



REGATRACE

Renewable Gas Trade Centre in Europe

D7.3 Recommendations for EU and national policy makers

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Table of Contents

1. Policy recommendations.....	3
2. Introduction	5
2.1. How the Regatrace Project fits into the current European energy policy.....	5
2.2. Regatrace Project in a nutshell	6
2.3. Scope and structure of this Report.....	7
3. Design and issuance of Guarantees of Origin.....	10
3.1. Implementing a European harmonised approach to Guarantees of Origin	11
3.2. Harmonising the handling of Guarantees of Origin in relation with energy carrier conversion.....	12
3.3. Overcoming specific barriers to the issuance of Guarantees of Origin	14
4. Deployment of registries that are fit for cross-border trade and all renewable gases.....	16
4.1 Setting-up effective biomethane registries	16
4.2. Making registries of Guarantees of Origin fit for energy conversion processes	18
4.3 Setting-up a system of cross border transfer of renewable gas certificates	19
5. Sustainability certification of renewable gases	23
5.1. Harmonising and simplifying the certification of biogas and biomethane.....	23
5.2. Providing harmonised certification of Power-to-methane.....	24
6. Scale-up of biomethane markets	26
6.1. Setting a clear vision for biomethane development.....	27
6.2. Scaling-up biomethane production	27
6.3. Enabling injection in gas networks	29
6.4. Driving up the demand for biomethane	30
Annexes.....	32
Annex 1. Assessment of the Biomethane Action Plan against the Country roadmaps	32
Annex 2. Assessment of 12 countries’ policies against the Biomethane Action Plan	32

1. Policy recommendations

Policy recommendations of the REGATRACE project can be summarized as follows, with further details provided in this report and in other relevant dedicated REGATRACE Reports.¹

Approach to Guarantees of Origin

1. **Implement a European harmonised certification and documentation approach** of the renewable value of renewable gases. Allow for the inclusion of sustainability information in the renewable gas certificates so that Guarantees of Origin and Proof of Sustainability can be linked or complement each other.
2. **Establish harmonised rules for handling GOs at energy carrier conversion** to prevent double counting and different valuation of GOs from different domains.
3. Given the ambitions of linking Guarantees of Origin and Proof of Sustainability, **ensure that the methodologies for energy conversion are harmonised in both rules and standards.**

Renewable gas registries

4. **Enable the set-up of the biomethane registry** by creating a domestic biomethane market and providing a timeline for the set-up of the appropriate regulatory framework.
5. **Engage in an open dialogue with the biomethane industry to develop national biomethane registries rapidly** based on the industry's initiatives and strategic advice.
6. **Establish one central registry per Member State for all national and European documentation purposes**, covering all types of renewable gases with different certificate attributes.
7. **Consider the operational efficiency gains of allocating the role of issuing body for GOs for all gases and electricity with the same organisation per geographical domain.**

A European system of cross-border transfer of renewable gas certificates

8. **Allow transition** from individually acting national renewable gas registries **to a common European renewable gas market with one or several European Scheme(s) of renewable gas certificates for all purposes of certification and issuance.**
9. **Implement a single data format for cross-registry transfers of Guarantees of Origin and other certificates.**
10. **Collaborate with the Association of Issuing Bodies (AIB) and the European Renewable Gas Registry (ERGaR) to establish a harmonized EU-wide system for cross-border title transfer of renewable gases.**
11. **Adopt a flexible approach to the set-up of interfaces between the Union Database of renewable fuels and national renewable gas registries.**

Sustainability certification of renewable gases

12. **Provide additional default values for typical renewable gas value chains** to reduce unnecessary efforts of market actors.

Scale-up of biomethane markets

¹ Available online at regatrace.eu

- 13. Establish national biomethane strategies and targets for 2030.**
- 14. Give biomethane production momentum by setting-up investment support and simplifying permitting procedures.**
- 15. Establish by the end of 2023 the legislative, regulatory and technical framework for quick and affordable network connection of biomethane plants.**
- 16. Establish the appropriate regulatory framework and incentives to enable increased use of digestate as an alternative fertilizer.**
- 17. Implement demand incentives through preferential taxation, fuel supply obligation and rewarding GHG emission reductions enabled by biomethane consumption.**

2. Introduction

REGATRACE (REnewable GAs TRAdE Centre in Europe) was a project funded by the European Union through the Horizon 2020 Programme that ran from June 2019 to November 2022. It gathered 14 partners around the purpose of accelerating production and efficient cross-border trade of biomethane. As the European Union moved from the adoption of the Clean Energy Package in 2018, to the Green Deal in 2019 and the REPowerEU initiative in 2022, the Project has become increasingly relevant to the European energy policy. The main goals and components of the Project are here briefly introduced, before presenting the structure and scope of this report.

2.1. How the Regatrace Project fits into the current European energy policy

Ramping up rapidly biomethane production has become a strategic need for the European Union. The Union's heavy dependence on energy imports from Russia came into spotlight in February 2022 in the wake of the Russian invasion of Ukraine. This triggered the drive for a faster increase of domestic production of renewable energies in the coming years, as set out in the REPowerEU Communication of 8 March 2022² and detailed in the REPowerEU Action Plan of 22 May 2022.³ The European Commission's REPowerEU plan includes **an indicative target of domestic biomethane production of 35 billion cubic meters by 2030**, which corresponds to 8% of 2020's consumption of natural gas and could be 14% of a much reduced gas consumption in 2030. To achieve this target, the production of biomethane should grow twelve-fold.

Beyond immediate security of supply concern, biomethane is part of the long-term transition to more renewable energies and resource-efficiency. It also contributes significantly to climate objectives by cutting GHG emissions of energy production and uses.

Yet regulatory, technical and economic barriers today prevent or hinder the emergence of a biomethane market in many EU countries:

- a. On one hand, investment and production suffers from a deficient regulatory framework and lack of incentives. As a result, while some Member States can boast of fast-growing biomethane markets, others are lagging behind, with no or very little biomethane production reported to date despite significant potential.
- b. On the other hand, the green value of biomethane is not always recognised or not easily tradeable. This deters the expansion of demand. Systems of Guarantees of Origin and other biomethane registries have not yet been implemented in all Member States, preventing the green value of biomethane to be fully recognised. The ERGaR CoO Scheme⁴, which has recently replaced bilateral agreements for the mutual recognition of cross-border transfers of biomethane certificates, the AIB EECS Gas Scheme⁵ and the shortly expected launch of the Union Database for gaseous fuels⁶ will provide the technical requirements for cross-border transfers of biomethane. However, harmonisation and technical interoperability of these systems in combination with a

² European Commission, [Communication COM\(2022\) 108 final](#), 08/03/2022.

³ European Commission, [Communication COM\(2022\) 230 final](#), 18/05/2022.

⁴ To know more, see [ERGaR CoO Scheme - ERGaR](#).

⁵ Detail available in the [European Energy Certificate System \(EECS\)](#), of the [Association of Issuing Bodies](#).

⁶ Union Database for gaseous renewable fuels and recycled carbon fuels, according to the revision proposal of the European Commission (COM(2021) 557 final) published 14/07/2021.

synchronisation of the regulatory framework is needed to fully unlock the potential of cross-border trading of biomethane.

The **European Commission's Biomethane Action Plan**⁷, published on 22 May 2022 as part of the REPowerEU Package, identifies several barriers and outlines measures to remove them. It **references the REGATRACE Project**, thereby acknowledging its added value for national and EU policymaking. The Plan suggests Member States to “*integrate results from previous research projects including project REGATRACE (...)*” as a way to “*provide further support to innovative solutions (...) on barriers and integration of sustainable biomethane to the gas grid*”⁸.

The two broad above-mentioned categories of barriers are addressed by REGATRACE through detailed technical work and recommendations to policymakers:

- a. The Project provides policy roadmaps for national policymakers of 13 European countries, as well as technical guidance for project developers regarding feasibility and financing.
- b. The Project sets out plans for a reliable certification and documentation of renewable gases across Member States.

Incorporating the outputs of REGATRACE in all Member States will accelerate the full recognition of the green value of biomethane and other renewable gases. Renewable gas offer will be provided to end-consumers based reliable proof of its renewable origin. Companies and public administration will be able to report on their renewable energy consumption and GHG emission reduction enabled by biomethane use. As consumption of biomethane is more and more recognised and rewarded among Member States, demand will grow and so will cross-border trade.

Solutions proposed by REGATRACE will meet the need for unfettered cross-border trade of renewable gases, where the entire green value of these gases can be transferred from a country to another. It will be essential that Member States integrate the recommendations from this Report in a synchronised way in order to avoid persisting incompliances and discrepancies. This is applicable to the system aspects of certification (as detailed in this report), but also to the recognition of the certificates across Member States, i.e., a certificate from an exporting Member States should be recognised as such for target accounting and compliance with renewable fuel and GHG emission reduction obligations in the importing Member State.

2.2. Regatrace Project in a nutshell

REGATRACE (REnewable GAs TRAdE Centre in Europe) aimed to facilitate the development of renewable gas production and trade in Europe. Partners of the Project combined their expertise to carry out technical work valuable for all Europe; and to provide support to national biogas and biomethane in 16 countries.

There were 7 “target countries” and 8 “supported countries”:

- *Target countries:* Belgium, Czech Republic, Ireland, Italy, Lithuania, Poland, and Spain
- *Supported countries:* Estonia, Finland, Greece, Latvia, Slovenia, Slovakia, Sweden, and Ukraine.⁹

⁷ [Commission Staff Working Document implementing the REPowerEU Action Plan: investment needs, hydrogen accelerator and achieving the bio-methane targets](#), SWD(2022) 230 final, 18/05/2022.

⁸ *Ibid.*, page 43.

⁹ In particular Slovakia and Sweden are supported, within the project, only for the set-up of registry, while Estonia and Finland are supported, only for the biomethane market uptake, as they already have a registry.

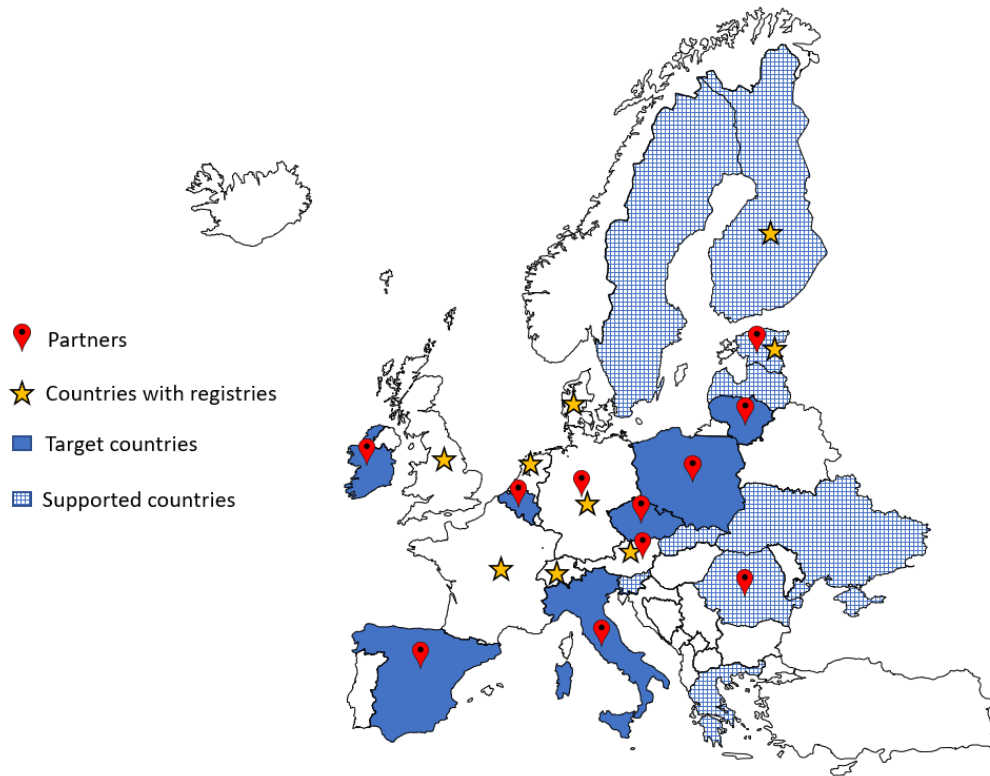


Figure 1: REGATRACE countries and partners

The **main objectives** of REGATRACE were the following:

- Performing regulatory, IT, and technical studies to lay the ground for a European system on biomethane/renewable gases GO;
- Accelerating the setting-up of certificate/GO issuing bodies in the Target countries;
- Facilitating the implementation by biomethane registries of GO conversion processes for synthetic renewable gases;
- Providing guidance for the sustainability certification of both bio-based and synthetic renewable gases;
- Supporting the uptake of biomethane production in both Target and Supported countries.

