

SWOT ANALYSIS FOR BIO-SNG MARKET IN THE BA REGION

Gasified biomass, syngas, can be refined to several types of vehicle fuels including methanol, FT- diesel, DME and bio based synthetic natural gas (bioSNG). BioSNG is produced by methanation of syngas. The practical and economical value of a specific fuel depends on regional conditions. The purpose of this SWOT analysis is to give a brief overview of the pros and cons of production of bioSNG in the Botnia Atlantica area. To be able to reach the political goal of a fossil free vehicle fleet, large scale gasification of forest biomass is needed. To be cost effective, transport cost for forest biomass need to be reduced. Investments of several billion Euros are needed with payment periods of several decades. To reduce business risks, the market for vehicle fuel production needs stable and long term energy policies. High regional competence in gasification ensures that the state of the art will be used. The flexibility of syngas may strengthen gasification as a new area of business in northern Scandinavia.

METHOD

The result originates from stakeholder interviews and workshops within the strategic network Biogas Norr in Sweden and experiences from the cross border projects Forest Refine and Biogas Botnia.

Within the project Biogas Botnia several stakeholder workshops were held and the project worked out a road map for biogas development in the BA region. The stakeholders contributing to this work consisted of business and public sector representing transport and energy production from both Sweden and Finland.

To be able to sort out the most important parameters we have done a brief SWOT analysis from the market perspective learnt from the biogas market development in Sweden and Finland.



SWOT

STRENGTHS

- Big resources of forest biomass
- Well developed infrastructure for forest biomass
- Existing forest industries and bio refineries
- Regional competence in gasification (LTU, UmU, VTT, Vasklot, MiuN, Wärtsilä, Aga Gas)
- Existing pilot and demonstration plants
- Established regional triple helix cooperation
- Existing production of biogas – easily refined to biomethane (bioCNG)
- Differentiated raw material supply, including waste
- Existing methane driven vehicles and growing infrastructure techniques for methane

WEAKNESSES

- Lack of gas infrastructure in general
- No gas distribution grid
- Small existing market for methane
- Very few commercial plants in operation in the world
- High initial investment cost with long payment periods
- Expensive cleaning when optimising for methane
- Expensive forest biomass (mainly supply chain)
- Disagreements about which end product is the best one

OPPORTUNITIES

- Techniques giving flexibility in end products, for example FT-diesel combined with methane. Other products like, methanol, hydrogen, etc. possible.
- Large volumes of blast furnace gas from SSAB may be refined to SNG
- Possibility to integrate with existing forest industries and heating plants.
- Build local gas distribution grids for co-distribution of biomethane and bioSNG
- Big market potential for methane within heavy and long-haul transport, mining, forestry and other energy intensive industries
- Increased price of competing fossil fuels
- Decreased competition from paper producing mills over time
- Experiences from other industries

THREATS

- Competition from fossil fuels. Fossil gas outcompeting biogas.
- Uncertainty of long-term energy policies
- Hauling industry invests in new diesel vehicles before alternative fuels are commercial.
- Energy policies may not favour the use of forest biomass.

CONCLUSION

Big resources, infrastructure and skills of forest biomass for the production of bio SNG are available in the BA region. Several market synergies with the development of traditional biogas can be found. To develop production and infrastructure in completion with fossil fuels big investments are needed. For this long term and stable energy policies are needed.

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