

Bioeconomy & Low Carbon Technology Overview for January 2025

Our summary of low carbon technology developments for January 2025 is based on data and information collated by Gifford Consulting and provided on the website: [Gifford Consulting](#)

Highlights by Topic: January 2025

More information on these articles can be found on our website dashboards.

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Ammonia production

1. **Ammonia production:** India. Norwegian floating green ammonia production specialist H2Carrier AS and Greenstat Hydrogen India (GHI), a unit of Norwegian renewable energy firm Greenstat ASA, have signed a MoU to explore collaboration on green hydrogen and ammonia projects in India and Sri Lanka. The partnership will focus on identifying potential projects, conducting feasibility studies and implementing production facilities. There will be a particular focus on utilising H2Carrier's P2XFloater technology for floating production solutions. H2Carrier's P2XFloater is touted as the world's first floating unit for green ammonia production at an industrial scale. According to the company, it is flexible in its positioning and does not require leasing or purchasing land, storage tanks, pier construction or constructional and operational concessions. [Link](#)
2. **Ammonia production:** Oman. LUPro (South Korea) has agreed to produce one million tonnes of green ammonia per year with Muscat Investment House in Oman and export it to Thailand and Southeast Asia. The facility, to be located in Duqm, will begin exporting ammonia volumes to Thailand in 2027, where it will be sold to other industrial users in Southeast Asia. [Link](#)
3. **Ammonia production:** USA. Amogy has raised \$56m in its latest venture financing round to support the development and commercialisation of its ammonia-to-power systems. The announcement follows a key milestone for Amogy: the September 2024 demonstration of the NH3 Kraken, described as the world's first ammonia-powered maritime vessel. The vessel uses Amogy's technology, which breaks ammonia into hydrogen and nitrogen, with the hydrogen powering either a fuel cell or engine. Earlier demonstrations featured the system on smaller platforms, including a drone and a semi-truck. [Link](#)

Biobased chemicals

4. **Biobased chemicals:** USA. Ascend Performance Materials announced the successful production of acrylonitrile, hexamethylene diamine, adipic acid and nylon 6,6 from feedstocks derived from used cooking oil, expanding its Bioserve portfolio. The resulting nylon 6,6 has a 25% lower product carbon footprint than nylon 6,6 made from fossil-fuel derived feedstock. [Link](#)
5. **Biobased chemicals:** USA. Sustainea, an innovative company dedicated to manufacturing sustainable chemicals with a low-carbon footprint, is planning to invest \$400 million in Lafayette, Indiana. In collaboration with local company Primient, who will supply corn-based dextrose precursors, Sustainea will convert this renewable feedstock into Bio-MEG (monoethylene glycol) — an intermediate used in everyday products from food containers to footwear. [Link](#)

Biobased plastics

6. **Biobased plastics:** Belgium. Futerro is a leading Belgian company in the lactic acid and polylactic acid (PLA) sector, a biosourced, industrially compostable and recyclable biopolymer capable of replacing petro-sourced plastics in everyday life. The company announced the closing of its first fund-raising worth €12 million in preparation for the construction of its new biorefinery in Normandy. These funds will enable Futerro to finalize the engineering studies. [Link](#)
7. **Biobased plastics:** Belgium. Vioneo and Honeywell announced today that Honeywell's technology will be used by Vioneo to produce plastics using green methanol, at a new facility

to be built in Antwerp, Belgium. Vioneo will use Honeywell's advanced methanol-to-olefin (MTO) conversion technology to produce plastics. Honeywell's advanced MTO technology will enable Vioneo to use green methanol, containing only biogenic carbon dioxide. This avoids the high carbon emissions associated with fossil fuel-derived plastic, while still supporting the production of propylene and ethylene – essential components used in various everyday items such as medical equipment, food packaging, automotive parts, personal care products and toys. [Link](#) 24/01/2025.

8. **Biobased plastics:** USA. Corn Next has launched CornNext-17, a new bio-based material. Derived from renewable corn starch, CornNext-17 utilizes a patented fermentation-based process to create a fully biodegradable material. Unlike traditional plastics and bio-plastics such as PLA and PHA, CornNext-17 retains its natural polysaccharide structure, enabling rapid decomposition within 30 days in natural environments. [Link](#) 21/01/2025.

Biofuels

9. **Biofuels:** Spain. Adif and the company Exolum have signed a collaboration agreement to study the creation of a railway logistics network that, by connecting Exolum's facilities to the Adif network, will facilitate the transport of CO₂, ammonia, methanol, biofuels and other raw materials. This will allow the market to be offered an immediate, versatile and low-impact solution for the transport of the energy products and will contribute to the objective of increasing the railway share by attracting new traffic to the Atlantic Corridor. [Link](#) 22/01/2025.
10. **Biofuels:** Canada. Arbios Biotech announced the successful completion of construction of its Chuntoh Ghuna facility in Prince George, British Columbia. The facility uses Licella's Cat-HTR hydrothermal liquefaction (HTL) technology to transform forest residues and other woody residuals into a renewable bio-oil that can be refined into transportation fuels. [Link](#)
11. **Biofuels:** Pakistan Comstock Fuels and Gresham's Eastern, a leading sustainable energy engineering, equipment and construction company based in Pakistan, has signed a binding agreement where Comstock Fuels agreed to grant Gresham's exclusive project and site development rights in Pakistan to enable Gresham's to deploy Comstock Fuels' proprietary and patented lignocellulosic biomass refining technologies to produce sustainable aviation fuel and other renewable fuels in Pakistan. [Link](#)
12. **Biofuels:** USA. The U.S. is on pace to surpass 5 billion gallons of biodiesel and renewable diesel consumption for the first time, capping a 2024 that saw increased efforts from states to drive adoption, updates to technical standards, growth in soybean crush capacity and growing public support for clean transportation fuel. In California, biodiesel and renewable diesel grew under the state's Low Carbon Fuel Standard. The two fuels are now 75% of California's diesel fuel supply, and they generate more credits (45%) than any other fuel type. [Link](#)

Biogas

13. **Biogas:** Allied Analytics reported that the bio-LNG market size was valued at \$0.7 billion in 2022, and is estimated to reach \$3.4 billion by 2032, growing at a CAGR of 17.9% from 2023 to 2032. Europe dominated the bio-LNG market and is expected to grow at a high CAGR during the forecast period. [Link](#)
14. **Biogas:** EU. According to the EBA white paper, Gasification: diversification of biomass processing and waste utilisation, Europe is currently home to approximately 141 biomass and waste gasification installations, with an additional 54 projects under development. Germany leads the way with 61 installations, while France, Finland, and Italy are also

emerging as significant contributors to this growing market. 75% of the feedstock used in gasification comes from forestry and agricultural residues. Waste streams account for about 7%, while the remaining facilities utilise mixed feedstock sources. [Link](#)