By pursuing these objectives, REGATRACE laid the **technical ground for an efficient trade system** based on issuing and trading biomethane/renewable gases certificates/Guarantees of Origin (GO). The outputs of REGATRACE are available on its website¹⁰ and REGATRACE Partners remain available for advising further European and national authorities.






2.3. Scope and structure of this Report

This report formulates **44 recommendations to EU and national policymakers** based on the deliverables of the Project and ad-hoc consultations of Project’s partners and stakeholders.

Five types of recommendations are made: policy, legislative, regulatory, standard-related, and technical recommendations. Each type relates to different groups of decision-makers and different processes and output documents. For instance, the Report distinguishes between the legislative and

¹⁰ <https://www.regatrace.eu/>

regulatory recommendations, because they aim at different legal processes and acts, involving different set of institutions. Each recommendation is labelled according to its type, as seen in the table below.

Type of recommendations	Targeted decision-makers	Related documents and processes
 <i>Policy</i>	National Energy Ministries European Commission (DG ENER) MEPs	Official governmental statements and documents setting high-level guidelines and strategies
 <i>Legislative</i>	Governments National legislators European Commission MEPs	EU and national law or legislative proposals
 <i>Regulatory</i>	European Commission (DG ENER) European Committee C51800 ¹¹ National Energy Ministries	<ul style="list-style-type: none"> • EU "secondary legislation" (implementing and delegated acts), • National governmental measures with direct effect (such as decrees, orders and ordinances), • Decisions by national regulatory authorities
 <i>Standard</i>	Stakeholders involved in the CEN's standardisation process	National and European standardization processes
 <i>Technical</i>	European Commission (DG ENER) National Energy Ministries Operators of renewable gas registries Voluntary schemes for sustainability certification	Administrative and technical processes related to issuing bodies, registries of renewable gases or certification schemes. They may be performed by either: public authorities, a government-mandated body or industry-led and voluntary initiatives

Hence „decision-makers“ in this Report refers to a broad range of institutions and officials involved in the making of the EU and national energy policies. To some extent, they also include private stakeholders involved in standardisation processes or in technical initiatives developing the energy policy.

The Report is **structured in four main parts**:

- Chapter 3 is about the foundational documents for trading of the green value of renewable gases: Guarantees of Origin;
- Chapter 4 covers the registries of renewable gases both domestically and within a future European system of cross-border transfer of certificates;
- Chapter 5 addresses sustainability certification of renewable gases;
- Chapter 6 makes recommendations to boost production and injection of biomethane, considering the REPowerEU Plan published in May 2022.

Each recommendation is presented with:

¹¹ [Committee C51800 Committee on the Sustainability of Biofuels, Bioliquids and Biomass fuels](#)

- one or several type labels, to identify easily the recommendation type and the targeted decision-makers;
- a short explanation, when relevant;
- whenever possible, a link towards the Report of the Project where more information is provided.

Recommendations presented in this Report are taken or derived from the Project's deliverables. A specific survey was conducted to prepare the recommendations about biomethane production and injection (see [Chapter 6 of this Report](#)). The starting point for these recommendations was the [Report D6.3 "Long-terms visions and roadmaps"](#) published in May 2022. This Report is the fruit of participatory work organised in 13 European countries by the EBA's third-linked parties to the Project (i.e. national biogas associations). However, this had been carried out in 2020 and 2021 and could not, therefore, weigh the consequences of rising energy prices and of the war in Ukraine. To consider these events, as well as the European Commission's REPowerEU initiative, national biogas associations who coordinated the visions and roadmaps presented in Report D6.3 were surveyed in September 2022. Questions asked aim to:

- identify which measures already present in the Country Roadmaps of Report D6.3 have become more urgent,
- assess their respective country's present policies against the Biomethane Action Plan,
- assess the Biomethane Action Plan against the Country Roadmaps.

In addition, presentations and discussion held in a workshop organised in Madrid, Spain, on 16 September 2022 were also considered for the writing of Chapter 6.

The recommendations given in this Report are endorsed by the experts who represent the Project's partners.

3. Design and issuance of Guarantees of Origin

The production of biomethane as a renewable energy is regulated by the European law, namely the Renewable Energy Directive 2018/2001, and its national transposition. This Directive stipulates sustainability requirements for any biomethane production to be deemed as a renewable energy. Additionally, biomethane has the same chemical composition as natural gas, making it impossible to trace it physically, once it is injected in the natural gas grid. For these two reasons, **the actual renewable origin of biomethane must be proven to consumers** by a reliable means.

To enable producers and suppliers to do so, the Renewable Energy Directive 2018/2001 provides the creation of Guarantees of Origin (GO) for renewable gases. GO are the instrument to prove the origin, quantity and quality of a renewable gas consignment. It is **the instrument to prove its “renewable value”** in the energy market compared to gases of non-renewable origin. Some Member States had already set-up a biomethane registry, while in others industry-led registries emerged on a voluntary basis. Now all Member States are legally required to set-up registries of renewable gas GO. Additionally, the Directive also commands the recognition of GO from other Member States, opening the door **to cross-border trade and the emergence of a European renewable gas market.**¹²

In a functional European renewable gas market, (a) different renewable gases can be sold and traded for different end-use sectors; (b) cross-border trade of GO is unhindered in terms of administrative and regulatory requirements; (c) the renewable value of GO is fully recognised and valued in end-use sectors; (d) market players trust the GO thanks to its reliable documentation. **Despite the endeavours of the stakeholders in recent years, these four components have not yet all been set-up:**

- a. Biomethane is a versatile energy carrier with *different end-use applications* (electricity generation, heating and cooling, transport fuel). But each end-use sector may be specifically regulated (this also applies to other renewable gases). This implies specific requirements for the GO in order for the end-user to know and value its consumption of biomethane.
- b. Different practices and requirements in the content of GO - and of renewable gas certificates set up by voluntary industry-led initiatives – hinder *the cross-border transfer of GO/certificates between renewable gas registries of EU countries*. Bilateral agreements between registries to allow for trustworthy and transparent title transfer of renewable gas certificates have recently been replaced by the ERGaR CoO Scheme which enables a harmonized transfer of GO and other types of certificates between its system participants. AIB members have agreed on an update of the transfer protocol for EECS Certificates over the AIB Hub, that facilitates the standardised and automated cross-registry transfer of Gas GOs.
- c. Since the GO contains the renewable value of each gas consignment, *it could also be used for other purposes than disclosure to end-users* (proof of the renewable origin), *including the compliance with GHG emission reduction criteria or renewable energy targets*. But the current European regulatory framework is not yet fit for such purpose.
- d. These challenges should be overcome by *maintaining integrity and reliable documentation* as a prerequisite of trust among market players.

The recommendations of this Chapter tackle some of these aspects.

¹² Article 19, paragraph 9 of the Renewable Energy Directive 2018/2001.

The Renewable Energy Directive mandates compliance of the GO with the European standard EN 16325 on GO.¹³ The revision of this standard is on-going and will be crucial for the emergence of an actual internal market of renewable gases. **The following recommendations aim to assist the standardisation process.**

3.1. Implementing a European harmonised approach to Guarantees of Origin

Recommendation 1



Implement a harmonised certification and documentation approach of the renewable value of renewable gases. Allow for the inclusion of sustainability information in the renewable gas certificates so that GOs and Proof of Sustainability (PoS) can be linked or complement each other for.

This will enable the use of GO by end-users to prove compliance with obligations of GHG emission reduction or with target of renewable energy consumption. This will have a wide impact on the demand for biomethane coming from energy-intensive industries, as well as the heating and transport sectors. This would also enable simple and transparent documentation of renewable energy imports in the future.

→ For more information, read Report [D2.1 Updated Guidelines for creating the European Biomethane GO](#).¹⁴

Recommendation 2



In the revision of the standard EN 16325:

- **provide harmonized content and attributes of Guarantees of Origin, and**
- **ensure they are flexible and fit for different renewable gases (synthetic methane, renewable hydrogen).**

The centrepiece of a GO is its attribute list which provides information about the renewable gas product on three levels: origin, quantity and quality. European Guarantees of Origin should have the same structure and type of content and attributes in all domestic biomethane registries of the EU. These should be flexible to accommodate specific features of different renewable gases (in particular related to production processes and organic input material).

The harmonisation at EU-level through the standard is the pre-requisite for connecting domestic registries, facilitate the cross-border transfer of GO and therefore create an integrated EU renewable gas market.

→ For more information, read Report [D2.2 Report on content and attributes of GO](#).

¹³ This European Standard EN 16325 specifies requirements for Guarantees of Origin of Electricity from all energy sources. This standard establishes the relevant terminology and definitions, requirements for registration, issuing, transferring and cancellation in line with the Directives on Renewable Energy, Energy Efficiency and Internal Electricity Market. Following the recast of the Renewable Energy Directive (RED II), Standard EN 16325 shall be revised to broaden its scope with gaseous hydrocarbons and heating and cooling.

¹⁴ That Report was written in relation to biomethane for simplicity reasons, although it is supporting the market uptake of all types of gases from renewable sources. Most of the attributes of a biomethane GO can be directly or indirectly applied to other renewable gases, such as renewable methane of non-biological origin.

Recommendation 3



In the revision of the standard EN 16325:

- **ensure the content of Guarantees of Origin to optional attributes for the purpose of transparency and efficiency:** mode of transport from the production unit; information on the share of each processed biomass feedstock; GHG emissions caused by the production of the consignment (“carbon intensity” or GHG emission intensity”);
- **incorporate an accurate terminology of gaseous hydrocarbons, as well as definitions of “renewable gases” and “biomethane” in close collaboration with the renewable gas market participants (producers, traders, consumers).**

→ For more information, read Report [D2.2 Report on content and attributes of GO](#).

Recommendation 4



Issuing bodies should implement a single data format for cross-registry transfers of Guarantees of Origin and other certificates.

Beside standardising the attributes of GO in the standard EN 16325, fast and agile cross-border transfers of certificate/GO require that a harmonised data format is used across issuing bodies. This can be done by complementing the standard EN 16325 with a practical agreement on a data format between issuing bodies. To ensure the data format can stay up to date with IT standards, it should not be included in the CEN EN16325 standard, which is harder to update as frequently as technology requirements proceed.

→ For more information, read section 3.4 of [D2.1 Updated Guidelines for creating the European Biomethane GO](#) and Report [D2.2 Report on content and attributes of GO](#).

3.2. Harmonising the handling of Guarantees of Origin in relation with energy carrier conversion

Recommendation 5



Set-up for all national GO registries the following 17 rules on the handling of GO in energy carrier conversion. Such harmonisation of rules will avoid double counting and confusion in the market.

