Report on the policy workshops

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GREENMEUP

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Introduction

On the 7h of June 2023 in Bologna, Italy, the SUPEERA Project organised a workshop titled "*Delivering on REPowerEU: Bringing research and industry closer to accelerate innovation and uptake of Biomethane*", as a side event of the 31st European Biomass Conference and Exhibition.

The event aimed at bringing together a group of eminent European scientists and leading industry to discuss research-industry cooperation practices and opportunities, in order to accelerate innovation in the biomethane/biogas sector and to explore their replicability potential across Europe, in particular after the recent crisis that Europe is facing after the Russian invasion of Ukraine.

In this regard, SUPEERA Project has joined forces with the GreenMeUp project, that aims at enhancing the biomethane market by designing market uptake measures for biomethane deployment in countries with slower market development rates, increasing also social acceptance and awareness.

Being only at, GreenMeUp results were not sufficient for organising a policy workshop only focussed on the project's achievements. Therefore, the Consortium agreed on enriching the discussion of the SUPEERA workshop, with a contribution mainly focused on social acceptance of biomethane and market uptake measures.

With over 70 participants, 45 attending onsite and 25 participating online, the workshop provided an interesting discussion on how innovative solutions and R&I solutions will have to be incorporated into the biomethane and biogas market, in order to reach the production goal of 35 bcm/year by 2030.

This report describes the main highlights of this event. For more details, the slides of the event are available here: https://www.greenmeup-project.eu/news/greenmeup-participation-at-the-31st-european-biomass-conference-and-exhibition-eubce/.

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Figure 1. Attendees at SUPEERA workshop

The SUPEERA Project and the link with GreenMeUp

The SUPEERA Project has the main aim of supporting two flagship initiatives of the European Union, namely the SET Plan and the Clean Energy Transition – in order to support Europe's strategic long-term vision of a Clean Planet for all.

The SET Plan is an essential framework for fostering the Clean Energy Transition in Europe: it sets a roadmap by which the EU aims to meet its Energy Union targets by 2030, helping aligning R&I priorities between the European Commission, EU Member States and the industry. Among its supporters, we have the European Technology and Innovation Platforms (ETIPs) and the European Energy Research Alliance (EERA), representing the research community[1].

Over the years, within the framework of the Clean Energy Transition, the European Commission has promoted and implemented several policies aiming at achieving this ambitious goal of a net-zero GHG emissions economy by 2050.

Within this framework, the SUPEERA project has published a series of Policy Briefs in order to identify the main R&I challenges in the latest EU policies relevant to the energy research community.

[1] *Communication from the Commission: Towards an integrated Strategic Energy Technology (SET) Plan (C/2015/6317).* Source: https://energy.ec.europa.eu/topics/research-and-technology/strategic-energy-technology-plan_en.

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One of the most recent and relevant EU policies is the **REPowerEU Plan**, a document which sets up a strategy for reducing EU's reliance from Russian natural gas. The plan's strategy is composed by two main objectives:

1. **Diversifying gas supplies**, with higher LNG and pipelines imports from non-Russian gas suppliers and by increasing the production and imports of biomethane and renewable hydrogen;
2. **Boosting energy efficiency**, increasing renewables and electrification by reducing the use of fossil fuels in houses, buildings and industries[2].

Within this framework, the SUPEERA project has elaborated a Policy Brief, with an analysis of the research and innovation challenges deriving from the REPowerEU measures. In addition to that, the SUPEERA Consortium has also organised a workshop at the 31st European Biomass Conference and Exhibition (EUBCE), held on 7th June 2023 in Bologna, Italy. With this event, the SUPEERA project has brought together a group of eminent European scientists and leading industry to discuss research-industry cooperation practices and opportunities to accelerate innovation in the biomethane/biogas sector and to explore their replicability potential across Europe.

