

Policy design in EU's emergent markets: results from target country analysis in GreenMeUp

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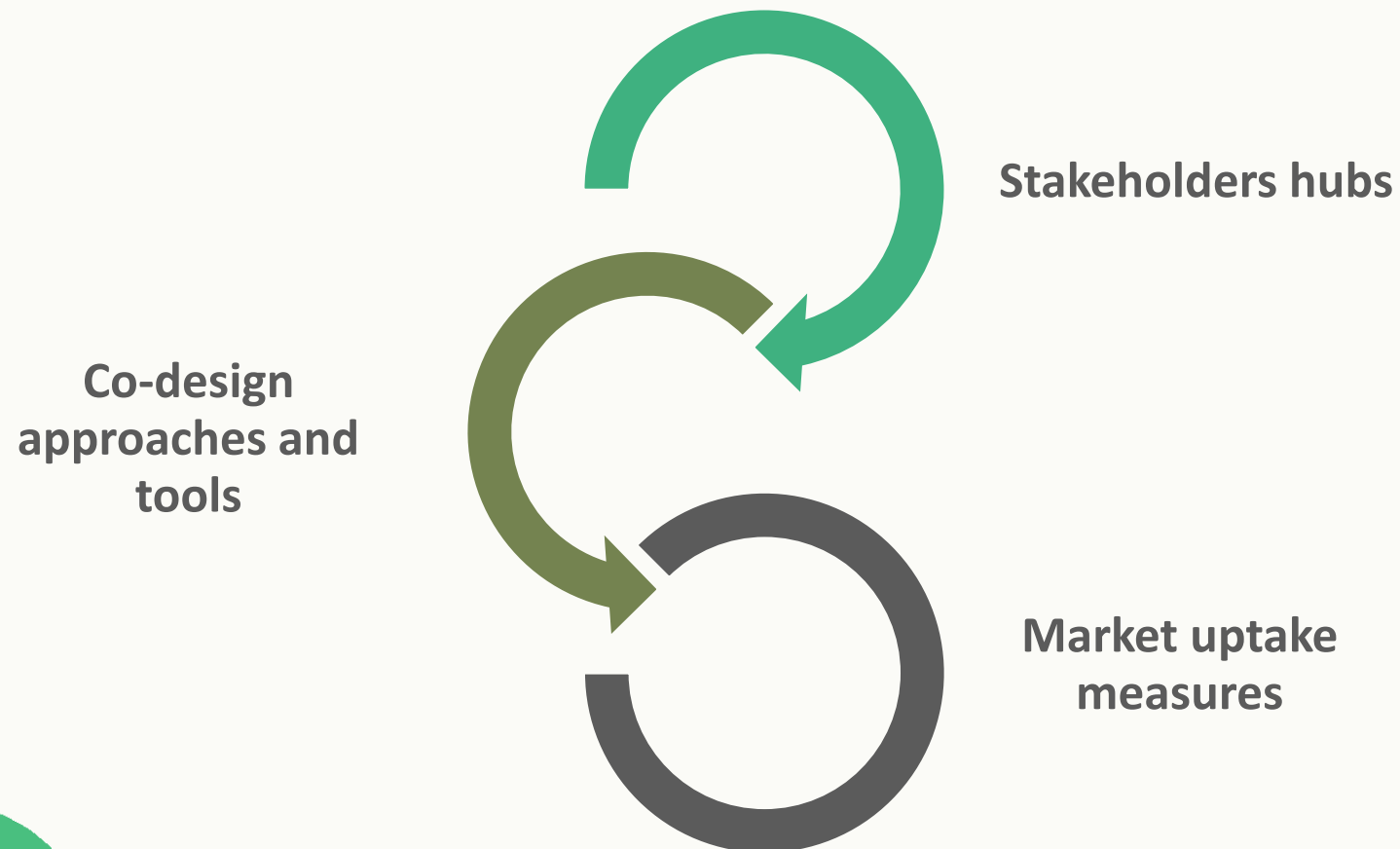
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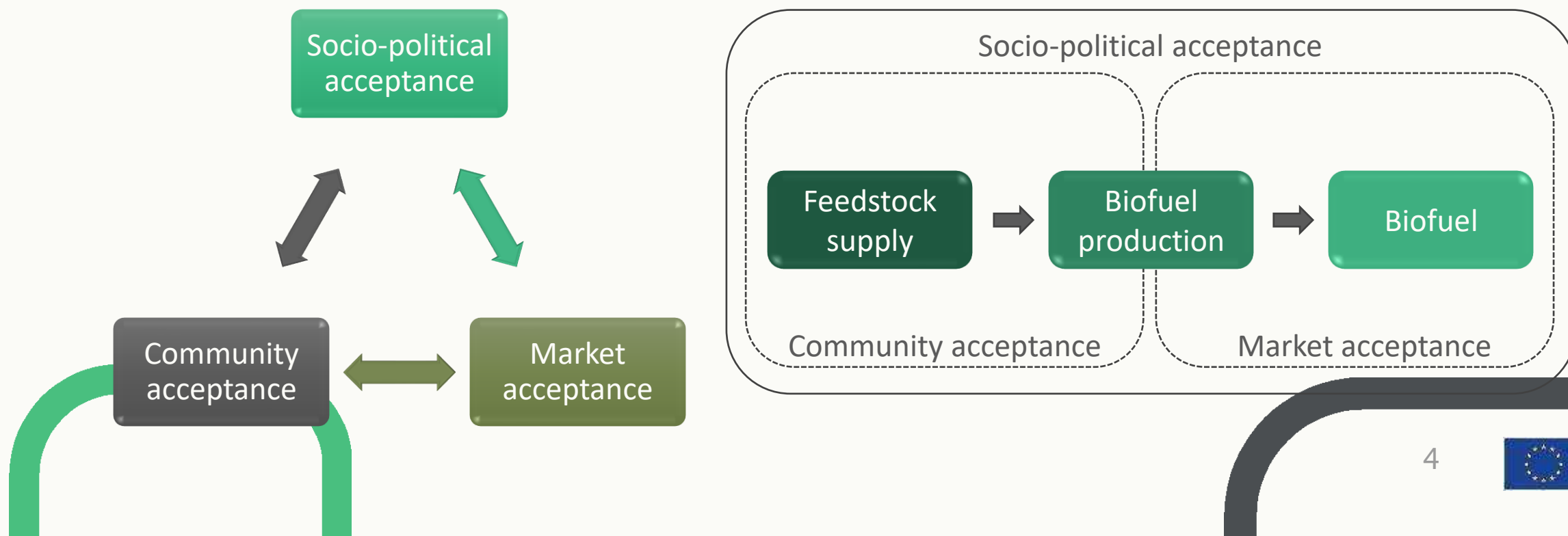
Objectives