This applies, e.g., when renewable electricity is converted into renewable hydrogen or renewable synthetic methane while the origin is proven with guarantees of origin. These rules however go beyond only Power-to-gas processes and can be applied for conversion into or from other energy carriers (biomethane to hydrogen, heating and cooling, etc.).

1. Cancel GOs of the input energy carrier.
2. Issue new GOs after energy carrier conversion, provided that the origin and other attributes of the input energy carrier are documented adequately.
3. GO conversion requires *physical* energy carrier conversion.
4. Cancel only GOs of the same energy carrier as the physical energy input into conversion.

5. Measure output energy from conversion.
6. Measure input energy into conversion.
7. Allocate attributes from cancelled input GOs to newly issued output GOs proportionally to the measured input and output energy carrier, at least for the attributes informing about the energy source.
8. Energy source is the minimum information to retain from cancelled GOs to newly issued GOs.
9. Keep track of the information on the cancelled GOs for every batch of issued GOs for a period of minimum of three years.
10. Record in the cancellation statement that the corresponding GOs have been cancelled for the purpose of energy carrier conversion.
11. Newly issued GOs shall keep the same purpose (e.g., disclosure to consumers) as the input GOs, record the energy source of the input GOs and inform that the new GOs are issued as a result from Energy Carrier Conversion.
12. Incorporate in the output GOs the following data, using the content of the cancelled GOs whenever possible: indication of the label or independent criteria scheme; carbon footprint, including the footprint of the conversion; the production device used for the energy conversion.
13. Publish transparently the national domain rules of the issuing body (procedures for production device registration and inspection, account holder registration, GO issuance, transfer, cancellation, expiry, error handling, dispute handling).
14. Set-up cooperation between pan-European scheme operators to ensure acknowledgement of imported GOs while avoiding double counting.
15. Clarify to the parties involved along the chain of custody the allocation of liability.
16. Cancel GOs for the input energy into the conversion device before issuing new GOs for the output generated by conversion process (ex-ante cancellation check).
17. Classify the cancellation as “cancellation for conversion” purposes.
 - ➔ For details and more explanation of these rules, read [Report 4.3 "Harmonised set of rules for the conversion of electricity to biomethane/renewable gas and hydrogen GOs"](#), in particular chapters 4 to 7.

Recommendation 6



Issuing Bodies should implement the following 7 kick-off recommendations to provide the market with a harmonised and clear framework across Member States from the beginning.

This approach will facilitate market uptake and cross-border trade of new renewable gases. Implementation of these 7 rules will also be the basis for an evaluation for future additional rules as learnings can be integrated in future updates of the system where relevant.

1. *The validity period for GOs issued after the Energy Carrier Conversion starts at the end of the production period of the new Energy Carrier.*
2. *A sanity check is to be done regarding the plausibility to produce the reported output from the reported input using default conversion efficiency factors.*
3. *The use of default conversion efficiency factors should be subject to conditions:*

- a. existence of fraud detection mechanisms like dedicated inspections;
 - b. setting the default conversion efficiency value low enough, to ensure sufficient cancellation of input GOs and stimulate actual measurement but high enough to accommodate for situations with undefendable measurement cost and predictable efficiency;
 - c. Where a default efficiency value is available, it shall still be possible for the producer to prove higher conversion efficiency.
4. *Maintain the use of standardised GO data format.* The amount of data fields of a GO for the same energy carrier should be the same regardless of whether the GO resulted from GO Conversion Issuance, to facilitate automated standardised cross-registry transfer.
 5. *Apply the principle of immutability:* The certificate data shall not change in any way once a GO has been properly issued, except to indicate that it has expired, cancelled, or withdrawn.
 6. *Limit the number of attributes to be transferred from the input GOs to the output GOs* for the purpose of simplification and operational efficiency.
 7. When forwarding pre-conversion information on public support on a GO that is issued after conversion: *balance complexity of data handling with the value of this information for the end consumers.*
- For details and more explanation of these rules, read [Report 4.3 "Harmonised set of rules for the conversion of electricity to biomethane/renewable gas and hydrogen GOs"](#), in particular chapters 4 to 7.

3.3. Overcoming specific barriers to the issuance of Guarantees of Origin

Recommendation 7



Given the ambitions of linking GOs and PoS, ensure that the methodologies for energy conversion are harmonised in both rules and standards.

The draft CEN standard 16325 for gas GOs and the mass balance rules to demonstrate compliance with sustainability criteria have different approaches for energy conversion of gaseous fuels. To enable a proper linking of GOs and PoS, both methodologies need to be harmonized and synchronized. This is particularly relevant for the liquefaction of gas.

Recommendation 8



Where a GO becomes embedded in a bigger electronic certificate that also serves as a proof of sustainability (PoS), add the aggregate state [liquid] in the gas certificate after the change from gaseous biomethane to liquid biomethane (bio-LNG). An initial plant audit of the liquefaction plant and a proof that enough gas GOs were available for the bio-LNG production are required.

There is no risk of double counting if the same GO is maintained across liquefaction. The validity period should continue with no reset. When bio-LNG is produced through a direct connection, the physical state of biomethane [liquid] will immediately be part of the gas certificate on top of the GO that is issued when the bio-LNG consignment is placed on the European market.

Clarifying rules on how a biomethane [gaseous] certificate can be converted into a biomethane [liquid] or bio-LNG certificate will create European harmonisation bio-LNG certificates that can count towards the national and sectoral targets of renewable energy consumption and GHG emission reduction.

- *For detailed guidelines on verification criteria for the issuance of a gas GO for bio-LNG according to Art. 19 RED II, see page 37 of the Report [D4.1 Guidelines for the Verification of Cross-Sectoral Concepts](#).*

Recommendation 9



Create “Hydrogen Guarantees of Origin” within the CEN Standard and in all Member States for hydrogen injected in pure form in a gaseous network.

If the hydrogen is to be injected by blending in a natural gas network, a general gas GO including an attribute [Hydrogen] may be issued. Such a gas GO [Hydrogen] should not be used for disclosure of hydrogen consumption from a pure hydrogen grid because of the technical specifications applied to pure hydrogen.

- *For detailed guidelines on verification criteria for the issuance of a gas GO for bio-LNG according to Art. 19 RED II, see Table 13, pages 26-29 of the Report [D4.1 Guidelines for the Verification of Cross-Sectoral Concepts](#).*

4. Deployment of registries that are fit for cross-border trade and all renewable gases

To achieve an efficient trade system based on issuing and trading of renewable gas certificates (including guarantees of origin), renewable gas registries and issuing bodies capable of tracking the green property and volumes of the gases being traded in Europe are a prerequisite.

A national biomethane/renewable gas registry is an administrative system which documents the full chain of custody of biomethane/renewable gas from production to the distribution to the final consumers. It is established either by a government mandate or through the voluntary cooperation of market participants and is operated on the domestic market. It has a responsibility towards market participants for being a neutral and trustworthy platform for biomethane/renewable gas certificates.

The Project facilitated the set-up of biomethane registries in the Target and Supported countries¹⁵; it analysed how registries should apply reliable GO conversion processes for synthetic renewable gases; it studied how a system of cross border transfer of renewable gas certificates could be implemented. Recommendations in this Chapter address these three topics.

4.1 Setting-up effective biomethane registries

Recommendation 10



Enable the set-up of the biomethane registry by committing to the creation of a domestic biomethane market and providing a timeline for the set-up of the appropriate regulatory framework.

Based on the Project's experience, a clear political commitment to develop the biomethane market is essential to the setup of an electronic registry for biomethane certificates. This has been observed in Lithuania and Slovakia. For other target countries (i.e., the Czech Republic, Italy, Poland, and Spain), the common factor that slowed down the registry's setup was the approval of the required legal framework.

→ For more information, read Report [D3.2 on the set-up of biomethane registries](#)

Recommendation 11



National policymakers should have an open dialogue and collaboration with the biomethane industry to establish a biomethane registry rapidly.

In Ireland, the voluntary initiative of the industry led to a fast-tracked designation of the national biomethane registry operator in 2022. Renewable Gas Forum Ireland (RGFI), in conjunction with an industry led collaboration, including Gas Networks Ireland (GNI), initiated the blueprint design of the green gas certification scheme in Ireland in 2018 (GreenGasCert project). The GreenGasCert project was a collaboration between academia and industry, utilizing state of the art methodologies developed by European expertise and applied into the Irish context. Upon completion of the project, the joint licensees of RGFI and GNI, agreed that GNI (as the gas authority in Ireland), would proceed with its application to Government of Ireland to be formally appointed as the "National Registry". GNI

¹⁵ Belgium, Czech Republic, Ireland, Italy, Lithuania, Poland, Slovakia, Spain, and Sweden.

initiated the process of seeking recognition as the National registry through a Statutory Instrument and was formally appointed in August 2022.

→ For more information, read Report [D3.2 on the set-up of biomethane registries](#)

Recommendation 12



Establish one central registry in each Member State for all national and European documentation purposes, covering all types of renewable gases with different certificate attributes, along with a harmonised pan-European data protocol for cross-registry certificate transfer.

One organisation or system for documenting renewables gases in a Member State should be set-up to:

- Simplify the operational processes for the national government and for stakeholders;
- Create maximum trust and transparency for all market participants;
- Reduce risks of multiple counting of the same energy volume based on application purpose;
- Reduce costs for cross-border certificate transfers.

→ For more information, read Report [D3.1 Guidelines for establishing national biomethane registries](#)

Recommendation 13



If not possible to document all characteristics of the same consignment of renewable gas in a single registry, define the purpose of a biomethane registry and where relevant establish cooperation between registries documenting the same energy volume but for a different application purpose.

The possible certification purposes are disclosure (informing consumers), target accounting and production support. GOs from article 19 of the Renewable Energy Directive relate to disclosure, while PoS registries relate to accounting for the renewable transport fuel target of article 25 of the Directive.

→ For more information, read Report [D3.1 Guidelines for establishing national biomethane registries](#)

Recommendation 14



Properly define roles and responsibilities for the registration and the underlying certification of the renewable gas producing plants.

For an efficient and trustworthy certification and issuance of renewable gas certificates, it is crucial that the responsibilities of providing data, e.g., gas meter readings, certifying the renewable gas production facilities and the gas output, as well as the issuing of the certificates, are independent and clearly addressed between the involved parties and aligned with the national gas market model.

→ For more information, read Report [D3.1 Guidelines for establishing national biomethane registries](#)

Recommendation 15



Define clear requirements on the statistical reporting of cross-border trade of renewable gases between Member States.

Article 8 of the Renewable Energy Directive allows for statistical transfer between Member States, but standardized processes are still lacking. Those should be defined to have clear documentation of cross-border flows of renewable gases and to avoid bilateral agreements. It shall be clarified, in case a certificate is used in another Member State for accounting towards an EU Target, if losing its eligibility for accounting to this target in the Member State of origin.

→ For more information, read Report [D2.4 Investigative study of IT system options for harmonized European cross border title-transfer of biomethane/renewable gas certificates](#)

4.2. Making registries of Guarantees of Origin fit for energy conversion processes

Recommendation 16



When setting up GO registries, consider the impact of allocating the issuing body role to either a single or to a separate organisation for each energy carrier on administrative procedures and cost, especially with regard to handling energy conversion.

The European framework mandating the Member States to designate a body in charge of their national GO system resulted in heterogeneous configurations among EU countries. There are issuing bodies with responsibility for operating GOs for multiple energy carriers and issuing bodies for GOs for a single energy carrier. The technical complexity of coordinated GO conversion processes varies a lot depending on this configuration. Where the issuing body for GOs is not the same party with respect to the input and the output energy carrier of a conversion process, certificate handling becomes more complex than for the case where GOs for all energy carriers are managed in the same registry, and under the responsibility of the same issuing body.