In this context the SUPEERA Project joined its forces with GreenMeUP, a Horizon Europe project that aims at providing a basis for policy-makers and stakeholders to develop more informed renewable energy policies and country-tailored market uptake measures, in order to improve and complement existing biomethane policy in Europe.

While the SUPEERA Project is mainly focused on the bigger picture –supporting the EU in reaching its Energy Union targets by 2030 – the GreenMeUp Project has a specific focus on biomethane and its market uptake in Europe and aims at contributing to achieve the REPowerEU targets.

For this reason, the SUPEERA Project has teamed up with GreenMeUp, which contributed to the workshop by enriching the discussion from the policy, market and social point of view.

[2] *Communication REPowerEU Plan*, COM/2022/230. Source: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en.

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Figure 2. GreenMeUp card for SUPEERA workshop

Workshop objective and agenda

The unprecedented crisis that Europe is facing due to Russia's invasion of Ukraine has changed dramatically the global energy market: this event has brought the European Union to rethink its energy policy and the future energy system. In order to answer this new geopolitical situation, the European Commission implemented a new strategy: the REPowerEU plan, focused on reducing Europe's dependence on Russian fossil fuels through the diversification of supply.

Among the objectives addressed by the REPowerEU plan, a central role has been given to biomethane: here, the main aim is reaching a production of to 35 bcm/year by 2030. This target can be considered as quite concrete: biomethane production levels in the EU can be easily scaled up, since enough sustainable feedstock are available in Member States. Although there is a large potential of biomass feedstock to produce biomethane, a series of market uptake measures for biomethane deployment, together with a strong cooperation between industry and research are fundamental.

The **workshop agenda** was mainly built around these assumptions. After a first introduction made by Maria Georgiadou from the European Commission, Directorate-General for Research and Innovation, the agenda was divided into two main sessions, each one with 4 speaking slots:

- ***Session 1: Research/Industry collaboration for identifying R&I needs to accelerate biomethane production.***
  - R&I to accelerate biomethane production through gasification from the industry perspective; *Marion Maheut, Engie*

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- R&I to accelerate biomethane production through upgrading of anaerobic digestion biogas from the industry perspective; *Sebastian Alber, Biogest*
- R&I for efficient and cost-effective production of biomethane through thermochemical technologies; *Francisco Girio, The National Laboratory of Energy and Geology (LNEG)*
- R&I to unlock feedstock potential for biomethane production; *Myrsini Christou, CRES.*

- ***Session 2: Cross-sectorial dialogue to facilitate the biomethane market deployment.***
  - Removing Technical Barriers to Biomethane Standardisation; *Erik Büthker, TotalEnergies and European standardisation committee for biomethane CEN PC 408*
  - Sustainability in technical, economic, and environmental terms; *Marlies Hrad, University of Natural Resources and Life Sciences Vienna (BOKU)*
  - Policy framework to facilitate biomethane market development; *Giulia Cancian, European Biogas Association (EBA)*
  - Social acceptance in socio-political and community dimensions; *Myriam Röder, Aston University.*

Both sessions had also a panel discussion and Q&A at the end.

Figure 3. Some SUPEERA Speakers

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The role, the EU's perspective and R&I policies for biomethane in Europe

Maria Georgiadou, European Commission - Directorate-General for Research and Innovation, opened the SUPEERA workshop with a general overview of current EU policies for biomethane in Europe.

At first, she mainly focused on the REPowerEU Plan and its main objectives. Then she introduced the Biomethane Industrial Partnership, in which policy makers, industry and other stakeholders team up with the goal to support the achievement of the target of 35 billion cubic metres annual production and use of sustainable biomethane by 2030[3]. She then explained the recent Green Deal Industrial Plan, which main aim is to enhance the competitiveness of Europe's net-zero industry and accelerate the transition to climate neutrality[4]. The plan has been adopted to build the industrial capacity for the clean technologies that make up the Green Deal, including biomethane.

