



Technology Collaboration Programme  
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## Newsletter IEA Bioenergy Task 37: 01/2023

### IEA Inputs and biogas policy 2022

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#### **Task 37 position paper: the role of biogas and biomethane in pathways to net zero**

This position paper – developed by members of IEA Bioenergy Task 37 – provides a holistic perspective on the roles of biogas and biomethane. The main conclusion is that biogas and biomethane have a range of options which can be employed in pathways to net zero. They provide sustainable flexible systems that play essential roles in circular economy, energy, and environmental systems. Renewable hydrocarbons such as biogas and biomethane are required in our future net zero world. Without hydrocarbons we will not be able to fuel long distance heavy transport; hydrocarbons are ingredients for chemicals such as methanol. Sustainable steel production will require renewable hydrogen molecules. Many industries including the food and beverage industry and the glass industry are optimised for burning a gaseous fuel. Biogas systems provide a solution for these industries. Provision of energy through use of agricultural land that may compete with food production has been debated extensively. However, cover crops or catch crops (grown in between the primary food or feed crops) can provide important quantities of feedstock for biogas production in addition to reduction of nutrient leaching; avoidance of wind and water erosion; and improving organic matter in soils.

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#### **Flexibility provision from biogenic gases**

Increasing shares of variable renewable energy (VRE) in the energy supply system create a demand for measures to provide flexibility at different time scales on a sustainable manner.

At the same time, the Russian invasion of Ukraine has strengthened the demand for sustainable domestic resources to guarantee security of supply in Europe. Bioenergy has inherent capabilities to provide both of these features as it can shift resources regarding time and place as well as between sectors. This has been discussed during a workshop organized recently by IEA Bioenergy Task 44 in collaboration with Tasks 33 (Gasification) and 37 (Biogas). This workshop focused in particular on technology options and Best Practices to provide flexibility from biogenic gases through gasification, biogas and Power-to-X pathways. Representatives from Industry and science presented their views on the advantages and limits of the flexible use of biogenic gases. The contributions and the recording of the workshop can be downloaded for free.

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### **IEA Renewables 2022 report**

Renewables 2022 is the IEA's primary analysis on the sector, based on current policies and market developments. It forecasts the deployment of renewable energy technologies in electricity, transport and heat to 2027 while also exploring key challenges to the industry and identifying barriers to faster growth. Energy security concerns caused by Russia's invasion of Ukraine have motivated countries to increasingly turn to renewables such as solar and wind to reduce reliance on imported fossil fuels, whose prices have spiked dramatically. Global renewable power capacity is now expected to grow by 2.400 gigawatts (GW) over the 2022-2027 period, an amount equal to the entire power capacity of China today. This massive expected increase is 30% higher than the amount of growth that was forecast just a year ago, highlighting how quickly governments have thrown additional policy weight behind renewables. European governments and businesses are looking to rapidly replace Russian gas with alternatives. The amount of renewable power capacity added in Europe in the 2022-27 period is forecast to be twice as high as in the previous five-year period. Beyond Europe, the upward revision in renewable power growth for the next five years is also driven by China, the United States and India, which are all implementing policies and introducing regulatory and market reforms more quickly than previously planned to combat the energy crisis. As a result of its recent 14th Five-Year Plan, China is expected to account for almost half of new global renewable power capacity additions over the 2022-2027 period. Meanwhile, the US Inflation Reduction Act has provided new support and long-term visibility for the expansion of renewables in the United States.

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### **REPowerEU actions**

The new geopolitical and energy market realities require us to drastically accelerate our clean energy transition and increase Europe's energy independence from unreliable suppliers and volatile fossil fuels. REPowerEU is the European Commission's plan to make Europe independent from Russian fossil fuels well before 2030, in light of Russia's invasion of Ukraine. 85% of Europeans believe that the EU should reduce its dependency on Russian gas and oil as soon as possible to support Ukraine. By acting as a Union, Europe can achieve this faster. The REPowerEU plan sets out a series of measures to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition, while increasing the resilience of the EU-wide energy system. It is based on: diversifying, saving and accelerating renewable energy. It includes rapid roll out of solar and wind energy projects combined with renewable hydrogen deployment and increase biomethane production to a total of 35bcm to save around 50 bcm of gas imports. Additional investments of €210 billion are needed between now and 2027 to phase out Russian fossil fuel imports, which are currently costing European taxpayers nearly €100 billion per year.