→ For more information, read chapter 6 of [Report 4.3 "Harmonised set of rules for the conversion of electricity to biomethane/renewable gas and hydrogen GOs"](#)

Recommendation 17



Based on the rules for GO handling in conversion processes, renewable gas registries should implement the following steps in their cooperation with electricity GO registries (and vice versa):

1. Determine the quantity of the Attributes of the Input for Conversion and match Input with Output.

Measurement reporting goes to the registry in charge of the conversion issuance. This is the place where it can be determined how many GOs to cancel to prove the origin of the input energy into the conversion. The process of communicating the number of GOs to cancel will be easier to automate if GO Cancellation (for Input) and GO Conversion Issuance (for Output) are taking place in the same registry.

2. Prove the Input Attributes by cancelling GOs in the Conversion registry after importing them.

Ex domain cancellations on PDF files are not reliable and only practically feasible when dealing with little volume, as a short-term solution. Other solutions for informing the conversion registry of the cancelled GOs require equal cost of change while having less advantages in the processing of data (electronic ex-domain cancellation statement transfers), or while requiring top-down European policy (central cancellation database). Importing GOs that are proof of the attributes for the input energy of the conversion, enables the most efficient handling of GOs in relation with energy carrier conversion. It requires however some additional reporting lines with the relevant supervisory authorities for disclosure of the origin of energy.

3. *Attribute inheritance on GOs after Conversion Issuance while balancing simplicity with information relevance.*

- a. Carry forward mainly information on the energy source to the GOs after Conversion Issuance;
- b. Record a Conversion Tag on GOs after Conversion Issuance;
- c. Given proportional allocation of Input Attributes to the Output Attributes: it is challenging when a residue (<MWh) of Input Attributes goes to next production period, therefore it is suggested to cut-off residue Attributes at some point;
- d. Keep complete information from cancelled GOs within the Conversion registry, but not on GOs. This ensures verifiability but keeps the tradeable GO instrument lean and its data format standardised. The issued certificate after Conversion could link to the cancellation information where more information can be obtained from the cancelled certificates, also by the GO owners later in its lifetime.

→ For more information, read [Report 4.4 “Design study on the technical requirements of a coordinated conversion process”](#)

4.3 Setting-up a system of cross border transfer of renewable gas certificates

Recommendation 18



To enable smooth cross-border trade of biomethane and other renewable gases, policymakers should pursue the transition from scattered and individually acting national renewable gas registries to a common European renewable gas market with one or several European Scheme(s) of renewable gas certificates for all purposes of renewable gas certification and issuance. This should be done in two main phases:

a. **In the short to medium term:**

- Implement dedicated IT solutions for renewable gas registries, using standardised data and automated processes fit for a high number of transactions
- National governments and issuing bodies should collaborate to interconnect IT-systems of renewable gas registries via European scheme(s) and IT solutions

b. **In the longer term:** consider a phased implementation of a central-IT solution for renewable gas exchanges and make the appropriate legislative reform. This should be compatible with keeping national IT systems for fulfilling national requirements and handling national support schemes

A robust and harmonised scheme, governed by a central organisation, allows a structured administration of cross-border transfers and the respective energy amounts and quality criteria. The technical and financial efforts and costs for a single interface to a central organisation will be significantly lower.

→ For more information, read chapters 1 and 7 of the Report [D2.4 Investigative study of IT system options for harmonized European cross border title-transfer of biomethane/renewable gas certificates](#)

Recommendation 19



Member States and Issuing Bodies should collaborate with ERGaR and AIB to establish a harmonized EU-wide system for cross border title-transfer of the renewable gas, following these phases:

- 1. Allow individual IT-options (bilateral agreements between Issuing Bodies) to serve upcoming requests for exchanging gas GOs with other Issuing Bodies on the short run**
This is a necessary short-term measure as long as no common IT-solution for cross-border transfers is available.
- 2. Establish a single transfer protocol with generic data formatting and common data field specifications for all certificate/GO transfers, as well as a joint quality assurance framework.**
 - This will enable registries to technically blend in the European energy tracking in the most efficient way. This would lay the ground for connection gas and electricity GO Issuing Bodies between each other, leading to automated exchange of gas and electricity GOs
 - This should also leave room for evolution and for customised requirements for different energy carriers or purposes.
 - Taking into consideration that a link between the Union Database for gaseous renewable fuels and national biofuel databases as well as national Issuing Bodies could be established in the future, this need for interoperability of the involved databases and a single transfer protocol would gain even more significance.
 - Issuing Bodies participating in both AIB and ERGaR Schemes will play a major role in driving harmonisation
- 3. Establish a central IT-system by integrating the AIB and ERGaR schemes and connecting the IT-systems of all gas Issuing Bodies through one European IT system**
A central IT-solution can be considered as the most cost-efficient solution for issuing bodies to facilitate one-to-many connection for cross-registry transfers of GOs.

Along with these three phases, the content of Guarantees of Origin should be broadened (see Chapter 3) to make them future proof regarding trade of new renewable gases and potentially new documentation requirements from EU law.

→ For more information, read [Report D2.8 Techno-economic feasibility study on a harmonized system for cross border title-transfer of the renewable character of gas in Europe](#)

Recommendation 20



Registry operators or established hubs should provide information to market platforms in a transparent manner to allow for integration of trade activities.

In order to standardise certificate trading and to establish it throughout Europe, trading platforms are needed to provide market participants with simple and liquid options for processing their transactions. Registries and hubs are per se exclusively responsible for the documentation and the transfer of

certificates. In the view to manage the link between registries and trading platforms easily and transparently, hubs and their connected registries should provide interfaces to make certificates available for trading purposes.

- For more information, read [Report D2.6 on design study and technical specification for dashboard and trading platform](#)

In accordance with Article 28.2 of the Renewable Energy Directive 2018/2001 a Union Database (UDB) is being developed which will register, amongst others, renewable gases that are eligible for the EU renewable transport fuel target. At the end of the REGATRACE Project, the concept of this Union Database for gaseous fuels was still not finalised. Therefore, regarding the interaction of national GO registries, international GO transfer and this Union Database, no detailed study of the consequences of various implementation options could be made. Based on the learnings from the Project and on the design criteria of this Union Database as they were revealed close to the time of the REGATRACE Project closure, the following considerations should however be taken into account.

Recommendation 21



Set-up of interfaces between the Union Database and renewable gas registries should be adapted to the different development stage of national registries.

Where interfaces will have to be set-up between the Union Database for renewable fuels (UDB) and renewable gas registries, it should be acknowledged that these registries may deal with very different volumes of certificates depending on the development stage of the national biomethane market. The quantity of information exchanges with the Union database will therefore vary a lot. The set-up of the interface with each database should provide enough flexibility to reflect the individual situation in each Member State with regards to transfer volumes.

Recommendation 22



Issue conceptual and technical guidelines on how to set-up an interface with the Union Database for renewable fuels (UDB).

To ensure harmonised implementation, guidelines on the process of setting up an interface with the UDB shall be provided by the European Commission (DG Energy). These guidelines shall go beyond setting up eDelivery or API. They should explain the conceptual process as well as technical solutions which are eligible for such an interface. They should take into account the architectural aspects of GO registries that are relevant for this interaction.

Recommendation 23



To avoid double counting of the same renewable attributes, the general principle must be that the validation of a Proof of Sustainability (PoS) in the Union Database should be conditional to GO cancellation, if GO was issued for the respective amount of gaseous energy.

This is essential to ensure that the GO is not transferred to another beneficiary (possibly in another country) than the one to whom the PoS is registered in the Union Database. In addition, for practical synchronization of the management of the various systems, the issuance timelines of GOs and PoS

need to be discussed in more detail, as their discrepancies will likely call for further mitigation procedures.

Recommendation 24



Facilitate rapid and smooth uptake of the Union Database by providing market participants with the following information:

- **A glossary of the terms and functionalities being used in the Union Database**
- **Manual for Code use and reading**

Such information-sharing will enable market participants and third-party databases to become “fit for the Union Database” and this will reduce transaction costs.

5. Sustainability certification of renewable gases

The REGATRACE project provided guidance for the sustainability certification of bio-based and synthetic renewable gases, as a way to support the market development of these gases.

Renewable gases have to comply with sustainability criteria of the Renewable Energy Directive. This is prerequisite for counting towards the national target and the advanced biofuel supply in transport.

For biogenic renewable gases, these requirements include, amongst others, criteria on the sustainable production and supply of the biogenic feedstock, the history of the feedstock production site (i.e., in case agricultural feedstocks are being used) to avoid negative land-use change impacts, as well as GHG mitigation thresholds compared to defined reference values. Compliance with the sustainability criteria can be shown by market actors with a sustainability certification process. For this purpose, the European Commission has recognised a number of certification schemes, which are qualified to prove compliance with the RED II requirements.

For synthetic renewable gases, also known as RFNBO (renewable fuels on non-biological origin), the RED II defines a minimum threshold of GHG emission savings, as well as criteria regarding the input renewable energy for the production. Since the publication of [Report D5.1](#) (Assessment of integrated concepts and identification of key factors and drivers) in 2021, drafts of the two Delegated Acts on renewable electricity consumption for RFNBO production (art. 27), as well as the GHG methodology and eligible carbons sources for RFNBO production (art. 28), were published. Thus, a lot of aspects, which were not clear when Report D5.1 was published, have been provisionally defined. At the time of writing this Report D7.3, the RED II is under revision and being negotiated by the co-legislators, and the adoption of the Delegated Act is still pending.

The process of sustainability certification of renewable gases can be challenging for market actors. Further support and effort are needed to reduce unnecessary complications and costs, as well as fundamental differences between the available certification schemes.

The following recommendations convey the need for simplifying the sustainability certification process, as well as bringing clarity to market operators about the sustainability criteria for RFNBOs.

5.1. Harmonising and simplifying the certification of biogas and biomethane

Recommendation 25



Provide additional default values of GHG emissions for the most relevant agricultural substrates and feedstocks on a NUTS 2 (regional) level in the EU.¹⁶ These default values could be developed by the Joint Research Centre (JRC) of the European Commission in collaboration with the industry.

To prove compliance with the GHG reduction criteria, concerned stakeholders might either use the default values from the Annexes of the Renewable Energy Directive, use individual calculations, based on actual data, or a combination of both options. However, only few default values for biogas and biomethane exist, which means that individual calculations are required in most cases. The process of data collection can be challenging since biogas and biomethane plants often work with a number of farmers and suppliers. Additional default values for other relevant feedstock types, such as intermediate crops, etc., could reduce this effort.

¹⁶ NUTS 2 is territorial level of EU regions within the Nomenclature of territorial units for statistics (NUTS). NUTS 2 is the level used for the application of the European Union's regional policies.

→ For more information, read [Report D5.3 Guidelines on renewable gas sustainability certification](#)

Recommendation 26



Develop additional GHG emission calculation tools as well as guidelines (e.g., for the calculation of nitrous oxide (N₂O) emissions) for biogas and biomethane producers.

This step will help to reduce the efforts and burdens for market actors (producers, certification schemes, auditors), associated with the process of sustainability certification. Furthermore, it can contribute to harmonising the existing sustainability requirements and audit processes across the different sustainability certification schemes under the RED II framework. Consequently, aspects such as transparency and comparability across schemes, as well as the robustness of the GHG information would be increased.

→ For more information, read [Report D5.3 Guidelines on renewable gas sustainability certification](#)

Recommendation 27



Provide implementation guidance for the group certification approach allowed by the RED II. This would ease the calculation of GHG emissions from the cultivation process of the sourced biomass.

The RED II does in principle allow for a group certification approach for producers of biomass with comparable production conditions. This is a meaningful instrument, which could facilitate the actual implementation of the RED II requirements into practice. However, this approach is not very well implemented yet by existing certification schemes and should be supported by additional guidance from policy makers.