15. **Biogas:** France. Waga Energy and the Aix-Marseille-Provence Metropolis are joining forces to deploy an innovative project combining biomethane production and solar energy at the Aix-en-Provence waste storage site (Bouches-du-Rhône). The WAGABOX® unit will replace three engines currently used to recover gas for power generation. This system will provide local, renewable and easily storable energy thanks to existing gas infrastructure, while optimizing the energy autonomy of the site thanks to the installation of solar panels. The WAGABOX® unit will be commissioned in 2026 and operated by Waga Energy for an initial period of 16 years. The unit will produce 55 GWh of biomethane per year, corresponding to the annual consumption of nearly 9,000 home [Link](#) 27/01/2025
16. **Biogas:** Germany. Germany's largest biogas producer, EnviTec Biogas AG, which uses chicken manure for the production of biogas, renewable natural gas (RNG), and bio-Liquified Natural Gas (LNG) over the last 23 years is now actively exploring opportunities in the growing U.S. The market for the anaerobic digestion of poultry manure, aligns its expertise with the increasing demand for sustainable waste-to-energy solutions [Link](#) 27/01/2025.
17. **Biogas:** India. Suzuki Motor Corporation signed an agreement to invest in NDDB Mrida Limited, a wholly owned subsidiary of the National Dairy Development Board through Suzuki R&D Center India Private Limited. This initiative will contribute to the realization of carbon neutrality in India, Suzuki is working towards establishing biogas plants together with NDDB and Indian dairy industry associations. [Link](#)
18. **Biogas:** Italy. Anaergia S.r.l. has signed a binding agreement with Techbau S.p.A., a leading Italian company specializing in large-scale engineering and construction projects for the building of five new biomethane production plants in Italy. Anaergia S.r.l. will be the technology provider, supplying state-of-the-art equipment for the biomethane production process, and Techbau will be the general contractor, overseeing the engineering, procurement, and construction of the facilities. [Link](#)
19. **Biogas:** New Zealand. Expansion of the Ecogas plant at Reporoa NZ is being planned. [Link](#) 24/01/2025.
20. **Biogas:** Spain. Naturgy has signed a strategic alliance with Hispania Silva, a company specialising in waste recovery with extensive experience in the agricultural sector, for the construction of a minimum of 20 biomethane production plants, which could reach up to 30. The plants that form part of this alliance, which will be distributed throughout Spain and will be operational before 2030, will have the capacity to generate 2.5 TWh of biomethane per year. [Link](#)
21. **Biogas:** United Kingdom. ADTechOptima, is set to tackle long standing problems holding back the biogas-bioenergy sector. ADTechOptima's technologies aim to solve two key problems: the underperformance of anaerobic digesters and the quality of the "digestate" produced as part of the process. Digestate is a nutrient-rich substance that can be used as a fertiliser. The first solution the company is developing is an additive that enables digesters to remain operationally reliable at much higher through-puts of organic waste. [Link](#) 31/01/2025.
22. **Biogas:** United Kingdom. Kanadevia Inova acquired London-based Iona Capital Limited (ICL), along with a portfolio of 11 renewable gas plants in the UK and a substantial pipeline of projects globally. The landmark acquisition accelerates the evolution of the Kanadevia Inova business beyond Business Development, EPC and plant lifecycle service provider, and into full plant ownership, management, and oversight of Renewable Gas assets through its Asset Management business unit. The acquisition brings 11 operating biogas plants into the

Kanadevia Inova Renewable Gas infrastructure. An additional, substantial pipeline of projects throughout Europe, including the Netherlands and Italy, and also the United States, demonstrates the reach of the new business and its potential for further development. [Link](#) 23/01/2025.

23. **Biogas:** USA California Bioenergy LLC announced the successful completion of its 78th dairy digester project in the state of California. With the commissioning of its newest dairy biomethane cluster in Hilmar, CalBio now operates 7 clusters located across California's San Joaquin Valley. Clusters are groups of digesters that share a centralized gas clean-up facility, where the captured dairy biogas is upgraded and then injected into a natural gas pipeline. In addition to clusters, CalBio is advancing the development of virtual pipeline projects and digester projects that produce clean electricity for dairies separated geographically from other farms. [Link](#)
24. **Biogas:** USA. Anew Climate, LLC expanded the company's European business by entering Germany's biomethane market. Leveraging the company's 20+ years of success in the North American biomethane and carbon removals markets, Anew will provide a full suite of comprehensive products and services to the transportation and industrial heat and power sectors. Anew's new office in Munich complements its existing presence in Budapest and Madrid. [Link](#)
25. **Biogas:** USA. Nexus W2V, a leading developer of waste-to-value infrastructure projects, announced the closing of an anchor \$75 million structured equity commitment from Orion Infrastructure Capital. With additional investment from Nexus Holdings, Khasma Capital, along with debt financing from Ameris Bank. Nexus W2V has issued notice to proceed with the construction of its flagship facility, the Kingsbury Bioenergy Complex in La Porte, Indiana, which will turn source-separated organics into renewable natural gas (RNG). [Link](#)

Biojet/SAF

26. **Biojet/SAF:** Austria. OMV and Airbus are collaborating to reduce carbon emissions in the aviation industry by promoting the use of Sustainable Aviation Fuel (SAF). OMV has been producing SAF at its Schwechat refinery in Austria since March 2022, using sustainable and locally sourced materials like used cooking oil. The company is already supplying SAF to several airlines at Vienna Airport and has agreements to deliver a total of 1.5 million tons of SAF by 2030. [Link](#) . 21/01/2024
27. **Biojet/SAF:** China. Chuangui New Energy company has agreed with Topsoe to provide technology and services to produce SAF and renewable diesel. Located in Qin Zhou City of the Guangxi region, Southwest China, Chuangui New Energy company will use Topsoe's licensing and engineering design services and technologies, including its HydroFlex® technology, proprietary equipment and catalysts enabling production of SAF and renewable diesel starting from used cooking oil. Reaching FID in December 2024, construction of the Chuangui New Energy company plant has begun with commencement of operations expected in December 2026. Once operational and at full capacity, the plant expects to process 300,000 tons of feedstock into SAF and renewable diesel per year. [Link](#) 24/01/2025.
28. **Biojet/SAF:** France. Haffner Energy, LanzaTech and LanzaJet announced that they are working together to explore joint biomass-to-Sustainable Aviation Fuel (SAF) projects covering the entire production value chain. [Link](#) 29/01/2025.
29. **Biojet/SAF:** Italy. Enilive announced the commissioning of its first plant to produce SAF at the Gela biorefinery, in Sicily. Production has started at the plant, which has a capacity of 400,000 tons per year, representing almost a third of the expected European SAF demand in 2025, following the implementation of the ReFuelEU Aviation regulation. The Gela

biorefinery has the capacity to process 736,000 tons of biomass per year, which is primarily derived from waste and residual feedstocks such as used cooking oils, animal fat and by-products from vegetable oil processing. [Link](#) 24/01/2025

30. **Biojet/SAF:** Japan. Cosmo Oil Co., JGC Holdings Corporation, Revo International and SAFFAIRE SKY ENERGY announced the completion of a SAF production facility to manufacture and supply domestically produced SAF using waste cooking oil. The partners announced that the construction was completed on December 25, 2024. The four companies aim to be the first in Japan to manufacture domestically produced SAF on a large scale and will supply approximately 30,000 kiloliters of SAF per year domestically, using 100% waste edible oil as the raw material. JGC will be responsible for building the entire supply chain, Revo International procuring raw materials, Sapphire Sky Energy producing SAF, and Cosmo Energy Group producing blended SAF and selling it to users. [Link](#)
31. **Biojet/SAF:** Japan. Cosmo Oil Marketing Co. will begin supplying sustainable aviation fuel produced domestically by SAFFAIRE SKY ENERGY LLC to Japan Airlines Co., Ltd. and All Nippon Airways Co., Ltd. from fiscal year 2025. With the start of supply to domestic airlines from fiscal year 2025 onwards, the first domestically produced SAF supply chain in Japan will be established. [Link](#) 29/01/2025.
32. **Biojet/SAF:** South Korea. SK Energy has successfully exported SAF to Europe, marking a first for a Korean refiner. This milestone comes just four months after the company commenced commercial production, completing a global value chain for SAF. SK Energy began commercial production of SAF in September last year, utilizing Co-Processing technology. This approach integrates bio-based material supply lines into existing petroleum production processes, enabling the production of low-carbon products like SAF and bio-naphtha. SK Energy has secured a competitive advantage in exports by establishing a production capacity of approximately 100,000 tons per year for SAF and other low-carbon products. [Link](#)
33. **Biojet/SAF:** Sweden. Jord AB and Votion Biorefineries AB announced a strategic partnership to convert Jord's sustainable C4-grass biomass into biocrude and sustainable aviation fuel (SAF). This collaboration aims to accelerate the global energy transition and reduce carbon emissions in hard-to-abate sectors such as transport, aviation, and chemicals. Jord specializes in cultivating and commercializing C4-grass biomass and solid biofuels, grown on marginal or degraded lands in Senegal and the Dominican Republic. This fast-growing biomass sequesters carbon, regenerates soils, and serves as an ideal feedstock for renewable energy applications. [Link](#) 31/01/2025.
34. **Biojet/SAF:** Sweden. Preem is being supplied with heat exchanger tubes from Alleima to be used in the conversion of the Lysekil refinery from fossil to renewable fuels. The redevelopment of Preem's IsoCracker plant (ICR) in Lysekil started late 2024. Once completed, it will produce 1.2 million cubic meters of renewable fuels annually and reduce fossil carbon dioxide emissions at user level by 2-3 million tons annually. [Link](#)
35. **Biojet/SAF:** UAE. SAF One announced the acquisition of Green Biotrade, a UAE based feedstock and biofuels trading company. This strategic acquisition will strengthen SAF One's supply chain capabilities and secure critical feedstock for its sustainable aviation fuel (SAF) projects. By integrating Green Biotrade's extensive trading expertise and robust feedstock network, we are enhancing our ability to source, secure, and manage the critical biomass resources essential for our SAF production. [Link](#)
36. **Biojet/SAF:** United Kingdom. Alfanar's project in north-east England known as the Lighthouse Green Fuels project, Alfanar is currently developing a £1.5 billion (€1.8 billion) waste-to-SAF facility in Billingham, Teesside, which will be the largest and most technically advanced facility of its kind in Europe. Planned to commence operations by 2028, the facility