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### **Current RNG projections and government initiatives in Canada**

In British Columbia, the CleanBC Plan aims to have 15% of natural gas supply consist of renewable gases such as RNG by 2030. Alberta and Québec have implemented carbon offset systems which award landfills and agricultural facilities for collecting and utilizing biogas. From 2021 to 2030, Canadian RNG production potential is expected to grow by 7% simply from industry and population growth. As of 2021, there are approximately 279 biogas and RNG projects being operated in Canada, and it is estimated that only 14% of Canada's feasible biogas and RNG potential is being realized. This means new RNG projects can contribute significantly to helping Canada achieve its climate target of reducing methane emissions 30% below 2020 levels by 2030. It is estimated that by 2030, RNG production globally will be seven times that of 2020, and by 2050, global production will be 27 times that of 2020.

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### **Green Gas: The Green Economy under our Feet**

A new Green Gas Support Scheme (GGSS) has been introduced by UK's Government to encourage the injection of biomethane from anaerobic digesters (AD) as well as investigate the development of commercial-scale gasification and the replacement of the GGSS with a long-term biomethane support scheme. To get there, we are going to have to work on a new frontier – to remove the carbon emissions from our nation's heating. Ecotricity believe that they have found a solution that could play a significant part in this: Through the process of Anaerobic Digestion of species rich herbal leys as fuel to produce biomethane (or 'Green Gas') sustainable biogas can be produced. The big benefits of Green Gas are that it is a fuel source that will never run out, it's low carbon, it reduces the need to import fossil fuels from overseas or frack the countryside, and it uses existing infrastructure such as the gas grid. This new study doesn't just validate our original position - it shows that the opportunity is even bigger than we said it was seven years ago. The key findings are: There is enough grassland to make all the gas Britain's homes use - without taking any land out of food production. In fact by 2050 nearly twice as much gas could be produced this way as the UK currently gets from the North Sea.

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### **\$16 million in funding available for the Texas Clean Fleet Program**

The Texas Commission on Environmental Quality is now accepting applications for the Texas Clean Fleet Program with an estimated \$16 million in grant funding available for fleet owners in Texas to replace aging diesel vehicles with new hybrid or alternative fuel vehicles. Grants may reimburse up to 80% of the cost of the new vehicle. Grants are available for entities who own and operate a fleet of 75 or more on-road vehicles in Texas and who apply to replace at least 10 of those vehicles with new hybrid or alternative fuel vehicles powered by electricity; RNG; LNG; Hydrogen; Propane, or a mixture of fuels containing at least 85% methanol by volume (M85).

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### **Belgium: an unprecedented bonus for LNG and CNG trucks**

As the number of gas filling stations continues to grow in Belgium, Gas.be has decided to give a boost to the CNG sector with the introduction of a bonus for the acquisition of CNG or LNG trucks. Valid for all Belgian companies or local authorities that equip their fleet with a new truck running on CNG or LNG, the bonus depends on the gross vehicle weight of the financed vehicle. In practice, it will cost €2,500 for vehicles from 3.5 to 12 tons and €5,000

for vehicles over 12 tons. The number of premiums is limited to 2 per financed entity. To be eligible, the truck must be dated from May 1, 2022 to December 31, 2022.