→ For more information, read [Report D5.3 Guidelines on renewable gas sustainability certification](#)

5.2. Providing harmonised certification of Power-to-methane

Recommendation 28



Provide default values as well as additional support for the implementation of the RFNBO and RCF certification under the RED II framework.

The Delegated Act on the GHG requirements for RFNBO (Renewable fuels of non-biological origin) and RCF (recycled carbon fuels) provides an abstract methodology, which needs further implementation into the practical operation of market actors and the verification instruments. To support this process and to reduce the efforts of market actors, a list of default values for the most relevant RFNBO technology options should be developed, in accordance with the already existing approach for biofuels. Furthermore, several aspects of the methodology (e.g., the emission calculations for existing use or fate for rigid inputs) leave room for interpretation, which shifts the burden for the verification of GHG emission calculations to the certification schemes and auditors. This can lead to differences in the implementation across certification schemes.

→ For more information, read [Report D5.3 Guidelines on renewable gas sustainability certification](#)

Recommendation 29



Provide clarity in the Delegated Act on Additionality for RFNBOs about:

- a. **The possibility to operate the electrolyser on a direct and an indirect connection to the electricity source** (bivalent operation) as long as the criteria for the selected case (direct connection or grid connection + PPA) are met in the corresponding hour [month] of electricity consumption (Article 3c).
- b. **The concept of the “bidding zone” which is not easily transferable to third countries.** The European Commission should at least define the equivalent of the bidding zone for each electricity market design (e.g., nodes) and declare it admissible to prove the geographical correlation, so as not to hinder implementation in third countries.
- c. **The verification of a grid congestion:** A competent body should be appointed to provide the necessary information, especially in Member States with more than one transmission system operator (Article 4 (4)).
- d. **The concrete verification methods** of the individual criteria (Article 5). The European Commission should specify which methods should be used.

6. Scale-up of biomethane markets

It is now more urgent than ever to scale-up rapidly biomethane production. The REPowerEU Plan released in May 2022 recognised this by proposing a domestic production target of 35 bcm by 2030, as well as a “Biomethane Action Plan”. This chapter aims to provide guidance to European and national policymakers to achieve this target. Producing 35 bcm of biomethane will contribute to greater energy security, but also to a more resilient farming sector, greener waste treatment, better nutrient handling, less pollution and a decarbonised energy supply.

The European Commission already published its Biomethane Action Plan (BAP), as part of the REPowerEU Package of May 2022. The BAP provides a useful, yet uncomplete, list of actions that Member States, NRAs and network operators should carry out. It addresses very well the need for:

- a long-term vision through national trajectories;
- state support;
- additional public and private funding;
- setting the necessary regulations and standards for network injection of biomethane.

Recommendations presented below concur with several actions of the BAP. The BAP should guide Member States in implementing appropriate biomethane-supportive policies. Many Member States are still lagging behind, as can be seen in the evaluation of national policies of 12 countries against the Biomethane Action Plan (see [Annex 2](#)). This evaluation was made for each country for which a Roadmap was provided in Report [D6.3 Long-terms visions and roadmaps](#).

However, the Biomethane Action Plan does not capture all needs of national biomethane industries, as shows a comparison of the BAP with the Country Roadmaps provided in Report D6.3. Commonalities of the “Actions” recommended in these Country Roadmaps were identified and organised in 6 thematic areas.¹⁷ It was then assessed – through a scoring table - whether and how much Actions from the BAP match with the Actions of the Country Roadmaps. A radar chart was generated as a result (see [Annex 1](#)). The BAP fails to address the need for:

- Demand-side incentives;
- Appropriate legislation on waste management;
- Enabling regulations for digestate use;
- Revision of State Aid rules;
- Public procurement policies.
- Education and public awareness about biomethane production

Many recommendations under this Chapter are relevant for on-going EU legislative initiatives, including the revision of the Renewable Energy Directive, Gas Directive and Gas Regulation, as well as the recast of the Energy Taxation Directive and the Regulations on CO₂ performance standards for vehicles.

The recommendations below are derived from the Country roadmaps elaborated in 13 countries¹⁸ and presented in Report D6.3. These Roadmaps were built between 2019 and 2022 through the involvement of national stakeholders of the biogas and biomethane industry in 4 participatory workshops.

¹⁷ General targets and framework; investment support (including permitting and public awareness); production support; networks; demand-side support; trade (including Guarantees of Origin).

¹⁸ Belgium, Czech Republic, Estonia, Finland, Greece, Ireland, Italy, Latvia, Lithuania, Poland, Slovenia, Spain, and Ukraine.

In addition, national coordinators of Report D6.3¹⁹ were surveyed in September 2022 to know, based on the Country roadmaps, which measures have become more urgent since the spike in energy prices and the Russian-Ukrainian war, but also whether their governments progressed and advanced since February. As a result, recommendations deemed urgent (i.e., they should be implemented by the end of 2023) have been labelled with the icon



6.1. Setting a clear vision for biomethane development

Recommendation 30



Establish national biomethane strategies providing a vision for the sector's development. These national strategies should include²⁰:

- An identification of barriers for the production or injection of the biomethane into the gas networks,
- a roadmap for a predictable development of the legislative and regulatory framework,
- a trajectory to reach the national production potential assessed for 2030 and 2050.

These strategies should be used in the update of the National Energy and Climate Plans (NECPs). Such strategies will contribute to meet the need for a clear and stable policy and regulatory framework.

Recommendation 31



Set targets for biomethane production and consumption at both EU and national levels:

- Anchor an EU-binding target in European legislation.
- Set initial short-term biomethane production targets by the end of 2023, based on a conservative share of the available estimates of national feedstock potential.
- Set targets on consumption and production for 2030 and include them in the update of the National Energy and Climate Plans (NECP).²¹

6.2. Scaling-up biomethane production

6.2.1. Expansion of capacities

Recommendation 32



Implement investment support by the end of 2023, including for the retrofitting of biogas plants to biomethane production.

To this aim:

- Member States should use Recovery and Resilience Plans and make the most of the existing State Aid framework.
- Member States should use existing EU funding programmes managed nationally or regionally (especially the Common Agricultural Policy, the European Regional Development Fund, and the Cohesion Fund) to co-fund investment in new biomethane production capacities.

¹⁹ The European Biogas Association's third-linked parties.

²⁰ This in line with Action 1.2 of the European Commission's Biomethane Action Plan.

²¹ This is recommended in the Action 1.2 of the European Commission's Biomethane Action Plan.

- Exemption rules and thresholds of the European GBER (General Block Exemption Regulation) should be adjusted with the need for capital support.
- The CINEA (Climate Infrastructure and Environment Executive Agency) should use the Innovation Fund to support investment projects in thermal gasification and other innovative biomethane production processes.

Recommendation 33



Simplify and accelerate authorisations and permits to build biomethane plants.²²



- Member States should implement the relevant provisions of the Commission's recommendations of May 2022²³, especially regarding time limits in the permitting process, administrative capacity, setting one-stop shops, and transparent communication.
- Member States should particularly simplify the administrative procedures for site selection and the necessary authorisations for operating the digesters and using the digestate, while keeping high standards of safety and public health.
- Member States should lighten permitting procedures for biogas-to-biomethane conversion projects.

Recommendation 34



Support public awareness and promote education of policymakers at all institutional levels about the circular production model of biomethane and its benefits.

Public authorities and the biomethane industry should set-up guidelines and best practices for involving and communicating to local communities about biomethane projects. This will raise awareness- raise awareness among citizens and address their concerns.

6.2.2. Improved environment for production

Recommendation 35



Define and adopt production support schemes.²⁴



Such schemes should provide reliable and stable financial support, thus guaranteeing long-term investment security. This is key in developing sustainable biomethane production at scale and at pace to achieve European and national biomethane targets. In defining production support scheme, particular attention should be given to small-scale production.

Recommendation 36



Support the development of training and technical assistance capacity.²⁵ This is foundational to quicker project development and creation of a national industrial base.



²² Also recommended in the Action 1.5 of the Biomethane Action Plan.

²³ [COMMISSION RECOMMENDATION of 18.5.2022 on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements.](#)

²⁴ Also recommended in the Action 2.1 of the Biomethane Action Plan.

²⁵ Also recommended in the Action 1.4 of the Biomethane Action Plan.

Recommendation 37

Enhance sustainable feedstock mobilisation by reforming waste management legislation and ensuring compliance.

- Member States and competent public authorities should strive to comply with the obligation of separate collection of biowaste starting in 2024. They should also ban landfilling and incineration of food waste.
- Member States should set mandatory shares of livestock manure and slurry processed in anaerobic digestion.
- The future revision of the *Waste Framework Directive* should include binding targets of waste reduction and drivers to maximise separate collection of and energy recovery from biowaste.
- The *Urban Wastewater Treatment* and the *Sewage Sludge Directives* should provide clear objectives of resource recovery recycling and anaerobic digestion while ensuring adequate protection against contaminants.

Recommendation 38

Establish the right framework and incentives to enable increased use of digestate as an alternative fertilizer as this is an essential co-product in the business case of projects.

- EU legislation should recognise the benefits of nutrient recycling and sustainable digestate management
- Direct funding for research and innovation in fertilising products based on digestate

6.3. Enabling injection in gas networks**Recommendation 39**

Establish by the end of 2023 the legislative, regulatory and technical framework for quick and affordable network connection of biomethane plants.²⁶

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- Establish a right to injection for project developers, including when located outside a gas-served area: obligation for network operators to address connection requests based on transparent technical and economic criteria, with time limits to deliver and oversight of the Regulator.
- Set up a cost-sharing mechanism with a major share of grid connection paid by network operators and recovered through tariffs.
- Appropriate standards for biomethane injection should be set nationally where it is lacking.

There is a lacking framework in many Member States, including Czech Republic, Greece, Poland, and Spain. This should be addressed urgently through the *revision of the Gas Directive and Gas Regulation*, where relevant, and appropriate national decisions to meet the REPowerEU's biomethane production target.

²⁶ Also recommended in Actions 2.1, 3.1, 3.2 and 3.3 of the Biomethane Action Plan.

Recommendation 40**Adapt network planning to decentralised biomethane production potentials.**

- Network operators should assess needs for network reinforcements based on potential of sustainable biomethane production.
- Biomethane producers should be guaranteed continuous injection into networks.

6.4. Driving up the demand for biomethane**Recommendation 41****Implement demand incentives, using preferential taxation, fuel supply obligation and rewarding GHG emission reduction.**

- EU co-legislators should increase **renewable fuel supply targets** in the Renewable Energy Directive (RED): the sub-target for “advanced biofuels and biogas” in transport should be increased; biomethane should also be included in other sectoral targets.²⁷
- Member States should set **preferential taxation** rates for biomethane (tax reduction or exemption) under the current Energy Taxation Directive.
- The revision of the **Energy Taxation Directive** should give the lowest minimum taxation level to biomethane whenever it is compliant with sustainability requirements of the RED.

Recommendation 42**Legislation and regulations should recognise GHG emission savings from biomethane consumption in all end-use sectors.**

In this regard:

- Regulation setting CO₂ emission performance standards for new passenger cars and light-duty vehicles should not ban internal combustion engines.
- The future revision of the Regulation setting CO₂ emission performance standards for new heavy-duty vehicles should fully recognise the emission savings provided by biomethane use in a well-to-wheel approach.
- GHG emission reduction provided by sustainable biomethane should be recognised across difficult-to-decarbonise sectors such as agriculture, transport, manufacturing and process industries.

Recommendation 43**Provide investment aid to new refuelling points for compressed and liquefied biomethane, including through the Recovery and Resilience Plans.**

Lack of refuelling points is barrier to market development of biomethane as a local transport fuel.

²⁷ See also Action 1.3 of the Biomethane Action Plan.

Recommendation 44



Leverage public procurement policies to expand the demand for sustainable biomethane: public transport (buses, inter-city coaches) and captive fleets of public authorities.