will process around 1 million tons of non-recyclable waste and waste biomass feedstock each year. The feedstock will then be transformed into over 165 million litres of second-generation SAF. [Link](#)

37. **Biojet/SAF:** United Kingdom. IAG has invested in WasteFront who plan to turn used tires into SAF. The SAF will be made by converting waste tires into tire derived oil, which is then refined into road fuels and SAF. The SAF produced is expected to give life cycle carbon emission savings of over 80% versus fossil fuels. The plant will begin operations in 2026 and once fully operational the following year, will process up to 10 million waste tires annually. The UK currently generates around 50 million end-of-life tires each year, with most of them currently exported to countries such as India where they are incinerated in cement plants or disposed of in landfills [Link](#) 24/01/2025
38. **Biojet/SAF:** United Kingdom. LanzaJet, a leader in Sustainable Aviation Fuel (SAF)¹ technology and producer of SAF, today announced the selection of the site for their next production facility, Project Speedbird, in Teesside's Wilton International. LanzaJet has partnered with Sembcorp Utilities (UK) Limited, a wholly owned entity of Sembcorp Industries Ltd, to develop an ethanol-to-SAF facility at Wilton International in Teesside, UK. Through a collaboration with British Airways, Project Speedbird will produce over 90,000 tonnes (30 million gallons) of SAF and renewable diesel annually. [Link](#) 23/01/2025.
39. **Biojet/SAF:** United Kingdom. OXCCU has unveiled new techno-economic analysis detailing the transformative potential of its CO₂ Fischer-Tropsch (CO₂ F-T) technology for producing SAF. The report outlines how OXCCU's innovative catalyst and process reduces costs, enhances efficiency, and accelerates decarbonization in the aviation sector. This technology has 50% lower capital costs: OXCCU's CO₂ F-T process exhibited approximately half the capital costs of conventional SAF production methods, such as Methanol-to-Jet (MTJ) or Reverse Water Gas Shift Fischer-Tropsch (RWGS+FT). [Link](#)
40. **Biojet/SAF:** United Kingdom. Powerhouse Energy has agreed to collaborate with Avioxx Ltd to integrate PHE's technology for its pilot scale facility to produce 200 tons per annum of Sustainable Aviation Fuel. Avioxx, based in London and Cheshire, has developed a patented process to produce SAF from non-recyclable wastes. [Link](#) 22/01/2025.
41. **Biojet/SAF:** USA. Avina Clean Hydrogen, and the Illinois Department of Commerce and Economic Opportunity (DCEO) on Dec. 19 announced the selection of Southwest Illinois as the location for Avina Clean Hydrogen's \$820 million investment for a sustainable aviation fuel (SAF) project. The investment will enable Avina Clean Hydrogen Inc, to develop its facility to produce SAF. The facility will take advantage of existing rail and pipeline infrastructure for efficient delivery of ASTM-certified fuel to Chicago O'Hare and other major airports around the Midwest region. The facility will be capable of producing up to 120 million gallons of SAF annually using KBR's alcohol-to-jet technology. Over its lifespan, the project is anticipated to prevent an estimated 25 million metric tons of carbon emissions annually for the aviation sector. [Link](#)
42. **Biojet/SAF:** USA. Renewable fuel company Montana Renewables LLC, a subsidiary of Calumet Inc has closed a USD 1.67 billion (EUR 1.62bn) guaranteed loan facility with the US Department of Energy (DOE) Loan Programs Office. The sum, including USD 1.44 billion of principal and USD 233 million of capitalised interest, will fund the expansion of Montana Renewables' facility in Great Falls, Montana. The expansion will make it one of the largest SAF producers globally, taking its annual production capacity to about 300 million gallons of SAF and 330 million gallons of combined SAF and renewable diesel. [Link](#)
43. **Biojet/SAF:** USA. SkiesFifty and Frontline BioEnergy announced a new partnership to advance the commercialization of waste-to-energy technology, targeting the production of

SAF. This agreement combines SkiesFifty's expertise in investment and sustainable aviation with Frontline's proprietary and patented gasification technology, that converts biomass and waste into clean renewable fuels on an industrial scale [Link](#) 27/01/2025

44. **Biojet/SAF:** USA. Summit Next Gen will open a world-class sustainable aviation fuel manufacturing and refining facility along the Texas Gulf Coast, which will be the largest ethanol-to-jet fuel production facility announced to date in North America. The project will create more than \$1.6 billion in capital investment. located on the Houston Ship Channel, the selected 60-acre site location will provide Summit Next Gen with substantial optionality to leverage existing and planned marine, pipeline, rail and other logistics infrastructure to cost competitively source ethanol feedstock for the facility and deliver produced SAF to all major demand markets on behalf of its offtake customers both domestically and internationally. [Link](#) 31/01/2025.
45. **Biojet/SAF:** USA. USA BioEnergy announced it has closed on the acquisition of 1,600+ acres of land in East Texas for its new \$2.8 billion advanced biorefinery, designed to convert wood waste into SAF. The landmark SAF facility already secured a 20-year offtake agreement with Southwest Airlines. [Link](#)

Biomaterials

46. **Biomaterials:** Finland. CarbonScape announced the signing of several agreements for the supply of renewable feedstock, woodchips, to CarbonScape's future biographite industrial plants in North America and Europe. These agreements, with some of the largest forestry companies in the world, follow CarbonScape's recent announcement of plans to build a demonstration facility in Kotka, Finland, after having operated their pilot plant facility in New Zealand and producing biographite ov
47. **Biomaterials:** USA. LanzaTech Global announced the formation of LanzaX, a business unit dedicated to its wholly owned synthetic biology platform. LanzaTech intends to spin out LanzaX from its core biorefining business as a joint venture with Tharsis Capital LLC in the coming months. The formation and proposed spin-out of LanzaX, which is comprised of the Company's proprietary synthetic biology and strain engineering ("synbio") platform and associated employees, is a strategic move that aims to accelerate project development. The strategic spin-out will better enable LanzaX to access the necessary capital to accelerate the development of its robust pipeline of existing projects, including initiatives with acetone, isopropanol, and high-value specialty products, with customers spanning global firms. [Link](#) 24/01/2025.
48. **Biomaterials:** USA. Celanese will convert captured CO₂ from industrial CO₂ emissions into a methanol building block which makes up part of vinyl acetate-based emulsions used as a raw material in the manufacturing of paints. Celanese has commercialized an approach for converting waste emissions into renewable feedstocks through CCU. The technology takes industrial CO₂ emissions that would otherwise be emitted into the atmosphere and applies hydrogen to chemically convert the captured CO₂ into a methanol building block which makes up part of vinyl acetate-based emulsions used as a raw material in the manufacturing of paints. [Link](#)