**Explore social perspectives on
different societal dimensions**

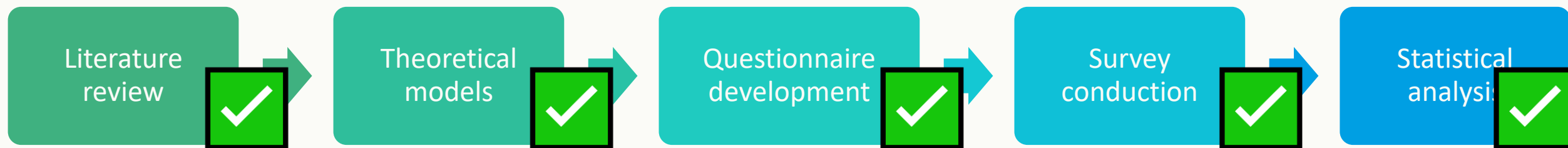
Objectives

- Explore social perspectives on **different societal dimensions**, namely the socio-political, the community, and the market, in all target countries.
- Discover stakeholders' different interpretations and social perspectives on bioCH₄ for energy and transportation purposes, as well as their **determinants**.
- Enable the **development of policies** targeted on the market uptake of bioCH₄, and the creation of tools addressing **citizen misconception issues**.



Methodology

Citizen survey



Survey information

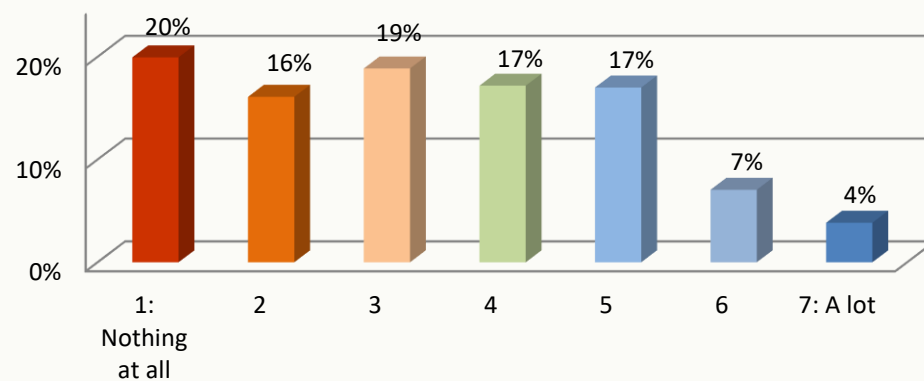
- 11 countries
- Representative and random sample
- 200 questionnaires per country (approx. 2200 in total)
- Approx. 60 questions
- Survey conduction Dec 2024
- Collaboration with surveying company (Metron Analysis)

Survey contents

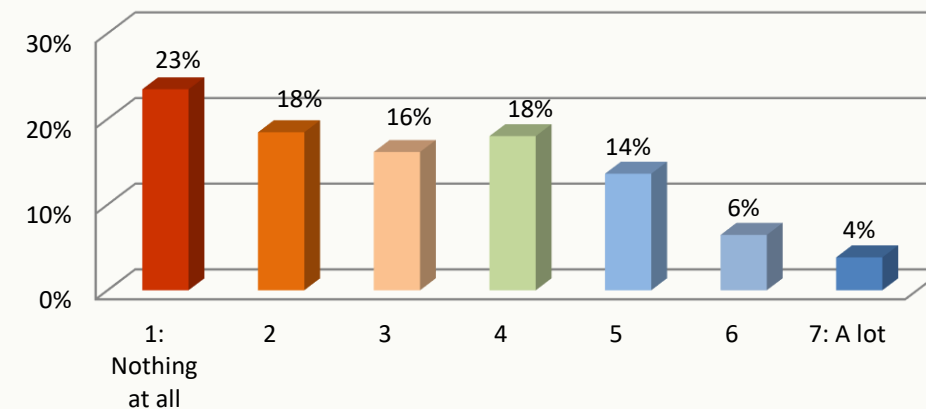
- A. Socioeconomic characteristics
- B. Residence characteristics
- C. Knowledge & awareness
- Information Box
- D. Market acceptance
- E. Sociopolitical & community acceptance

Survey results - awareness

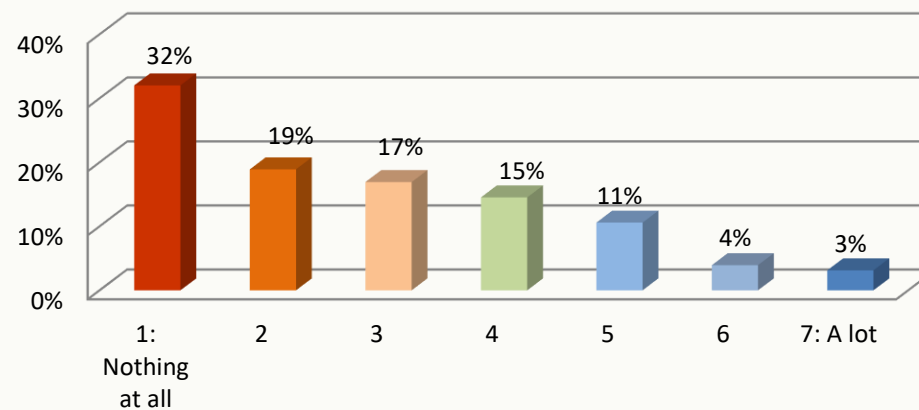
How much do you know about biofuels?



