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Development of Biogas Systems in Northern Nordic Region

The project group in Boost Nordic Biogas has gathered in several workshops to strengthen the role of biogas in the green transition. The focus has been on sustainability goals, competitiveness, and development in Northern Norden. The project has produced policy recommendations for Northern Norden aimed at increasing production and maxi- mizing the potential of biogas through research, investments, and expanded infrastructure.

THE FUTURE OF BIOGAS IN THE NORTH

The project group in Boost Nordic Biogas has held several workshops focusing both on the sustainability goals related to biogas and on how biogas can strengthen its competitiveness, as well as how the northern Nordic region can work to develop biogas.

At the national level, there are different strategies for biogas. In Sweden, there is the "Roadmap for Fossil-Free Competitiveness," Finland has the "Biogas Vision 2030," and Norway has the "National Cross-Sectoral Biogas Strategy." What all countries have in common is the goal of increasing biogas production.

All roadmaps indicate that biogas will play a crucial role in the green transition, but different countries prioritize different aspects depending on their current production levels, market conditions, and national energy challenges.

There is a broad consensus that the potential of biogas must be maximized through investments in research, incentives for industrial transformation, and expanded infrastructure.

With the right political decisions and technological advancements, biogas can contribute to a climate-neutral energy future, reduce dependence on fossil energy imports, and create a more circular economy across Europe.

NATIONAL STRATEGIES FOR BIOGAS

Finland – Biogas Vision 2030

Finland views biogas as a key to climate neutrality, energy security, and economic development. The goal is 4 TWh of biogas production by 2030 and 7 TWh by 2040, with a focus on utilizing agricultural side streams. The strategy includes investments, regulatory adjustments, and increased use of recycled fertilizers. Infrastructure development and research on synthetic gases are also prioritized.

Sweden – Roadmap for Fossil-Free Competitiveness

Sweden aims for 10 TWh of biogas production by 2030 and full integration of biogas into gas networks. The plan focuses on climate benefits, resilience, and industrial competitiveness through tax exemptions, investment support, and cross-sector collaboration. Special emphasis is placed on sector coupling and electrification, as well as synergies between biogas, electricity, and heat.

Norway – National Cross-Sectoral Biogas Strategy

Norway's strategy emphasizes the role of biogas in emission reductions and resource efficiency. Support is provided through tax exemptions, research initiatives, and investment grants. The country's low biogas production (0.5 TWh) is to be increased through technological innovation and substrate optimization, but high production costs and lack of raw materials remain challenges.

9 RECOMMENDATIONS

Drawing on analyses of national biogas strategies and lessons learned during the project, we have formulated nine key recommendations to advance and strengthen the biogas system in the northern Nordic region.



1. Communication and Public Engagement

Ensure effective communication and information sharing with the public, municipalities, and other sectors to increase participation, awareness, and acceptance of biogas as a key component of sustainable development and the circular economy.

2. Research and Academic Support

Strengthen research and academic collaboration within the biogas sector through the development and testing of innovative solutions, substrates, and technologies, as well as continued research on the properties and impacts of digestate and sludge biochar.

3. Collaboration Between Stakeholders for Innovation and Competitiveness

Promote cooperation between academia,biogasactors,agriculture, and industry to enhance competitiveness, enable knowledge exchange, and foster innovation through joint development projects.

4. Standardization and Regulatory Framework

Ensure harmonized standards, regulations, and methods to facilitate cost-effective biogas production and use, and strengthen market confidence in digestate products. Promote the use of biofertilizer through regulations that equate it with mineral fertilizer, support quality assurance, and establish a functioning European market.

5. Investments and Incentives

Create incentives and reduce bureaucracy for investments in biogas plants and innovative technologies, thereby strengthening the biogas sector and creating green jobs. Introduce and maintain economic instruments for biogas, as well as subsidies for biogas vehicles and investment support to boost biogas competitiveness.

6. Circular Solutions and Nutrient Recycling

Promote circular solutions through collaboration between authorities, agriculture, and industry, focusing on strengthening the market for digestate as recycled fertilizer and increasing knowledge about its fertilizing effect.

7. Infrastructure and Distribution

Develop and expand biogas infrastructure through more injection points into the gas grid, expansion of refueling stations, and an improved distribution chain.

8. Biogas Utilization and Sector Integration

Support the development of LBG production and upgrading of biogas to vehicle fuel to strengthen biogas's role in sectors that cannot be electrified, such as heavy transport, shipping, and industry. Provide support for investment in technologies utilizing CO_2, such as Power-to-Gas, to max- imize biogas's climate benefits and enable the production of synthetic methane, as well as strengthen synergies between biogas, electricity, and heat.

9. National and International Strategy

Set long-term and clear production targets for biogas and integrate them into regional and national climate and energy strategies. Ensure a strong voice in EU biogas policy development and align national regulations with EU requirements to facilitate international trade.

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AUTHOR

Johan Saarela, Ab Stormossen Oy

CONTACT Ida Norberg, BioFuel Region
ida.norberg@biofuelregion.se

Interreg Aurora

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