CO₂ removal

49. **CO₂ removal:** Hungary. eChemicals, pioneering in CO₂ electrolysis announced its strategic partnership with Bosch Thin Metal Technologies to accelerate the commercialization of a novel carbon dioxide utilization (CCU) technology. The electrochemical reduction of carbon dioxide (i.e., its conversion to more reduced chemical species using electrical energy) is a

promising waste-to-wealth approach, generating high-value, green chemicals which can be readily used in the chemical value chain in several industries (such as chemicals, steel, petrochemicals, plastics, and synthetic fuels). eChemicles based in Hungary, Szeged, was formed in 2022. Based on its proprietary membrane electrode assembly, stack, and system technologies, eChemicles has developed the world's first containerized low temperature CO₂ electrolyzer system for producing green CO. [Link](#)

50. **CO₂ removal:** USA. Rebel Fuels Inc., a Delaware Public Benefit Corporation, announced its plants will capture biogenic CO₂ from sources such as ethanol and alcohol distilleries, wastewater treatment plants, and biogas facilities. The captured CO₂ is then combined with renewably produced hydrogen to create carbon-neutral fuels. [Link](#)

E-fuels

51. **E-fuels:** Finland. Finnish energy firm Fortum Oyj has sealed a contract to supply clean electricity enough to cover the initial power needs of a green hydrogen production plant in south-western Finland which P2X Solutions is currently ramping up. The companies have signed a five-year power purchase agreement, including the corresponding Guarantee of Origin, which will allow the Harjavalta plant to meet the EU requirements for renewable hydrogen... [Link](#) 31/01/2025
52. **E-Fuels:** Finland. Liquid Wind and Turun Seudun Energiantuotanto Oy (TSE) announced a MoU for the development of an e-Fuel facility in Naantali, Finland. Once operational, the e-Fuel facility will produce 100,000 tons/a e-Methanol made from green hydrogen and biogenic CO₂ (160,000 tons/a). Final investment decision (FID) is planned for 2026, and the facility will be operational in 2029. E-Methanol is a very versatile commodity that can replace fossil fuels in hard-to-abate sectors such as shipping and aviation while reducing CO₂ emissions. The e-Fuel facility is planned to be adjacent to TSE's local power plant Naantali 4 which will deliver biogenic CO₂ and steam for the production of e-Methanol. In addition, the process and waste heat of Liquid Wind's facility will be used for district heat, reducing the share of incineration-
53. **E-fuels:** Norway. Boeing has become a key project development partner of Norsk e-Fuel, supporting one of Europe's first industrial scale Power-to-Liquids (PtL) facilities. Boeing's investment will accelerate the production and availability of SAF in the Nordics and globally. It is also intended to support the commercial aviation industry's and ICAO member states' common goal to achieve net-zero carbon emissions by 2050. Norsk e-Fuel will produce jet fuel known as electro-SAF, or e-SAF. This involves the PtL process: using fossil-free power to generate green hydrogen and combining it with recycled CO₂ from biogenic sources. This fuel can reduce the lifecycle greenhouse gas emissions of air travel by over 90% compared to conventional jet fuel. [Link](#) 23/01/2025.
54. **E-fuels:** Switzerland. Metafuels announced its latest, oversubscribed \$9 million round – led by Celsius Industries. Other new investors are RockCreek, Fortescue Ventures, Verve Ventures, with existing investors Energy Impact Partners (EIP) and Contrarian Ventures also participating. Metafuels has now raised \$22 million in just over two years, making it one of Europe's best funded sustainable aviation fuel startups. [Link](#)
55. **E-fuels:** Uruguay. HIF Global and Alcoholes del Uruguay ("ALUR) have signed the Implementation Agreement which establishes the framework for the interaction between HIF's future e-Fuels facility in Paysandú and ALUR's biofuel plant nearby. The HIF Paysandú e-Fuels facility, with an estimated investment of \$6 billion, aims to produce 700,000 tons of renewable fuels annually. The HIF Paysandú e-Fuels facility is expected to recycle 900,000 tons of CO₂ per year, of which approximately 150,000 tons will come from ALUR. Earlier this

year, HIF's project was selected through an international call made by ALUR for the development of an initiative to reutilize biogenic carbon dioxide from the company biofuel facility in Paysandú. [Link](#)

56. **e-fuels:** USA. Lydian announced the successful pilot demonstration of its technology for producing sustainable aviation fuel (SAF) for commercial and defense applications. The pilot plant, which can produce up to 25 gallons of fuel per day, is located at RTI International in North Carolina. Lydian's power-to-liquids (PtL) technology is part of a growing evolution within the SAF industry that has seen PtL approaches gain traction due to highly accessible and scalable feedstock (waste CO2 emissions) and minimal land and water usage compared to biofuels. As a result, PtL approaches can achieve the lowest emissions of any SAF. [Link](#) 29/01/2025.

E-methanol

57. **e-methanol:** Finland. Freija will make e-Methane at scale from clean hydrogen and biogenic CO2 based on a cost competitive, proprietary and modularized solution with an integrated electrolyser facility. Following site selection, the company has issued the Environmental Impact Assessment program report and has started front-end engineering and design studies based on a capex and opex efficient development concept with up to three phases. Each phase equals one plant with annual capacity of up to 58,000 tons of renewable e-Methane. Production will start in 2029 [Link](#) 24/01/2025
58. **e-methanol:** Spain. Reolum has selected Johnson Matthey's e-methanol technology for the next phase of its La Robla Nueva Energia (NE) project. Located in the Spanish region of Castilla y León, it will be one of the largest e-methanol production plants in Europe, planned to be online by the end of 2027. This project is made up of two cutting-edge facilities: Roblum, a green energy generation plant that will power more than 50,000 households – and La Robla NE, an e-methanol plant. La Robla NE blends the CO2 extracted from the biomass plant with green hydrogen to produce e-methanol, with the expectation of up to 140 kt/year. [Link](#) 28/01/2025.

Ethanol

59. **Ethanol: Brazil.** National Bank for Economic and Social Development (BNDES) approved financing totalling R\$1 billion for Raízen Energia S/A to build a second-generation Cellulosic Ethanol Unit, E2G, in Andradina (SP), with an installed production capacity of up to 82 million liters per year. The plant will be one of six planned in the country to achieve economic viability of E2G by 2028. The project will supply SAF, green hydrogen and marine fuel. In total, the Raízen project foresees investments of approximately R\$1.4 billion. [Link](#)
60. **Ethanol:** Brazil. Progresso group is making its first investments in a corn ethanol plant that is being built in Uruçuí (PI) and which is expected to start crushing grains between June and July 2026. With a total investment of R\$1.18 billion, the project is being carried out in partnership with Brasil Bioenergia (BrasBio), which has among its partners the Green Lake Fi Participações fund, H4 Holding and Ideal Agro. [Link](#) 29/01/2025.
61. **Ethanol:** India. Bihar State, India expects to see nine new ethanol plants brought online by 2026, bringing 50,000 jobs to the region, and supporting sugarcane as well as corn farmers who will supply those plants feedstocks. Ethanol production will begin in 2025 in Bhagalpur and Kaimur. Both sugarcane and corn cultivation are expected to increase as the new plants come online, especially for sugarcane where farmers will no longer be reliant solely on sugar mills to purchase their crops. [Link](#)

