



To launch a process of defining vision for the Finnish biogas sector

This paper defines the process of how to launch a vision and targets for the Finnish biogas sector and to reach them. Finally, these roadmaps and visions will include recommendations for legislative and market changes as well as activities aimed at achieving the required development in production, trade and consumption.

The determination of the vision and roadmap for national biogas/biomethane is part of REGATRACE project. REGATRACE-project is EU-wide project funded by the European Union. Similar process take place in 14 EU-countries in 2020-2021. The Finnish Biocycle and Biogas Association is the Finnish partner in the REGATRACE project.

Background

In 2018, biogas production was 931 gigawatt hours, of which 102 gigawatt hours were fed into the grid. Biogas production was 235 gigawatt hours in wastewater treatment plants, 274 gigawatt hours in landfills and 409 gigawatt hours in co-treatment plants. The farms produced only 12 gigawatt hours of biogas. The number of biogas-producing reactor plants, and in particular co-digestion plants, is growing. Instead, the amount of gas generated in landfills is declining. In 2019, 95.4 gigawatt hours of biogas certificates were issued.

The production of biogas could be 6-15 TWh in 2035 was estimated by the experts from the Finnish biogas sector at the workshop hold on the 10 of March 2020. According to several studies, Finland's techno-economic biogas production potential with digestion technology is estimated to be about 10 TWh.

Setting a Vision and targets

The vision of the Finnish biogas sector is to be competitive and vital, and being strongly integrated into the modern energy system and network. Besides that, the sector holds a strong foothold in national the nutrient recycling activities.

In order to stay on track and to reach its potential, the Finnish biogas sector sets the production target of 4 TWh to be reached by 2030. Most of the biogas would be upgraded to biomethane; so that the biogas sector could serve the growing demand in sustainable and clean energy from the transport and industry sectors. The new biogas production would be based in particular on the utilization of agricultural-based by-products, but new technologies and feeds would also play a role (e.g. gasification).

Understanding barriers and drivers

The biogas production and consumption have increased every year in Finland, but a larger growth leap has yet to be taken. The Finnish biogas sector has potential in terms of both the availability of raw materials and the demand for biogas. The Finnish biogas market can be considering as emerging and promising.



Opportunities for the Finnish biogas sector are created by many factors such as carbon neutrality targets, interests in advancing national self-sufficiency of energy and nutrients and the vitality of the rural areas, and emission reduction targets for transport and agriculture. The nutrient recycling offers also wide ranges of business opportunities for the biogas sector. There is also a strong political will to develop and invest in the national biogas sector.

The low profitability of biogas production is challenging the sector, as the end-product markets (both energy and recycled nutrient products) are still developing. The availability of low-cost fossil fuels is also considered to slow down the development of the biogas industry.

Well-designed and targeted policy instrument can fasten the development: the profitability can be improved with subsidies and demand for end-products can be increased with various incentives. Incentive schemes should be made more predictable and long-term to encourage for new investments.

How to reach objectives and targets?

In order to reach the objectives and targets there is a need for having **better dialogue** between different stakeholders (producers, users, decision makers, official and other). There is big number of different stakeholders, as the biogas sector is strongly involved in different sectors such as energy production, agriculture, transportation and waste management. Biogas is not only about energy production but it also an excellent way to recycle nutrients.

Moreover, there is a need for **defining long term actions**; hence an official national biogas production target for 2030 and long-term national incentive package are urgently needed. The targets and actions agreed together would create confidence in the industry's growth potential for the current players and for newcomers.

The Finnish biogas sector has already started the journey to call for long term actions by launching a Biogas 2030 statement in August 2020. The statement has been signed by six Finnish energy and circular economy linked associations that are the Finnish Biocycle and Biogas Association, the Bioenergy Association of Finland, the Finnish Federation of Agricultural and Forestry Producers MTK, Finnish Clean Energy Association, and Finnish Gas Association. More information about Biokaasu2030-statement can be found at the www.biokaasu2030.fi.

So, the first steps have already been taken: the dialogue has been strengthened in the value chain of the Finnish biogas sector. Next step is to seek for actions in the long-term, which will be elaborated in the next phase of the national vision and roadmap process starting in November 2020.

More information

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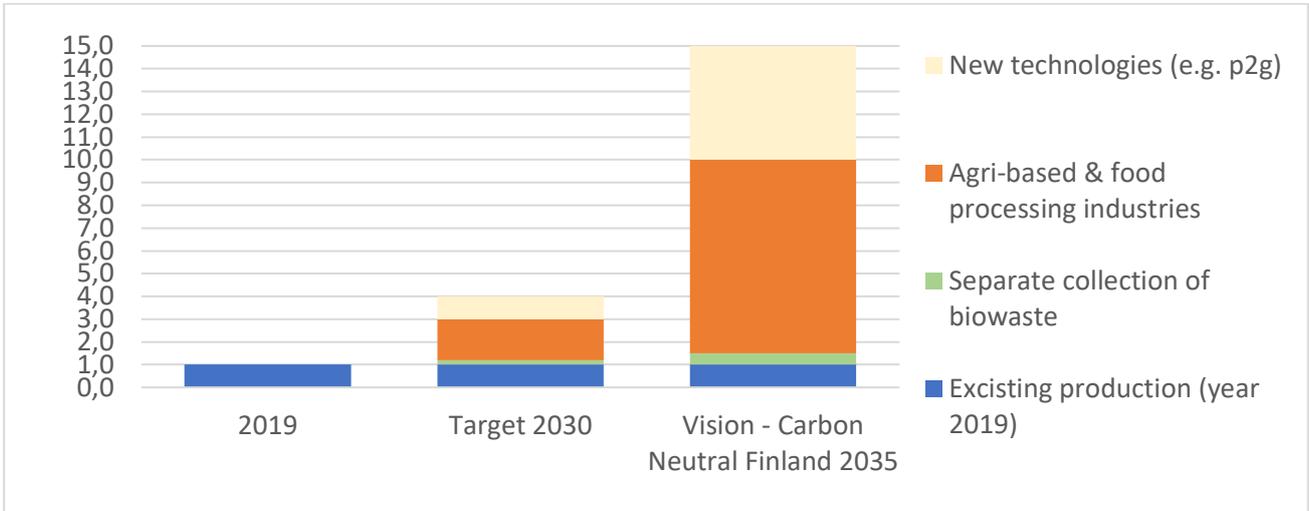


Figure 1 Here is a comparison of different biogas production levels in Finland. The figure also shows the role of different kinds of input materials. Source: Finnish Biocycle and Biogas Association