How much do you know about biogas?

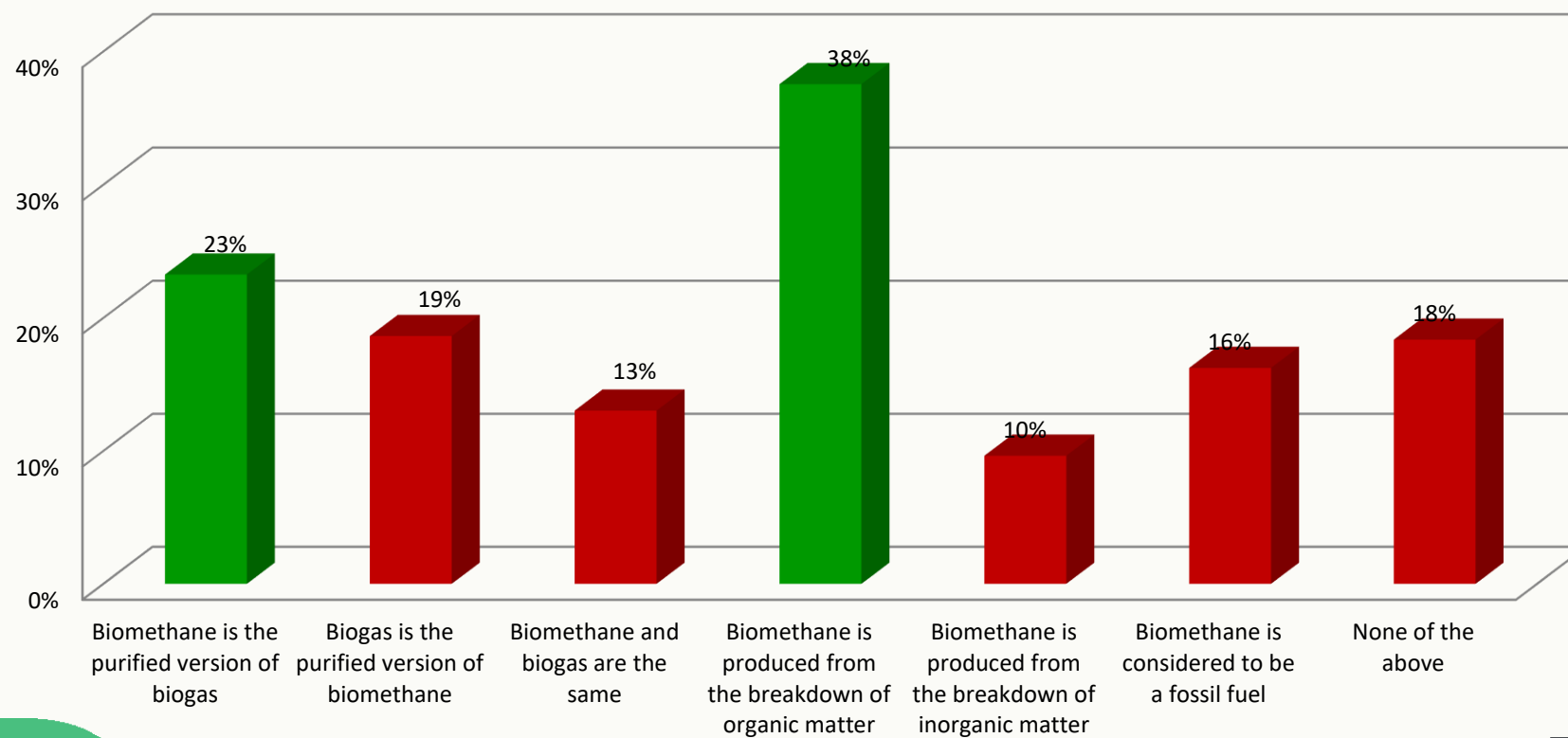


How much do you know about biomethane?