62. **Ethanol:** USA. ClonBio Group Ltd. is taking its biorefinery build-out strategies proven in Tolna County, Hungary, and applying them in Jefferson County, Wisconsin. The European Union's largest ethanol producer acquired a former Valero corn ethanol production facility in Jefferson in 2022 and has already made progress in reshaping the 100-year-old site through more than \$450 million in investments. ClonBio invested in transforming the Aztalan facility into a cutting-edge biorefinery, drawing on the same principles used at the Pannonia Bio facility. [Link](#)
63. **Ethanol:** USA. Green Plains Inc says key milestones for the 'Advantage Nebraska' carbon strategy was met, and the project remains on track for operation in the second half of 2025. These facilities are expected to be among the first significant volumes of low carbon ethanol from carbon capture and sequestration in the U.S. and positions the company to participate in the early days of the 45Z Clean Fuel Production Credit. [Link](#)

Feedstock

64. **Feedstock:** Australia. Idemitsu Kosan is to launch a trial plantation of Pongamia in Queensland, Australia, to evaluate its suitability as a potential feedstock for SAF using HEFA technology. The trial plantation will be conducted in collaboration with US-based company Terviva and Australian firm Stanmore Resources Limited. As a part of this initiative, Idemitsu Kosan has also conducted an investment in Terviva. Through this trial plantation, Idemitsu Kosan will verify long-term cultivation methods for Pongamia, as well as the optimization of the entire supply chain from cultivation to oil extraction and SAF production. [Link](#)
65. **Feedstock:** Germany. Bayer announced a deal with Canada-based Smart Earth Camelina Corp., where Bayer has acquired their camelina germplasm, intellectual property, and materials to expand its global leadership position in biomass-based feedstock markets. This acquisition underlines Bayer's goal to help decarbonize the transportation sector and to deliver regenerative agriculture solutions through the investment and development of intermediate oilseed crops to meet the demand of the growing renewable diesel and SAF markets which is estimated to increase from 14 billion to 40 billion gallons by 2040. [Link](#)
66. **Feedstock:** Indonesia. Indonesia has decided to limit exports of used cooking oil as well as palm oil residue such as palm oil mill effluent to retain sufficient feedstock in the country to achieve its new 40% blending mandate. As the levy lobbed on crude palm oil exports are used to subsidize biodiesel blending, the government had to find other feedstocks that wouldn't impede that revenue. UCO and POME exporters will now have to secure an export allocation. [Link](#)
67. **Feedstock:** USA. Comstock Fuels Corporation has executed an agreement with Hexas Biomass Inc, securing exclusive rights to Hexas' intellectual properties in liquid fuels applications, subject to certain pre-existing agreements and relationships. Hexas has developed a suite of proprietary intellectual properties for the propagation, production, harvesting, and processing of purpose grown energy crops with proven yields exceeding 25 to 30 dry metric tons per acre per year, or about 4 to 7 times the yields of traditional forestry species. The combination of Comstock Fuels' high yield Bioleum refining platform and Hexas' high yield energy crops allows for the production of enough feedstock to produce upwards of 100 barrels of fuel per acre per year, effectively transforming marginal agricultural lands into perpetual "drop-in sedimentary oilfields" with the potential to dramatically boost domestic energy independence. [Link](#) 23/01/2025.
68. **Feedstock:** USA. Neste and Bayer have signed a MoU to develop a winter canola ecosystem in the U.S, including identifying partners and developing the value chain together, and scaling winter canola production as a raw material for renewable products. Winter canola, used as a

rotational crop in combination with regenerative agriculture practices, can improve soil health and sequester carbon, contributing to more sustainable farming. The resulting lower carbon intensity raw material can then be used to produce renewable fuels such as and renewable diesel. [Link](#)

Hydrogen

69. **Hydrogen:** Australia. Plug Power has finalised a 3GW electrolyser order from Allied Green Ammonia (AGA) for a major hydrogen-to-ammonia plant under development in Australia's Northern Territory. After Plug signed a MoU and agreed to support the Front-End Engineering Design (FEED) of the plant under a Basic Engineering and Design Package last May, they will now deliver the PEM electrolyser solutions from 2027. Whilst this depends on a positive final investment decision on the plant, which is expected in Q2 2025, AGA plans to use the electrolysers to help produce approximately 2,700 tonnes of green hydrogen-based ammonia per day. [Link](#)
70. **Hydrogen:** Chile. AES Andes has submitted an environmental impact study (EIS) for a USD-10-billion (EUR 9.58bn) green hydrogen and ammonia project in Chile, proposing to establish a wind and solar-powered industrial-scale complex near mining sites and port facilities in the region of Antofagasta. AES Andes estimates that the gaseous hydrogen production plant would consume around 1.68 GW of electricity for an output estimated at 217,023 tonnes/year, or 595 tonnes/day. Of that, 116,000 tonnes/year (318 tonnes/day) will be used to produce green ammonia and 101,023 tonnes/year (277 tonnes/day) for the production of liquid hydrogen. [Link](#)
71. **Hydrogen:** Chile. German development bank KfW will provide a promotional loan of EUR 100 million (USD 103m) as part of a EUR-1-billion financing platform to support the development of green hydrogen projects in Chile. The financing is part of the European Global Gateway Renewable Hydrogen Funding platform, whose total volume reaches up to EUR 1 billion. In addition to KfW's loan, the amount includes EUR 100 million from the European Investment Bank (EIB), EUR 16.5 million from the EU, USD 150 million from the World Bank, EUR 400 million from Inter-American Development Bank (IDB) and EUR 230 million from CORFO and other financiers. [Link](#)
72. **Hydrogen:** EU. Provaris Energy, Uniper Global Commodities and Norwegian Hydrogen have signed a conditional term sheet, paving the way for the supply of hydrogen from the Nordics to north-western Europe. Under the agreed terms, an annual volume of 42,500 tonnes per year of renewable fuels of non-biological origin (RFNBO)-certified hydrogen will be delivered using Provaris' H2Neo carriers. German firm Uniper will buy the hydrogen, produced by Norwegian Hydrogen in Norway, at an agreed fixed price after signing a non-binding MoU. [Link](#)
73. **Hydrogen:** France. A liquid hydrogen-fuelled gas turbine engine suitable for the light aviation market has been successfully tested and validated by Air Liquide, Turbotech and Safran. Hydrogen fuel was stored in gaseous form to perform an initial characterisation of the engine, before the engine was coupled to a cryogenic liquid storage system supplied by Air Liquide to showcase the end-to-end integration of a propulsion system, replicating all functions on an aircraft. [Link](#)
74. **Hydrogen:** France. Lhyfe and Masdar (UAE based company) signed a MoU to assess potential co-development opportunities in large-scale green hydrogen production projects in Europe. Lhyfe already has four installed green hydrogen production sites in Europe. The company's pipeline represents a total installed capacity of 9.5 GW and includes several large-scale projects at advanced stages. [Link](#) 23/01/2025.