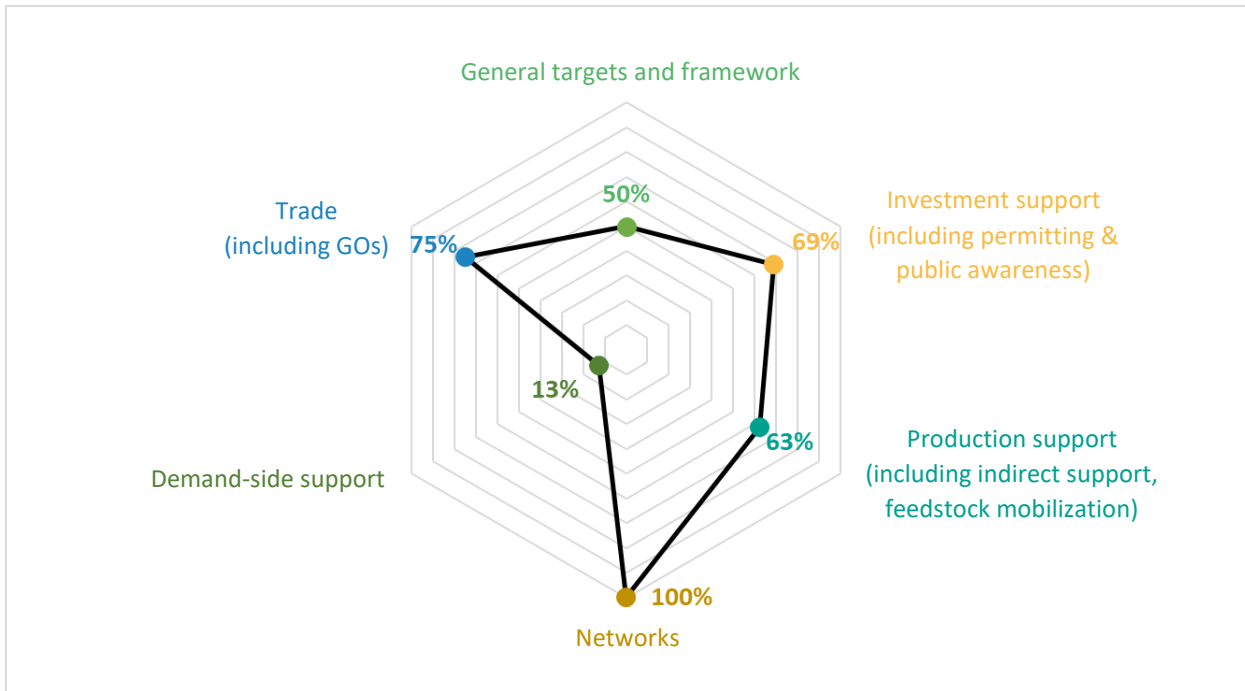
- Member States should incorporate this in their national legislation for the decarbonisation of the public sector.
- The Clean Vehicle Directive²⁸ should be revised appropriately to allow greater shares of biomethane-fuelled vehicles in fleets of public authorities.

²⁸ Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean road transport vehicles in support of low-emission mobility, amended in 2019 by Directive (EU) 2019/1161.

Annexes

Annex 1. Assessment of the Biomethane Action Plan against the Country roadmaps

Key: For each of the 6 thematic areas, the higher the score and the closer to the outer line, the more the Biomethane Action Plan matches with the needs of national biomethane industries.



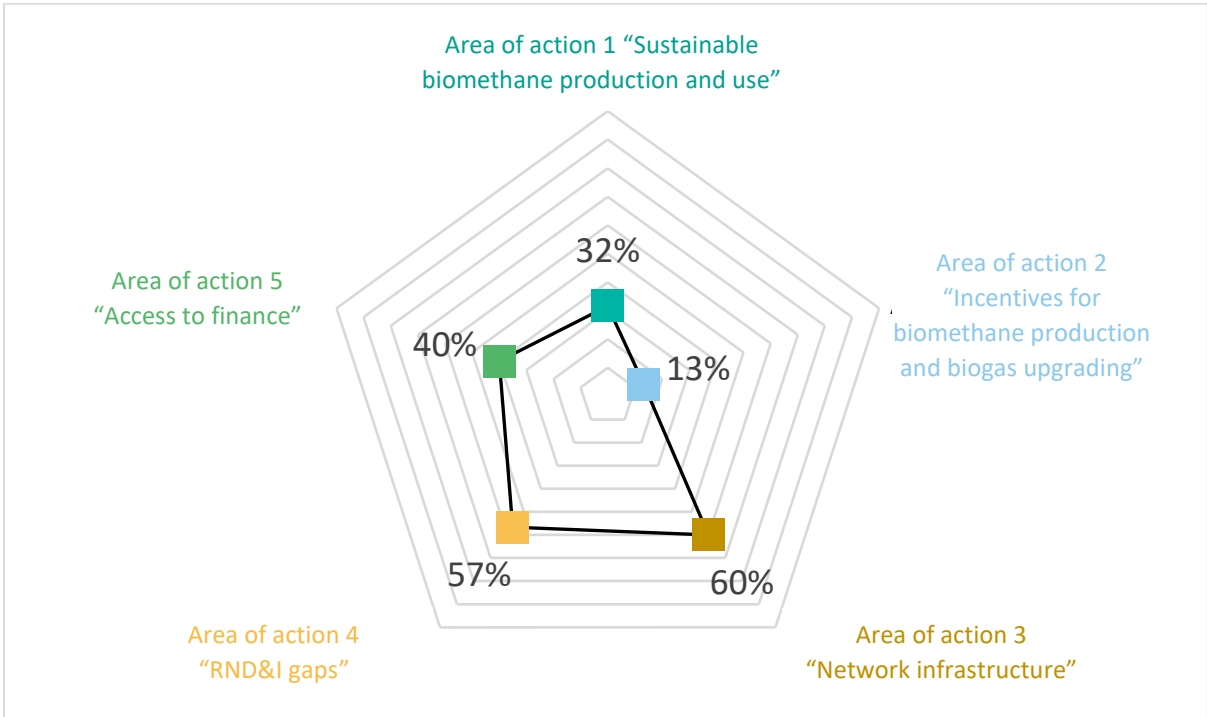
Annex 2. Assessment of 12 countries' policies against the Biomethane Action Plan

The present policies of 12 countries have been assessed against the European Commission's Biomethane Action Plan (BAP). By "present policies", we refer not only to the government's and national Parliament's policies but also to decisions from National Energy Regulator, Energy or Environmental Agency, the biomethane industry or the gas TSOs and DSOs where relevant, as the BAP also targets these stakeholders.

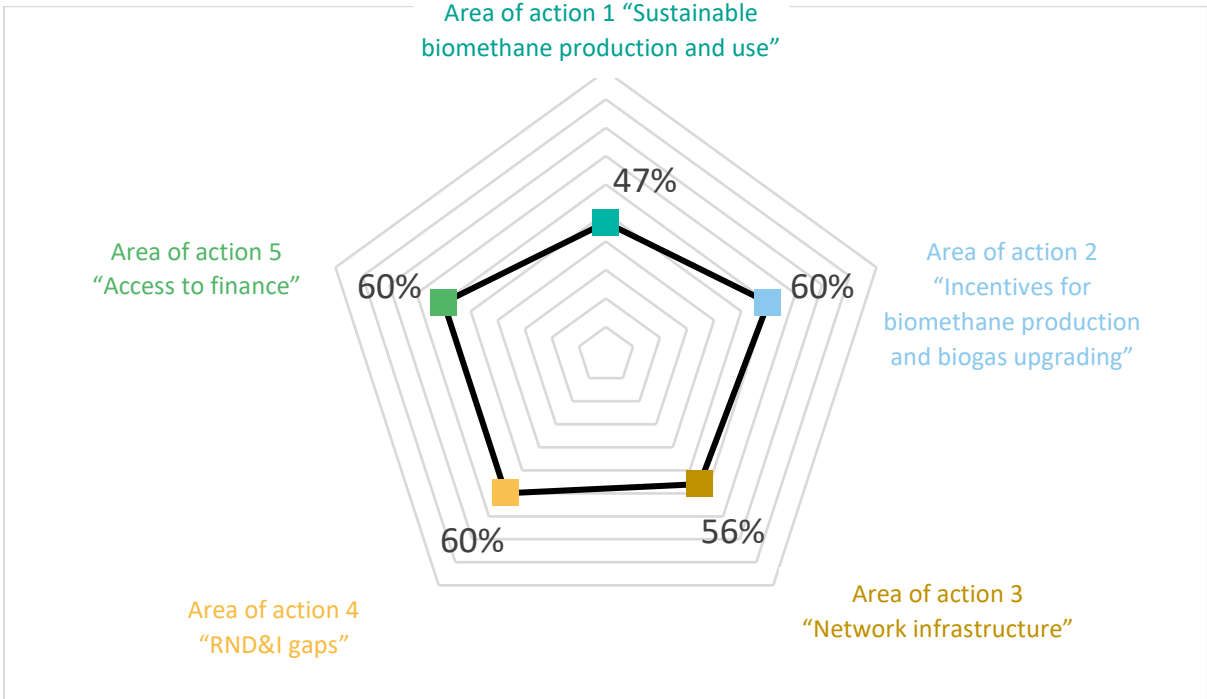
Scope: Each country for which a Roadmap was provided in Report [D6.3 Long-terms visions and roadmaps](#).

Key: For each "Area of action" of the Biomethane Action Plan (BAP), the higher the score / the closer to the outer line, the more the country's policies already fulfil the measures of the BAP.