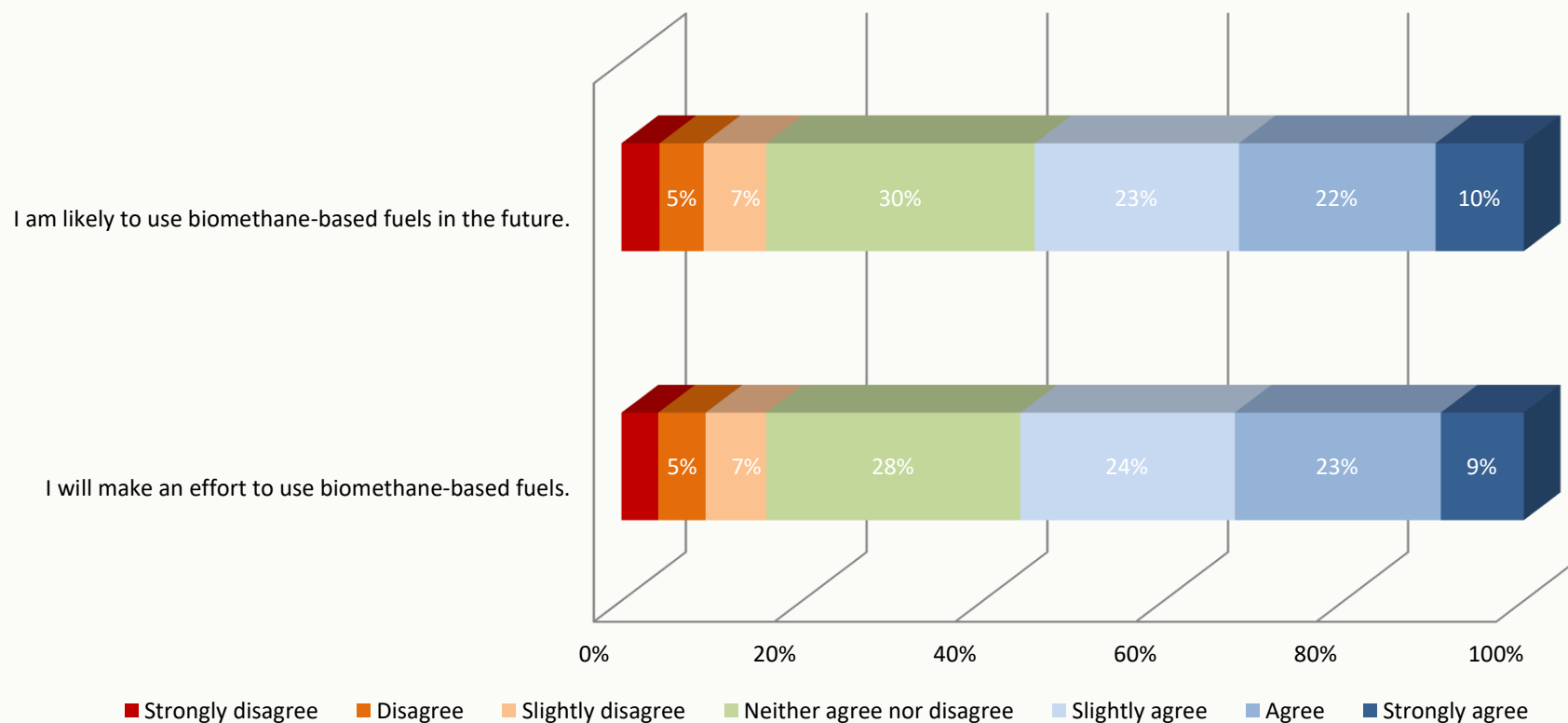
Survey results - awareness

Misconceptions about biogas and biomethane