Her overview ended with a quick update on the delegated act to RED II: here, the focus was on the recent update made by the Commission on the list of sustainable biofuel feedstock, where the request was to add non-food crops grown on severely degraded land and intermediate crops[5].

Finally, she shortly presented a recent EU publication called "*Innovative biomethane for REPowerEU*[6]", a project info pack where the Commission summarised the most recent and relevant EU projects on biomethane. She then invited the audience to take a look at Cluster 5, destination 3 of bioenergy of HORIZON program.

[3] Source: https://bip-europe.eu/.
[4] Communication: A Green Deal Industrial Plan for the Net-Zero Age. Source: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan_en.
[5] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources. Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG.
[6] Innovative biomethane for REPowerEU. Source: https://op.europa.eu/en/publication-detail/-/publication/c4651f9b-eaf2-11ed-a05c-01aa75ed71a1/language-en.

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Figure 4. Maria Georgiadou speech during SUPEERA workshop

R&I to unlock feedstock potential for biomethane production

Myrsini Christou from the Centre for Renewable Energy Sources and Saving (CRES) - Greece, started her speech with an overview of the current feedstocks available in Europe for biomethane production. She outlined that for the moment the most common and available feedstocks are mainly agricultural residues, meaning manure and plant residues.

She then briefly illustrated the variation of feedstocks among EU countries and analysed the potential feedstocks projections in 2030 and 2050, explaining how there will be a trend change in feedstock availability for biomethane production where sequential cropping will gain importance.

She also provided some results from the MAGIC Project, that mapped all the marginal lands throughout Europe, and the GreenMeUp Project, where she illustrated the main strategy for aligning biomethane production among EU member states, with a specific focus on target countries, meaning those countries with less developed biomethane production rates.

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Figure 5. Myrsini Christou presentation in SUPEERA workshop.

Removing Technical Barriers to Biomethane Standardisation

Erik Büthker from TotalEnergies and the European Standardisation committee for biomethane underlined that there are no significant technical barriers at the moment for biomethane standardisation: the current standards are now available.

Furthermore, he underlined that the European Gas Research Group is currently analysing biomethane trace components and their potential impact on the European gas industry, with a specific focus on oxygen in biomethane and their impact on different elements of the value chain.

Sustainability of biogas and biomethane production

Marlies Hrad, senior scientist from the University of Natural Resources and Life Sciences in Vienna (BOKU), focused her speech on the methane emissions and their impact on the overall greenhouse gas balance.

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At first, she underlined the necessity to have balanced greenhouse gas emissions for upscaling and facilitating biomethane production.

She then illustrated a study on the impact of CH4 emissions on GHG balance substrate supply, and the impact of CH4 emissions on GHG balance technological implementation. Her presentation also included the results of the EvEmBi project, which evaluated methane emissions.

She then concluded with a list of recommended actions for reducing methane emissions, such as selecting appropriate feedstocks, choosing optimal technology options for biogas plants and ensuring regular maintenance and leak detection during self and external inspections.

Policy framework to facilitate biomethane market development

Giulia Cancian from the European Biogas Association (EBA) discussed two main topics during her speech: EU policies and best cases for biomethane production.

Regarding EU policies, she mainly gave an overview of the current legislation and the specific policy measures on biomethane production. Here, her main focus was on the RED III and its milestones: she illustrated how the targets on renewable energy sources have been increased from 32% to 42.5%, a meaningful increase and a significant step forward in the implementation of biomethane production[7].

For what concerns the best cases in Europe, she listed those countries where biomethane production rates are already quite advanced, namely Austria, Denmark, France, Germany, Italy, Netherlands, Norway, Switzerland, Sweden and UK. She then introduced the main good practices and supportive policies that these countries adopted in order to reach these levels of biomethane production, such as feed-in tariffs, feed-in premium, and the enabling of grid injection and market recognition.

She then concluded by underlining that the majority of these results were conducted within the context of the GreenMeUp project, where the main aim is to analyse the advanced countries policies in order to see if they can be replicated in less developed countries.