Belgium

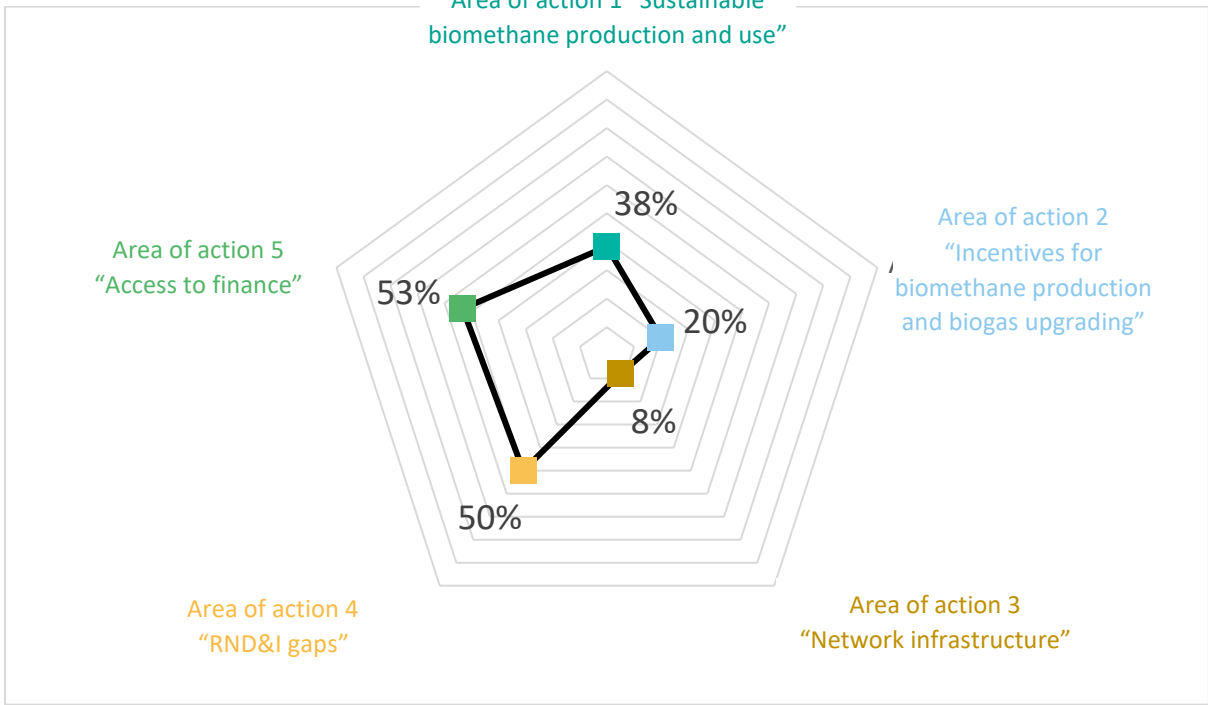


Czech Republic

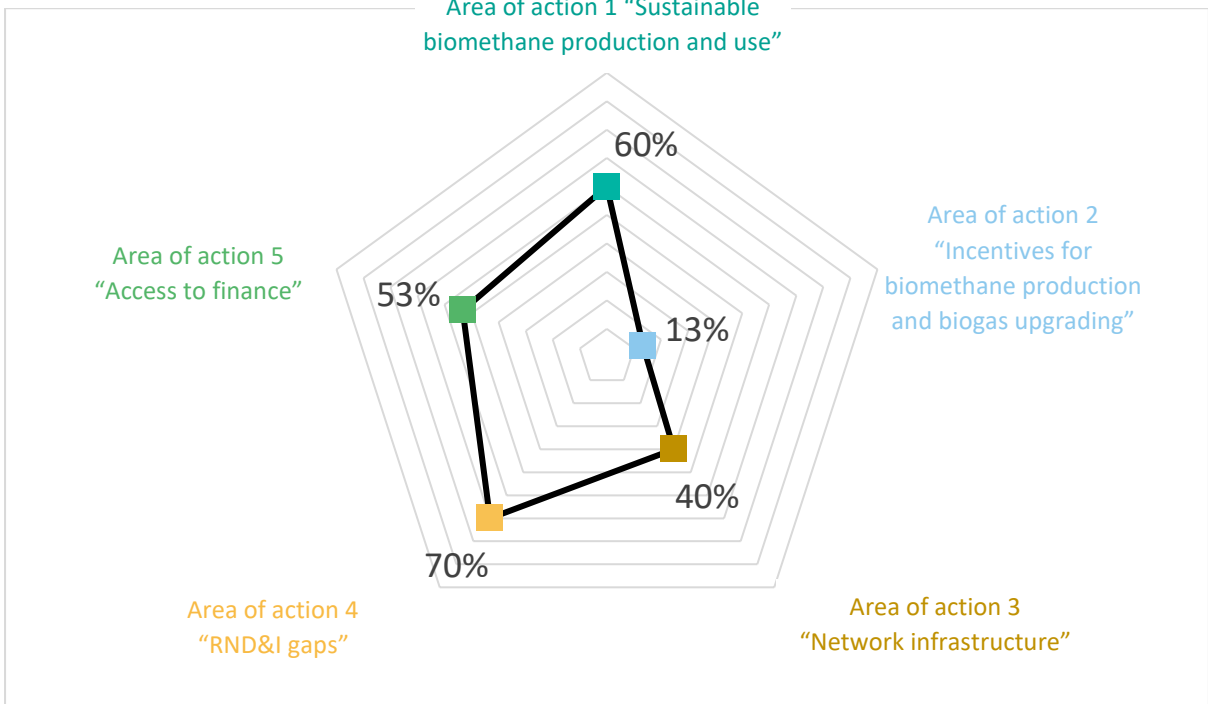


D7.3 Recommendations for EU and national decision makers

Finland

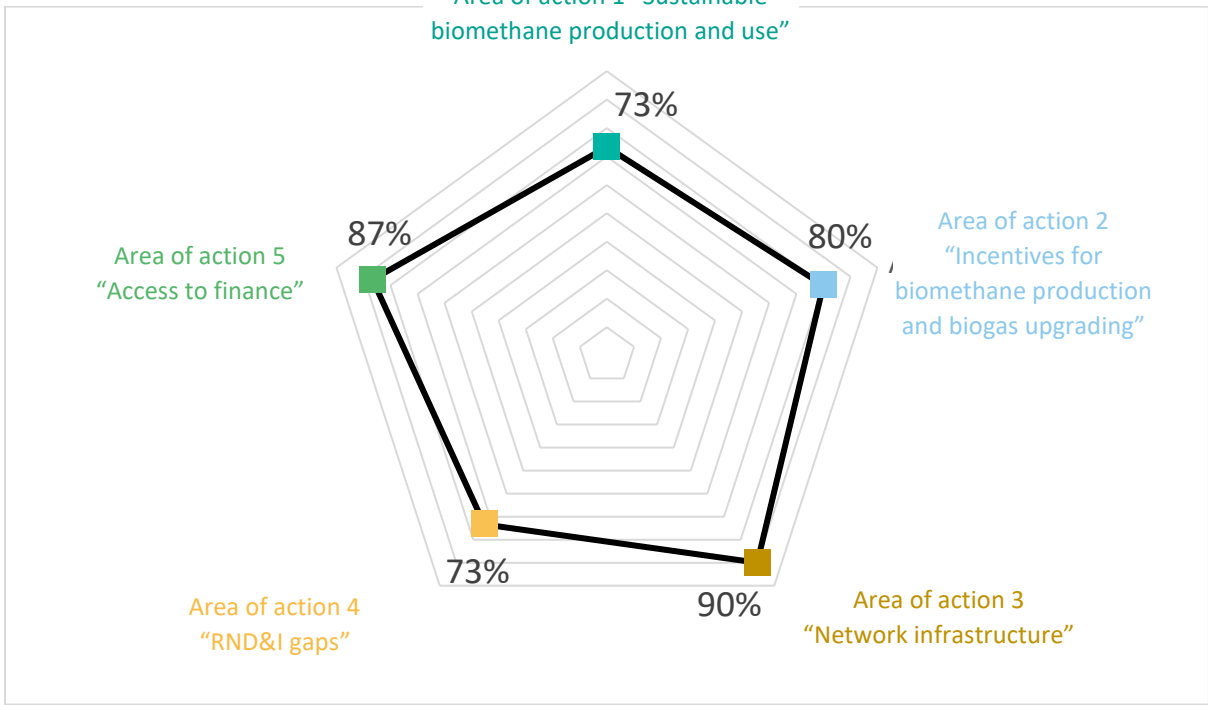


Greece

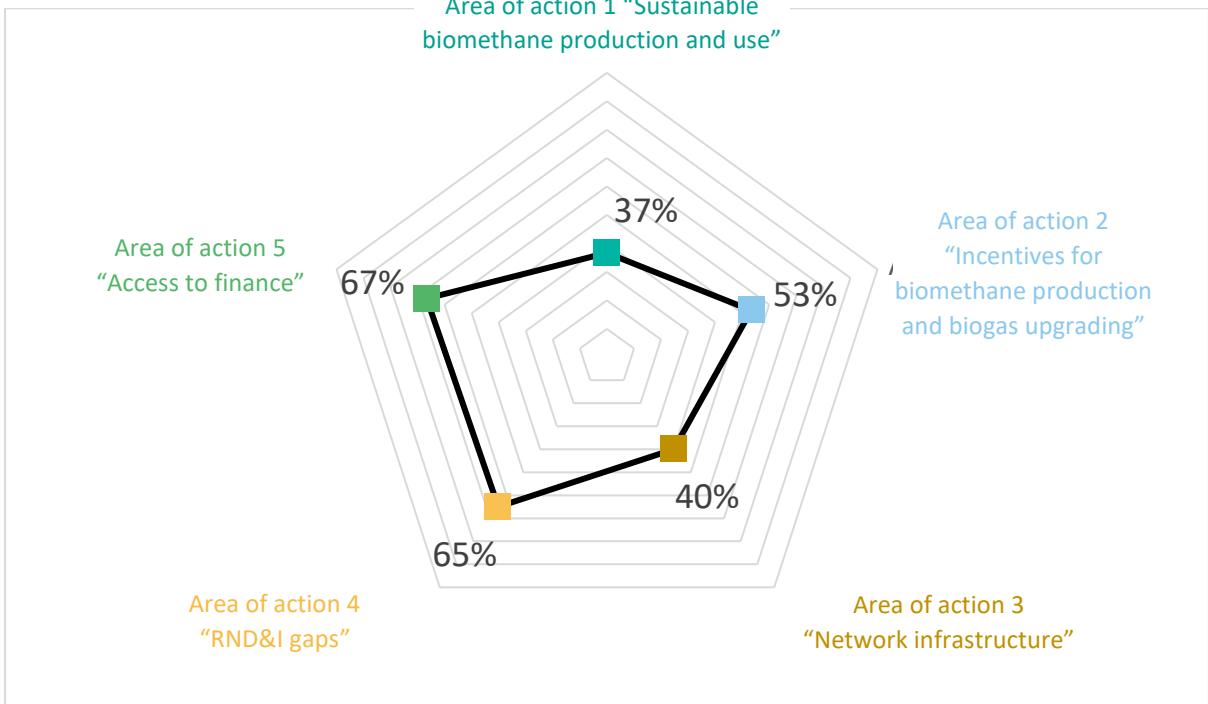


D7.3 Recommendations for EU and national decision makers

Ireland

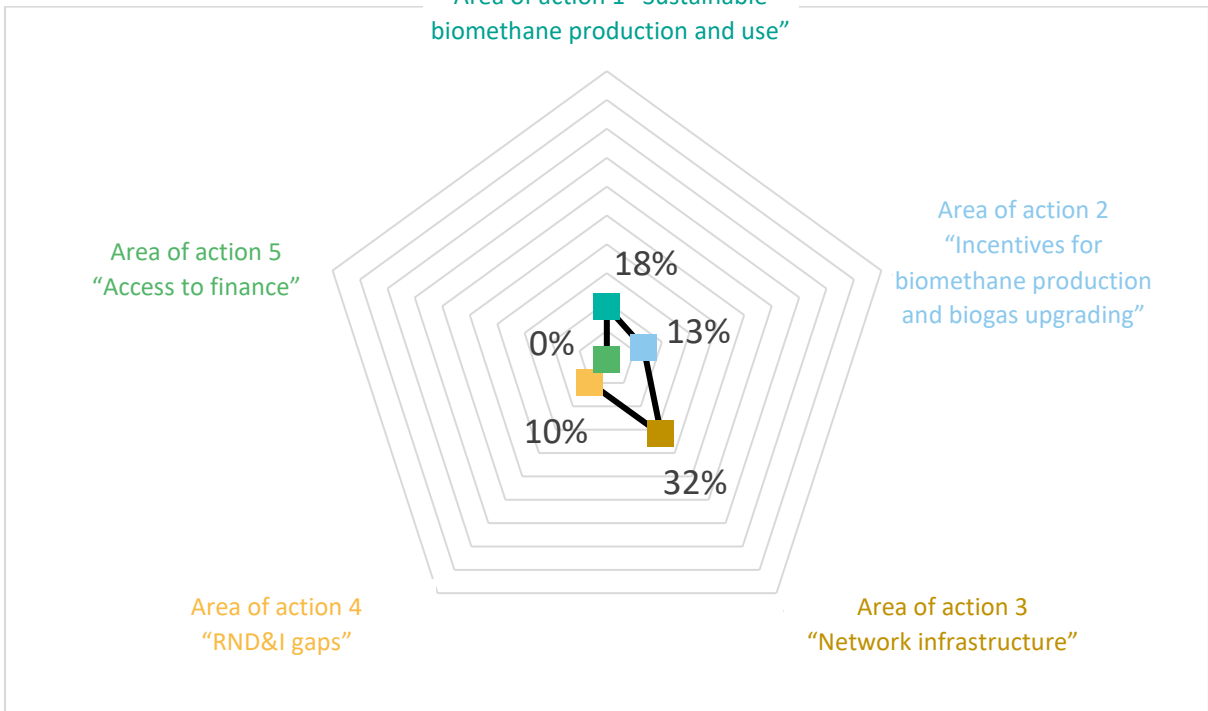


Italy