75. **Hydrogen:** Germany. Danish renewables investor Copenhagen Infrastructure Partners (CIP) has announced the launch of “Project Anker,” an 800MW green hydrogen facility in Germany, to be developed in partnership with local energy firm Friesen Elektra Green Energy. Anker will be built in two 400MW stages in the municipality of Sande, close to the deepwater port of Wilhelmshaven, and will produce around 80,000 tonnes of H₂ per year. As such, the facility could supply a number of customers, such as Salzgitter’s steelworks, chemical producers in the Ruhr area, or the copper industry in Hamburg. [Link](#)
76. **Hydrogen:** Germany. Evia Aero has signed a letter of intent with Britten-Norman to buy 15 new Britten-Norman Islander aircraft, the UK aircraft manufacturer. Deliveries of the 15 planes will start at the beginning of 2027. The machines will then be converted to zero-emissions platforms powered by hydrogen fuel-cell propulsion systems. [Link](#)
77. **Hydrogen:** Germany. Germany is expected to complete around 525 km (326.2 miles) of its planned nationwide core hydrogen network in 2025 according to the current planning status. In total, Germany plans to build 9,040 km of hydrogen infrastructure by 2032, including repurposing existing gas networks and developing new hydrogen pipelines. [Link](#)
78. **Hydrogen:** India. AM Green and DP World have partnered to develop logistics and storage infrastructure in India to export one million tonnes of both green ammonia and methanol. Under the MoU, the two companies will establish India as a global hub for green hydrogen-based molecules, as the nation drives forward with its hydrogen ambitions. They will explore port infrastructure across AM Green’s Net Zero industrial clusters to facilitate global exports; develop bunkering infrastructure across Dubai, India and Southeast Asia for green ammonia and methanol supplied from AM Green plants; and establish terminal infrastructure across the EU, Far East and UAE to create appropriate supply chains. [Link](#)
79. **Hydrogen:** Italy. CWA Power, a publicly traded company in Saudi Arabia recognized as the world’s largest private water desalination company signed a Memorandum of Understanding with Snam to explore collaboration and joint investments to establish a green hydrogen supply chain in Europe. [Link](#) 29/01/2025.
80. **Hydrogen:** Oman. Sungrow Power Supply Co Ltd said it has secured the largest supply contract for a 320-MW green ammonia project in Oman. The contract, awarded by India’s ACME Group, calls for Sungrow Hydrogen to supply multiple sets of 1000 Nm³/h ALK hydrogen production equipment and flexible green hydrogen production solutions for the project. The project is expected to start operations in 2026 with an initial capacity for green ammonia production of 300 tonnes per day. [Link](#). 21/01/2025
81. **Hydrogen:** Singapore. PacificLight Power (PLP) was granted the rights to build, own and operate a 600MW hydrogen-ready combined cycle gas turbine (CCGT) power plant on Singapore’s Jurong Island. The H-class CCGT will boast “at least” 600MW of capacity, working alongside PLP’s existing 830MW CCGT and 100MW of fast-start capacity, which is expected to start operations in Q2 this year. The plant will be capable of using at least 30% hydrogen on start-up, but PLP intends for it to burn 100% hydrogen “in the future. [Link](#)
82. **Hydrogen:** South Korea. Utility, the off-gas-to-value company pioneering its proprietary eXERO gas production technology optimized to decarbonize hard-to-abate industries, has signed a commercial agreement with GH EnA of Korea for multiple projects to create clean, affordable, carbon-negative hydrogen using biogas with Utility’s groundbreaking H2Gen reactor. H2Gen reactors are based on Utility’s proprietary eXERO gas production technology which enables a variety of chemical reactions to produce valuable gas streams. For example, H2Gen produces hydrogen gas from water using the electrochemical energy contained in off-gases such as biogas or various steel production gases. [Link](#)

83. **Hydrogen:** Spain. Moeve, the country's second-largest oil company will start building its flagship green hydrogen project this year. This follows Spain's decision not to extend an energy windfall tax. Moeve is building the project in phases. It has a target to produce 2GW of green hydrogen from the project by 2030. Owned by Abu Dhabi fund Mubadala and U.S.-based private equity firm the Carlyle Group CG.O, Moeve is investing up to 8 billion euros to shift to low carbon energy and sustainable mobility. [Link](#) 30/01/2025.
84. **Hydrogen:** Spain. Repsol has taken the final investment decision today on its Tarragona Ecoplant, a pioneering project to be completed in 2029 that will produce “renewable methanol” via the gasification of municipal solid waste. Repsol will invest over 800 million euros in a green methanol facility in northeastern Spain. The so-called Ecoplant in Tarragona is scheduled to be up and running in 2029 and will be able to process up to 400,000 tons of municipal solid waste per year, transforming it into 240,000 tons of renewable fuels. This cutting-edge technology, developed by Enerkem - a technology company in which Repsol is a partner. [Link](#) 30/01/2025.
85. **Hydrogen:** United Kingdom. Hygen Energy has received funding from HSBC UK to boost the capacity of its green hydrogen production site in Birmingham, UK. Through HSBC Equipment Finance, Hygen will benefit from asset financing to enhance its facility at the Tyseley Energy Park and to develop additional sites across the UK. At the Tyseley site, Hygen operates a refuelling unit that supplies hydrogen to key clients such as National Express and JCB, supporting their decarbonization initiatives. [Link](#)
86. **Hydrogen:** United Kingdom. Turkish manufacturing firm ENKA has been awarded an engineering, procurement, and construction (EPC) contract by Essar Energy Transition (EET) Hydrogen for its hydrogen production plant in Cheshire, UK. EET Hydrogen’s HPP1 project, located at the Stanlow Manufacturing Complex in Ellesmere Port, will have a production capacity of 350MW and capture around 600,000 tonnes of CO2 a year. [Link](#)
87. **Hydrogen:** USA. Avina Clean Hydrogen (Avina) announced the successful completion of Front-End Engineering Design (FEED) and Front-End-Loading (FEL-3) for its 2,200 metric tons per day (MTPD) clean ammonia facility located in Texas Gulf Coast. With a Final Investment Decision (FID) targeted in 2025, this is a major milestone for the industry as it represents the first announced completion of FEED for a large-scale clean ammonia facility in the United States. The Gulf Coast Clean Ammonia facility is designed to meet the surging global demand for clean fuels. Scheduled to commence operations in 2028, it will produce up to 800,000 metric tons per annum of clean ammonia by utilizing a blend of blue and electrolytic hydrogen. [Link](#)
88. **Hydrogen:** USA. Hydrogen Production Tax Credit (PTC), also known as 45V, had been the subject of heated debate — and lobbying — since passage of the Inflation Reduction Act (IRA) way back in August 2022. But after more than a year of speculation — and with the Biden administration in its last days — the final rulemaking has at last been published. In today’s RBN blog, the final rulemaking is compared to the initial guidelines established in December 2023, detail the key areas where the rules have been made more lenient, and explain why clean hydrogen still faces an uncertain future. [Link](#)
89. **Hydrogen:** USA. Plug Power has closed a \$1.66bn loan guarantee from the U.S. Department of Energy (DOE) to support the construction of up to six low-carbon liquid hydrogen projects. The loan guarantee from the DOE’s Loan Programs Office (LPO), initially announced in May, will be welcome news for Plug Power. It could enhance the company’s access to capital by reducing financing risks, as the government will act as a guarantor for a substantial portion of the debt associated with these projects. [Link](#).

90. **Hydrogen:** USA. Verdagy has been selected to provide more than 320 MW of its electrolyzers for Petron Scientech's first biorefinery project in the US which will produce SAF, renewable diesel and e-methanol. Verdagy will deliver its eDynamic alkaline water electrolyzers for integration into the biorefinery to produce over 45 kilotonnes of green hydrogen per year. The systems will be manufactured at Verdagy's newly opened 1-GW plant in the Silicon Valley. Petron is developing several sustainability-focused biorefineries and is engaged with various airlines for offtake of SAF made using its ethanol and bio-ethylene technologies. It is also engaged with shipping companies for the procurement of e-methanol. [Link](#) 23/01/2025.