[7] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources. Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG.

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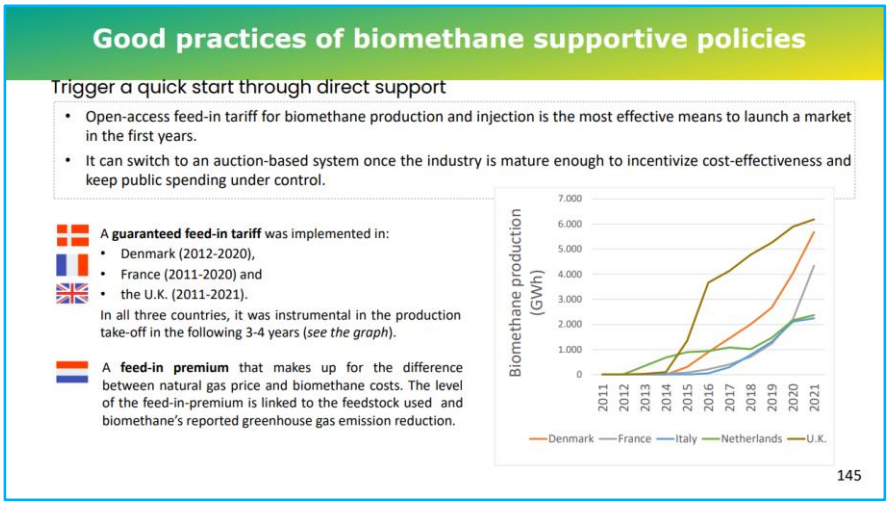

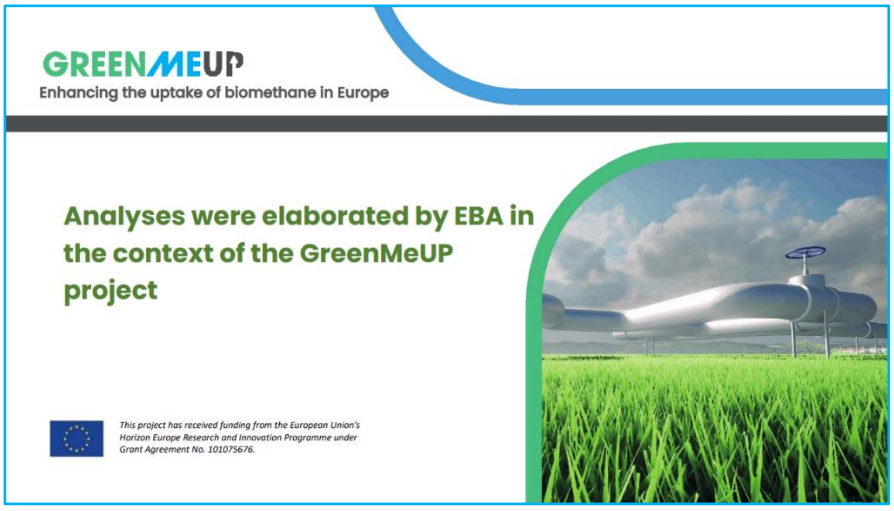

Figure 6. Slides presented by European Biogas Association (EBA)

Conclusions

Overall, the workshop provided an interesting occasion for experts from various sectors to exchange knowledge and discuss biomethane deployment and production in the EU.

Within this occasion, the GreenMeUp project has been able to provide some key information on its future activities and achievements: the European Biogas Association outlined how this project will enrich the research and analyses on biomethane deployment in the EU, while the project coordinator, Centre for Renewable Energy and Savings (CRES) was able to provide an interesting overview on current feedstock levels and future projections.

Next year, GreenMeUp is planning to implement its first policy workshop in Brussels, where the project's main results on market and societal aspects in target and developed countries will be illustrated. All these reports will be accompanied by a first

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overview on policy frameworks and specific market uptake measures for the alignment of biomethane deployment among EU Member States.

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