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### **Italy: Biomethane Decree 2022 entered into force in October 2022**

The Biomethane Decree 2022 defines incentives to be allocated to the sector through public competitive procedures. There are two lines of action. On the one hand, the resources will support the conversion and upgrading of existing agricultural biogas power plants in Italy, to accompany them towards the total or partial production of biomethane. On the other hand, it will incentivize the construction of new biomethane plants fueled by agricultural matrices or organic waste. All of these systems will be granted a 40 percent capital subsidy on expenses incurred; with different spending limits depending on the type of investment. The Decree, which releases resources from the National Recovery and Resilience Plan (NRP) for the strategic development of biomethane production aimed at achieving European decarbonization targets. The measure is also part of the European Commission's REPowerEU strategy to accelerate green transition goals and break free from dependence on Russian gas. The new decree makes available 1.7 billion euros for the construction of new plants and the conversion of existing biogas plants with an estimated production of more than 2.5 billion cubic meters by 2026, putting agriculture at the forefront of the path toward the ecological transition. However, several knots still remain open regarding the implementation phase, the details of which the decree defers to a subsequent measure, which is highly anticipated by the sector.

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### **Biomethane: The French government takes new measures**

At the end of June, 442 installations, mostly agricultural methanizers, were injecting RNG into the natural gas networks, resulting from the fermentation of organic matter (food waste, liquid manure, dedicated crops...). Their total production capacity is 7.6 terawatt-hours (TWh) per year, or +18% compared to the end of 2021, the Ministry of Energy Transition said Friday. But France wants to increase the share of renewables to at least 10% of its gas consumption by 2030, compared to about 2% today. In order to reach the objectives, set by the Multiannual Energy Program by 2028 and get out of the dependence on fossil fuels, the government is giving a new boost to the biomethane sector by adopting two new measures. On September 23, the Ministry of Energy Transition announced the adoption of two regulatory measures to increase biomethane production capacity in France. The first concerns the revaluation of the biomethane purchase rate to take account of inflation. Taking into account the strong increase in the construction costs of new facilities, it allows to preserve the economic balance of new projects in order not to break the deployment dynamics. The order associated with this measure was published on September 23 in the Journal Official.

The second measure concerns the extension of the deadline for commissioning projects. Aimed at encouraging the relaunch of certain projects that are currently on hold, this is governed by a decree extending the commissioning period by up to 18 months.

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### **Interest in biomethane development exceeds production target in Ireland**

Current levels of interest in domestic biomethane development exceed Ireland's production target which equates to approximately 10% of gas supply, according to Gas Networks Ireland. Over 130 expressions of interest equating to 8TWh of biomethane have been received by Gas Networks Ireland, with the majority of inquiries citing feedstocks coming

from the agri-food sector. The government has recently committed to incentivize the use of up to 5.7 TWh of AD by 2030, among targets for solar and wind energy to increase Ireland's renewable energy capacity. Gas Networks Ireland's most recent energy demand statement for August 2022 shows that all gas – natural gas and biomethane – powered up to 92% of Ireland's electricity when wind supply was low.

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### **Ottawa will give out \$800 million to clean fuels companies**

Johnathan Wilkinson, minister of natural resources, made a significant announcement in November regarding funding for clean fuels, which includes hydrogen, but also biodiesel, renewable natural gas, ethanol and renewable aviation fuel. The federal government will distribute up to \$600 million to 60 cutting edge Canadian companies in the clean fuels space.

The first part of funding from the federal government's clean fuels fund has been distributed. The government said it is still in the process of negotiations with some companies, but no details were released. The money will be given to companies in seven provinces and territories. The announcement shows that the federal government is interested in reducing Canada's greenhouse gas emissions. The federal government has consistently maintained that clean fuels will be needed for certain sectors, such as heavy industry, that currently use diesel and may be hard to decarbonize. In a net-zero world, clean fuels are an important part of the clean technology mix.

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### **India extends its National Bioenergy Programme into 2026**

The Indian government has announced it is to extend its National Bioenergy Programme to 2025/26. Phase I of the programme is worth Rs.85.8 million. It has three sub-schemes. The Waste to Energy Programme aims to provide support to large biogas plants, while the Biogas Programme does the same for smaller facilities in rural areas. The third Programme, Biomass, is for supporting manufacture of briquettes and pellets for use in power generation.

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