenary charging might eliminate fuel stations entirely.

Some regions with growing numbers of EV cars have found that they primarily charge at home, and they rarely see a commercial charging station. Other regions see heavy use of commercial charging stations, but they may be tied to locations such as shopping centers or grocery store parking lots.

In predicting the future, I like to refer to the cautionary note required on nearly all investment advertising, "Past performance is no guarantee of future results."

Predictions are easy. Really knowing the future is easier once you get there.

Source: <https://www.greenbiz.com/article/commercial-truckings-future-details>

1.6 United States of America

Electric vehicle battery sustainability is a must to meet climate ambitions

8th September 2020. By Ethan N. Elkind and Patrick R. P. Heller



Tennen-Gas, via the Wikimedia Commons

The following is a contributed article by Ethan N. Elkind, director of the climate program at UC Berkeley School of Law's Center for Law, Energy and the Environment (CLEE) and Patrick R. P. Heller, an advisor at the Natural Resource Governance Institute and senior visiting fellow at CLEE.

Joe Biden's clean energy agenda envisions significant uptake of zero-emission vehicles. The plan calls for large-scale public investments in electric vehicle (EV) research, manufacturing and infrastructure, and consumer incentives to buy EVs, among other policies.

These commitments are vital to achieving long-term climate goals, as EVs generate approximately 50% fewer greenhouse gas emissions over the life of the vehicle than internal combustion engines, and perform even better in areas with higher availability of renewable energy. But to achieve these essential goals, governments and companies must complement electrification policies with enhanced commitments to more transparency across the battery supply chain and better governance in the countries that produce battery minerals.

We come to this issue from different perspectives. One of us has spent a decade researching policies to increase deployment of EVs as a crucial climate solution. The other has devoted his career to promoting accountability and economic development in natural resource-dependent countries.

We both hope that dramatic growth in EV use can create a virtuous cycle — reducing global emissions, supporting clean technology jobs in the U.S., and creating opportunities for citizens of mineral-rich (but often low-income) countries. But these gains will hardly be automatic, and industry and government leaders must deepen efforts to tackle the risks of abuses that can thwart climate and development ambitions.

The scale of production needed to meet long-term climate goals for electric cars and trucks is massive, and demand for batteries — and for the lithium, cobalt and other minerals they require — could grow exponentially in the coming years. This manufacturing surge creates the potential for tax revenues and economic growth in developing and emerging economies with reserves of these minerals — places as varied as Bolivia, Chile and the Democratic Republic of Congo.

But mining (like oil and gas extraction) hasn't always led to economic development in the past, and mining booms in general can exacerbate corruption, human rights problems and environmental risks for the communities that neighbor mine sites. If public officials, EV industry executives and nonprofit advocates don't systematically tackle these issues, they reduce the chances that mining will contribute meaningfully to national development. They also risk disrupting supply chains and thwarting the expansion of EVs the world needs.

Inaction will result in reduced capacity of producer-country governments to expand production, further populist rhetoric that impedes government-company negotiations, and more public frustration resulting in protest and production shut-ins.

Key international players are beginning to take supply-chain governance more seriously. Battery and vehicle companies are working with NGOs on initiatives to trace the sources of supply and commit to transparency around their impact on producing countries. International institutions including the OECD and World Bank are pushing for stronger standards for company behavior and larger public investment in supporting producer country scale-up efforts. The U.S. State Department has announced an Energy Governance and Capacity Initiative to advise mineral-rich countries.

Producing real impacts

But to achieve real impact, these initiatives cannot stay at a 30,000-foot level; they must invest more heavily in relationships with producer-country activists and government reformers, and not shy away from sticky challenges such as corruption.

Coordination among these initiatives remains a problem, leaving companies confused about where to invest time and resources. And the initiatives must do more to address regulatory and logistical barriers to battery life extension, reuse and recycling, which is necessary in order to meet projected demand.

Based on our research and outreach to decision-makers across the supply chain, we recommend the following priority actions:

- Non-governmental organizations and vehicle, battery and mining companies should create public information platforms to share vital data — such as demand projections, priorities and concerns — among industry players, governments and communities in clear and neutral terms. Today, public policy in mineral-producing countries is often driven by rumor and influence-peddling. A more transparent system of information-sharing would increase trust and accountability across the supply chain.
- Advocates and public officials can give teeth to the various international standards by creating stronger incentives for participation, such as consumer-facing labeling and certification, and more serious investments in consultation and communication with stakeholders in the producer countries.
- Industry leaders, with government encouragement, can design batteries and invest in facilities to boost recycling and reuse.

While EV batteries come with challenges, they are surmountable. Efforts by fossil fuel interests to turn public opinion against transport electrification citing negative impacts of mining conveniently ignore the oil industry's own history of environmental damage and human rights abuses. EVs offer a pathway to a sustainable transportation future that fossil fuel-powered vehicles cannot.

Nonetheless, better governance of the extraction of EV minerals is essential to the future of mineral-producing countries, the electric vehicle industry and transportation globally. As political leaders and the electric vehicle industry pursue a dramatic shift to electrification of the world's vehicles, they must address these issues head on.

Source: <https://www.utilitydive.com/news/electric-vehicle-battery-sustainability-is-a-must-to-meet-climate-ambitions/584523/>

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