Marine fuels

91. **Marine fuels:** China. Shanghai International Port Group's (SIPG) bunkering ship Hai Gang Zhi Yuan has supplied 3,000 tons of green methanol to Ane Maersk, one of the world's first boxships powered by this alternative fuel, at Yangshan Port. Hai Gang Zhi Yuan, owned by Shanghai SIPG Energy Services, a subsidiary of SIPG Group, is considered the Port of Shanghai's first methanol bunkering ship. [Link](#)
92. **Marine fuels:** DNV's latest white paper "Biofuels in Shipping", key biofuels like FAME and HVO have great potential for reducing greenhouse gas (GHG) emissions and supporting compliance with maritime regulations, but their benefits to the industry could be constrained by limited supply in the future. With biofuel use expected to increase, the paper highlights the importance of its safe introduction, outlining critical operational and technical considerations. [Link](#)
93. **Marine fuels:** EU. European Union marine fuel rules, effective from Jan. 1 as part of efforts to cut emissions, will raise shipping costs, although firms with vessels that can run on alternative fuels, such as biodiesel and LNG, will benefit. The policy is the second major EU regulation focused on cutting the shipping industry's carbon emissions in as many years. Shipping transports over 80% of all traded goods and causes 3% of greenhouse gas emissions. The FuelEU Maritime regulation requires commercial ships above 5,000 gross tonnage operating in EU ports to cut emissions from marine fuels, also called bunker fuels, or pay penalties. Biofuels and other alternative fuels for ships are in short supply, and there is competition from aviation and other sectors. That means shipping companies' costs will rise - and, the increase will be passed onto consumers and businesses. [Link](#)
94. **Marine fuels:** Singapore. Neste and KPI OceanConnect recently collaborated on the supply of Neste MY Renewable Diesel to the marine sector in Singapore in partnership with Global Energy. This is the first time renewable diesel is supplied to the marine sector players to be used e.g. by cruise ships in Singapore. This first supply of Neste MY Renewable Diesel to the marine sector in Asia-Pacific marks a significant milestone for the industry. [Link](#)
95. **Marine fuels:** Spain. United European Car Carriers (UECC) has performed the first-ever ship refuelling operation in Spain with a truck-borne shipment of liquefied biomethane (LBM) to widen access to supplies of the sustainable fuel and bolster the country's circular economy. LBM supplied by green energy developer Naturgy from a biomethane production plant in the surrounding Galicia province was pumped directly from a tanker truck into the tanks of UECC's multi-fuel LNG battery hybrid Pure Car and Truck Carrier. [Link](#)

Methanol

96. **Methanol:** Hong Kong. The Hong Kong and China Gas Company Limited (Towngas) and Singaporean company Global Energy signed a MoU to jointly advance the supply and distribution of green methanol as a marine fuel for the shipping industry. This strategic collaboration between Towngas and Global Energy integrates production and logistics

capabilities to provide end users with a holistic, end-to-end solution at major and regional ports. [Link](#) 28/01/2025.

97. **Methanol:** USA. At the core of Emvolon's system is an off-the-shelf automotive engine that runs "fuel rich" — with a higher ratio of fuel to air than what is needed for complete combustion. The hydrogen and carbon monoxide are intermediate products used to synthesize different chemicals through further reactions. Those processing steps take place right next to the engine, which makes its own power. Each of Emvolon's standalone systems fits within a 40-foot shipping container and can produce about 8 tons of methanol per day from 300,000 standard cubic feet of methane gas. [Link](#)
98. **Methanol:** USA. Straits Research reported that the global methanol market size is projected to reach \$53.15 billion by 2033, up from \$34.3 billion in 2025. North America's methanol market growth is driven by major players like Methanex, BASF, and Mitsubishi Gas Chemicals. The region is seeing increased demand for green and blue methanol as sustainable marine fuels, prompting the establishment of new production plants in Louisiana, Beaumont (Texas), and Fairway (Clear Lake). [Link](#)
99. **Methanol:** USA. ETFuels has selected technology companies John Cockerill and Johnson Matthey as strategic partners for its 120,000-ton-per-year e-methanol project in Texas, U.S. John Cockerill will provide 210 MW of its pressurized alkaline electrolyzer units, along with technical services for the green hydrogen facility to be constructed in Texas. Johnson Matthey will supply its eMERALD e-methanol technology, along with the eMERALD methanol synthesis catalyst, for the project. By 2029, ETFuels will produce 120,000 tons of e-methanol annually from co-located 500 MW high-capacity renewable energy sources together with biogenic CO₂ at the planned plant. The financial investment decision (FID) for the project is expected in 2026, with construction scheduled to start by or before 2027. [Link](#)

Plastic recycling

100. **Plastic recycling:** Denmark. Vitol B.V. has entered into a conditional agreement to acquire a controlling interest in Waste Plastic Upcycling A/S ("WPU"). On completion, which is subject to certain conditions, Vitol will own 90.36% of the share capital of WPU. WPU upcycles end-of-life plastic waste to oil, using batch pyrolysis technology, for use as full range Naphtha or to be distilled to kerosene/jet fuel. Based in Denmark, WPU has an operational commercial scale facility in Farevejle with the capacity to recycle 30,000 tonnes of waste plastic a year. [Link](#)
101. **Plastic recycling:** France. CARBIOS is postponing the construction of its PET biorecycling plant in Longlaville for 6 to 9 months due to delayed funding pending completion of additional financing under satisfactory conditions. CARBIOS' ambition is to finalize this financing, notably non-dilutive, as quickly as possible, to serve market needs from 2027. CARBIOS expects to sign several binding commercial contracts in the first half of 2025. [Link](#)
102. **Plastic recycling:** France. CARBIOS, is postponing the construction of its PET biorecycling plant in Longlaville for 6 to 9 months due to delayed funding pending completion of additional financing under appropriate conditions. CARBIOS' ambition is to finalize this financing, notably non-dilutive, as quickly as possible, to serve market needs from 2027. CARBIOS expects to sign several binding commercial contracts in the first half of 2025. [Link](#)
103. **Plastic recycling:** Germany. Covestro customers use Vulkollan® systems to mould parts for many applications with a high demand for durability and performance. Typical applications for parts made of Vulkollan® are wheels for forklifts, bumper elements in railways and vibration control elements and jounce bumpers in cars. The excellent quality of Vulkollan® allows more sustainable and cost-efficient operation of the target application through

longer lifetime, longer maintenance intervals and less unplanned shutdowns. Due to the high yield of the recycling process, end-of-life Vulkollan® materials can be re-introduced into new automotive jounce bumpers and forklift tires via a mass balancing approach. [Link](#)

Policy

104. **Policy/Hydrogen:** Energy utilities' plans to use hydrogen for domestic heating and cooking are out of touch with hydrogen's risks and limitations. That's the message from a new Institute for Energy Economics and Financial Analysis (IEEFA) report which indicates to hydrogen producers that plan on relying on home heating as a market to "think again." The report's headline findings warn that hydrogen in homes poses health and safety risks, could delay electrification, would produce NOx and is also inefficient. Burning hydrogen for heat and cooking is an inefficient way to cut carbon dioxide (CO2) emissions. Also, hydrogen transport requires greater gas compression than natural gas—and compression consumes energy. [Link](#) 22/01/2025.
105. **Policy:** Australia. Forrest has already set a target of "real zero" emissions at his company's iron ore operations for 2030, by which time he says it will not be burning any fossil fuels for mining, processing, or land transport. Forrest is a major critic of "net zero" strategies allow carbon offsets or carbon capture and storage. Real zero, he says, involves the elimination of fossil fuels, and he wants the world to follow – and achieve it a decade earlier than current "net zero" targets. Fortescue says a study involving the University of Oxford found real zero for the power and transport sectors could drive annual savings of more than \$US500 billion by 2050. [Link](#) 29/01/2025.
106. **Policy:** EU. Italy, Germany, Austria, Algeria and Tunisia on Tuesday signed a joint declaration of intent to continue work on the development of the SouthH2 Corridor project, which will carry renewable hydrogen over 3,300 kilometres (2,051 miles) from North Africa to the three European countries. [Link](#) 22/01/2025.
107. **Policy:** Germany. A recent report by the Centre for Environmental Systems Research - University of Lassel, Germany presents new data on the performance of the German bioeconomy. It shows how much biomass from agriculture, forestry and fisheries was produced, traded and consumed for various purposes in 2020. The effects on jobs, biodiversity and the potential of the circular economy, among other things, were also assessed. The sustainable availability of biomass depends on the environmental impact and the possibilities for economic activity within ecological limits. A balanced bioeconomy in line with global sustainability goals requires a balance between consumption and sustainable supply. More than 60% of the agricultural land used for German consumption is grassland and is used to feed livestock to meet the high meat consumption, which is at least three times higher than recommended. 16% of German water consumption for the bioeconomy comes from regions with high water scarcity, the Middle East. In addition, increasing forest disturbances could lead to harvest deficits for coniferous species in the medium term. Careful planning is therefore essential to secure future supplies and achieve sustainability goals. This includes the efficient, sufficient, fair and safe use of biomass. [Link](#)
108. **Policy:** Indonesia. The Indonesian government has yet to implement a higher mandatory blend of biodiesel planned for January 1 as industry participants await technical details of the new regulation, causing confusion among palm oil traders. The government had pledged to mandate a 40% mix of palm oil-based fuel in biodiesel from January 1, known as B40, from a 35% blend currently in force. [Link](#)"
109. **Policy:** Spain. Spain's government has extended the 1.2% levy on energy revenues for another year but made it possible for companies to secure a maximum 60% rebate for