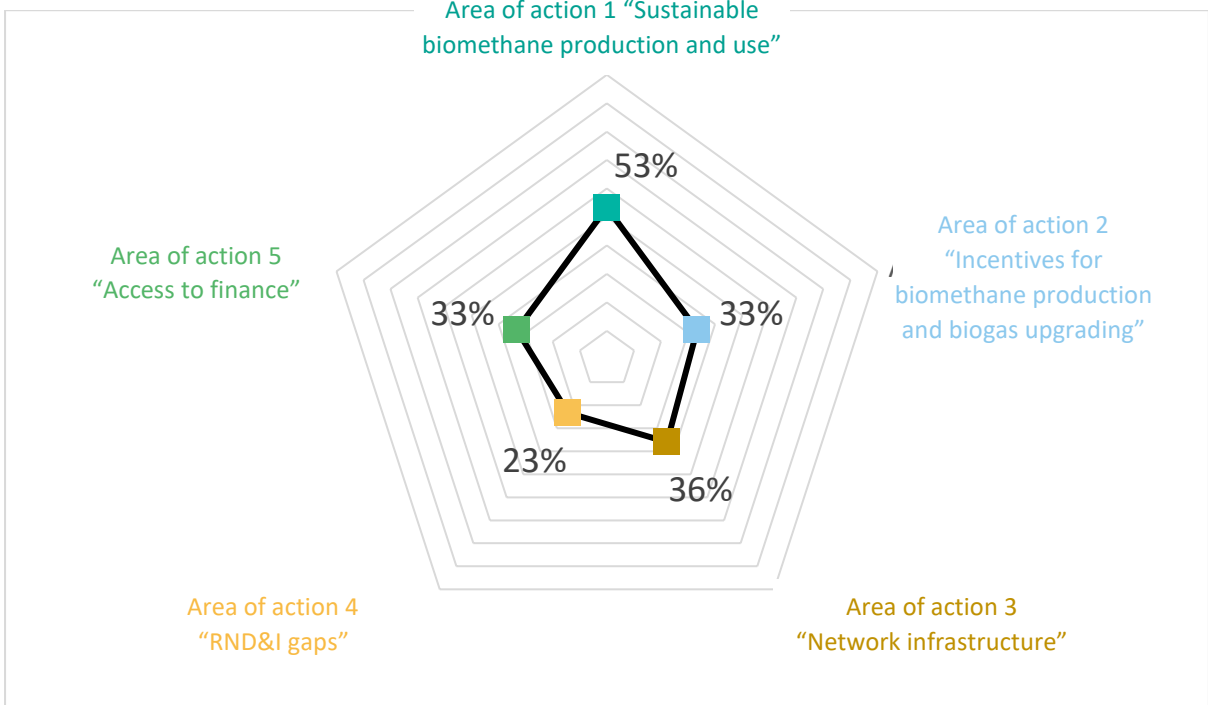


D7.3 Recommendations for EU and national decision makers

Latvia

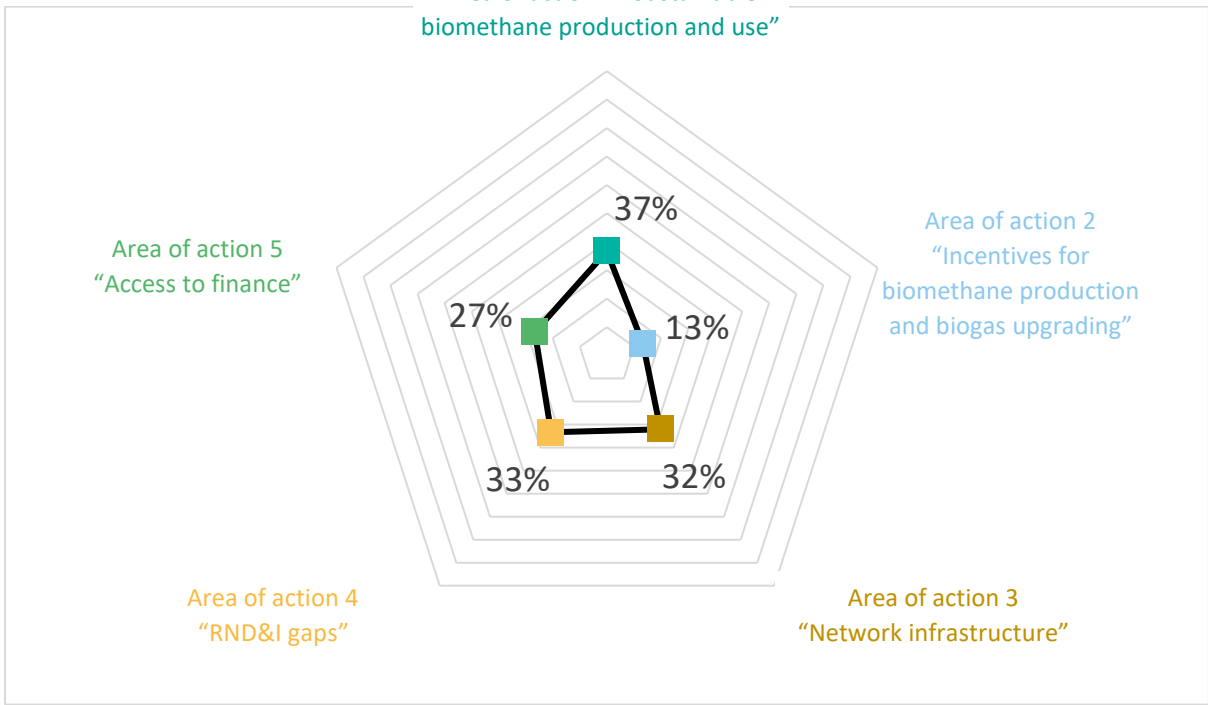


Lithuania

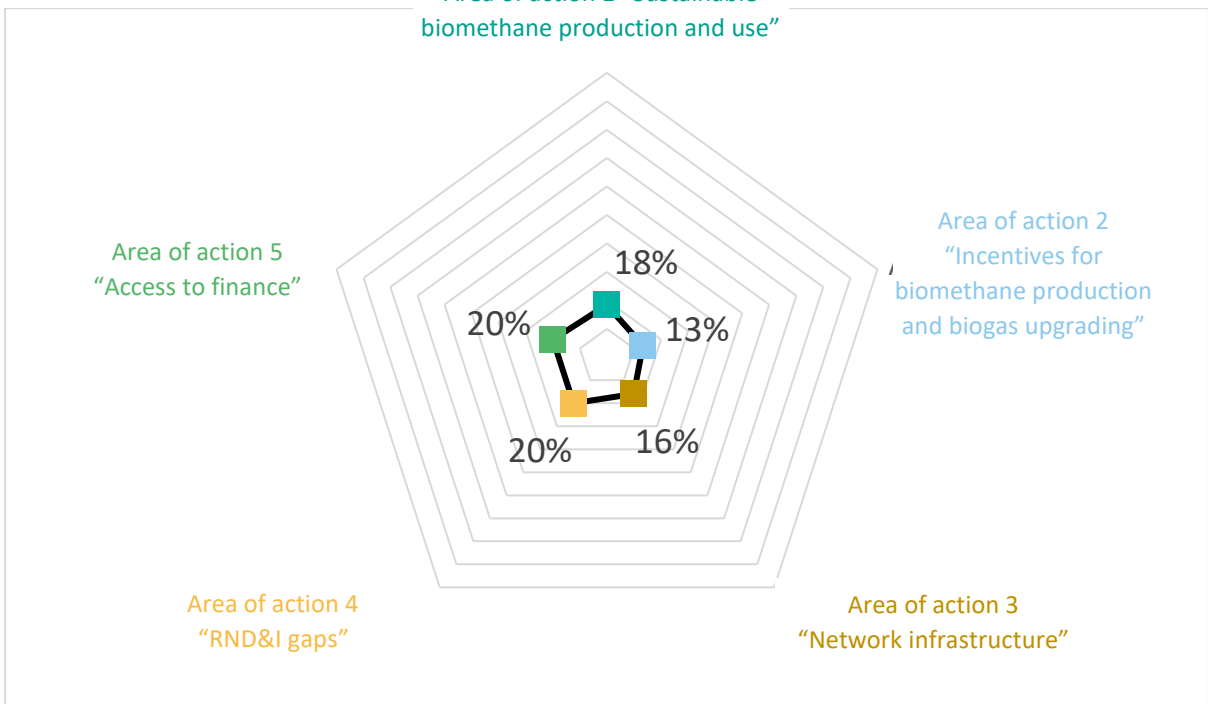


D7.3 Recommendations for EU and national decision makers

Poland

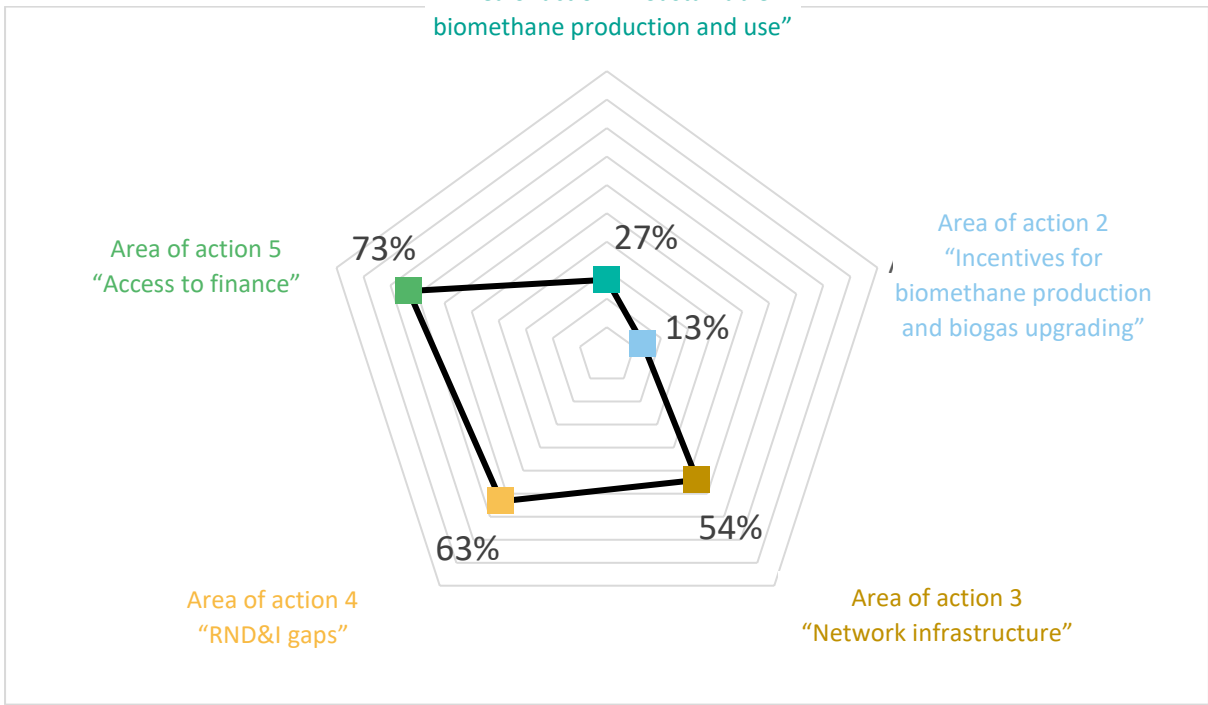


Slovenia



D7.3 Recommendations for EU and national decision makers

Spain



Ukraine