investments in ecological transition and decarbonisation. The key feature of the levy remains the same -- all domestic energy companies with net annual revenues exceeding EUR 1 billion (USD 1.04bn), excluding regulated power and gas businesses and earnings from abroad, pay 1.2% of turnover. The novelty is the introduction of rebates for “strategic investments”, described as “those that are essential for the ecological transition and decarbonisation and which, due to their magnitude, contribute to economic growth and employment. [Link](#)

110. **Policy:** USA President Trump on Jan. 20 issued an executive order declaring a national energy emergency. One component of the order directs the U.S. EPA to consider issuing emergency fuel waivers to allow year-round E15 sales. The EPA in early 2024 issued a separate rulemaking that will allow year-round sales of E15 in Illinois, Iowa, Minnesota, Missouri, Nebraska, Ohio, South Dakota and Wisconsin starting with the 2025 summer driving season. That rulemaking is the result of petitions filed with the agency by several Midwestern governors in 2022 requesting the agency remove 1-psi Reid vapor pressure (RVP) waiver for summer gasoline-ethanol blended fuels, which would effectively allow E15 to be sold year-round within their states. [Link](#) 22/01/2025.
111. **Policy:** USA. Certain parts of the bioeconomy may face headwinds under a Trump presidency. It is not just downstream biobased manufacturers that will be vulnerable to rising tensions between the US and traditional economic partners. US primary producers, those working in agriculture and forestry, would be affected by tit-for-tat tariff hikes too, given that US exports considerable biomass feedstock to China and other Asian countries. [Link](#) 31/01/2025.
112. **Policy:** USA. U.S. Department of Agriculture’s release of an interim rule on Technical Guidelines for Climate-Smart Agriculture (CSA) Crops Used as Biofuel Feedstocks. The interim rule establishes guidelines for quantifying, reporting, and verifying the greenhouse gas emissions associated with the production of corn, sorghum, and other biofuel feedstock crops grown in the United States. The USDA guidelines could help inform the inclusion of CSA practices in future clean fuel regulations and tax credit programs, like the 45Z clean fuel production credit. [Link](#)

Pyrolysis

113. **Pyrolysis:** Canada. CHAR Technologies, a leader in sustainable energy solutions, announced that the Government of Québec, through the Programme Innovation Bois, has approved \$2.5M to CHAR Tech to support the advancement of its project to convert wood wastes and residuals into both biocarbon for metallurgical coal replacement, as well as green hydrogen, which the project intends to upgrade further into renewable natural gas. [Link](#)

Recycling plastic

114. **Recycling plastic:** The Netherlands. Circularise announced significant advancements from its involvement in the Circular Foam project, which will revolutionise the recycling of rigid polyurethane (PU) foam. Running from October 2021 to September 2025, the project brings together multiple industry leaders to address the recycling challenges posed by PU foam, a material widely used in construction, appliances, and insulation. The Circular Foam initiative is critical in advancing the circularity of this material. [Link](#)

Renewable diesel

115. **Renewable Diesel:** Canada Federated Co-operatives Limited (FCL) has paused, the two main projects related to its proposed Integrated Agriculture Complex in Regina. Due to

regulatory and political uncertainty, potential shifts in low-carbon public policy, and escalating costs, FCL's proposed renewable diesel facility and joint venture canola crush projects, are to be paused for the foreseeable future. FCL and joint venture (JV) partner AGT Foods, have paused their proposed JV canola crush facility, which would have supplied feedstock to FCL's wholly owned renewable diesel facility. [Link](#) 22/01/2025.

116. **Renewable diesel:** Italy. Neste is partnering with the Italian fuel distributor Firmin to make Neste MY Renewable Diesel available for the first time in Italy to contribute to the reduction of greenhouse gas emission in the transport sector. Neste MY Renewable Diesel (also known as HVO100) is available in Italy from the beginning of January 2025. [Link](#)
117. **Renewable diesel:** USA. Calumet, Inc. has been informed by the U.S. Department of Energy Loan Programs Office that the first tranche of approximately \$782 million under the guaranteed loan facility that was previously approved for funding January 28 will undergo a tactical delay to confirm alignment with White House priorities. The loan facility, which closed on January 10, will fund the construction and expansion of the renewable fuels facility in Great Falls, Montana, owned by Montana Renewables, LLC, an unrestricted subsidiary of Calumet. [Link](#) 31/01/2025.

Textiles

118. **Textiles:** USA. Acme Mills Company, introduced Natura, its groundbreaking line of bio-based polylactic acid (PLA) fabrics. Designed to replace petroleum-based nonwovens such as PET, PP, and Nylon, Natura represents a revolutionary step toward reducing environmental impact without compromising performance or quality. The Natura product line includes a diverse range of PLA fabric types, such as spunbond nonwovens, needled felts, hydroentangled, and melt-blown textiles. These innovative materials are tailored to meet the demands of industries including food and beverage, packaging, automotive, furniture, healthcare, and filtration. [Link](#)
119. **Textiles:** USA. Huminly, is revolutionising textile recycling by enabling the infinite recycling of blended textile waste. The current challenge of recycling blended textile waste, such as a mix of polyester and cotton, lies in the difficulty of separating these materials. Huminly's solution is a unique enzyme-based process that separates polyester from cotton, resulting in high-quality, virgin-grade materials. This innovative approach utilizes water, salt, and enzymes, minimizing environmental impact while maximizing efficiency and cost-effectiveness. [Link](#)

**Company Summary –
January 2025**

Frequency of mention

Company	Frequency
Neste	3
AM Green	2
Avina Clean Hydrogen	2
Carbios	2
Comstock	2
Cosmo Oil	2
Indonesian Government	2
LanzaTech	2
Montana Renewables	2
Plug Power	2
Acme Mills	1
ACWA Power	1
AD TechOptima	1
Adif	1
AES Andes	1
Air Liquide	1
Alfanar	1
Allied Analytics	1
Amogy	1
Anaergia	1
Anew Climate	1
Arbios Biotech	1
Ascend Performance Materials	1
ATB, Germany	1
Axens	1
Bayer	1
CalBioGas	1
CarbonScape	1
Total	117

**Topics & Themes/Category
Summary– January 2025**

Frequency of mention

Category	Frequency
Biojet	21
Hydrogen	21
Biogas	13
Policy	8
e-fuels	6
Biofuels	5
Ethanol	5
Feedstock	5
Marine fuels	5
Ammonia production	4
Biomaterials	4
Methanol	4
Plastic recycling	4
Biobased plastics	3
Renewable diesel	3
Biobased chemicals	2
CO2 Removal	2
e-methanol	2
Textiles	2
Pyrolysis	1
Recycling plastic	1
Total	121