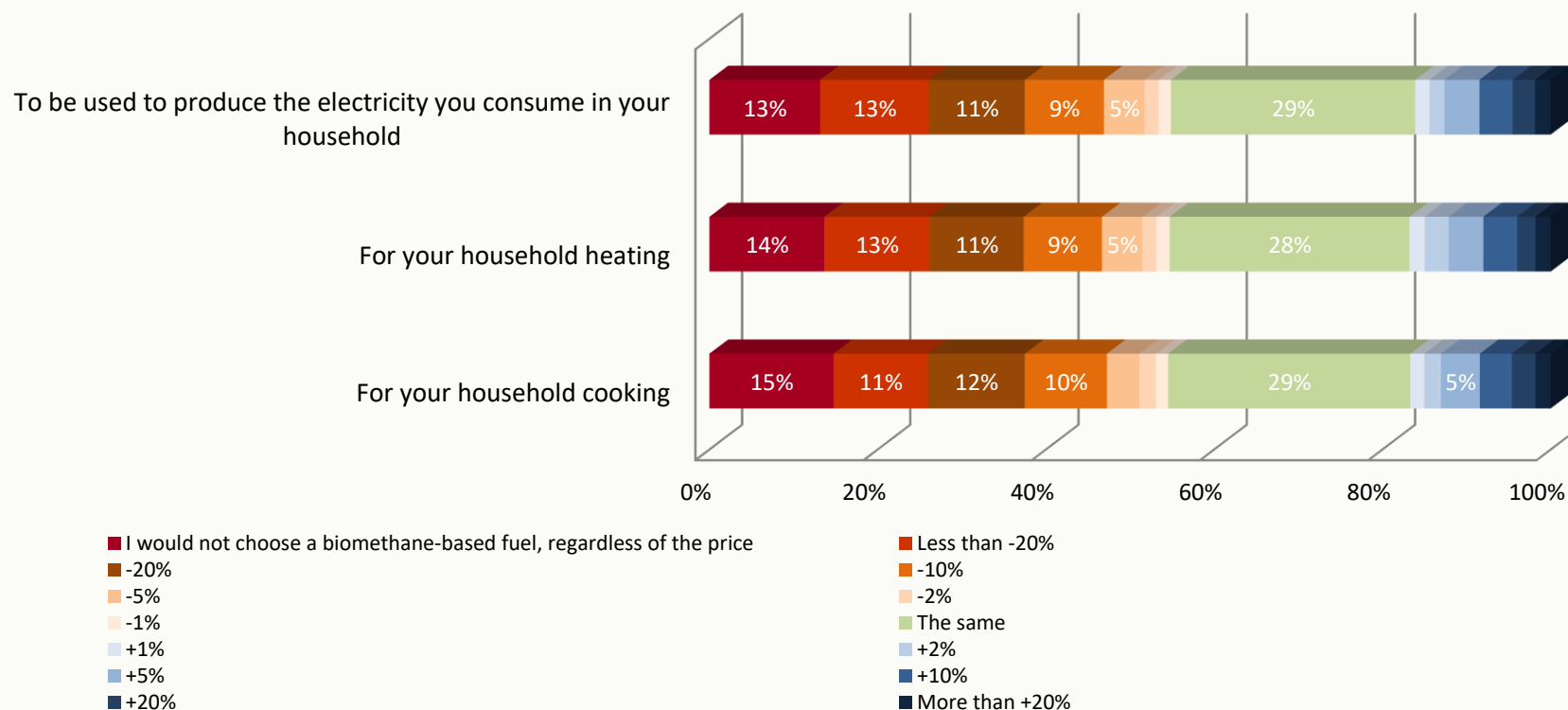
Survey results – market acceptance

Intentions to use biomethane-based fuels



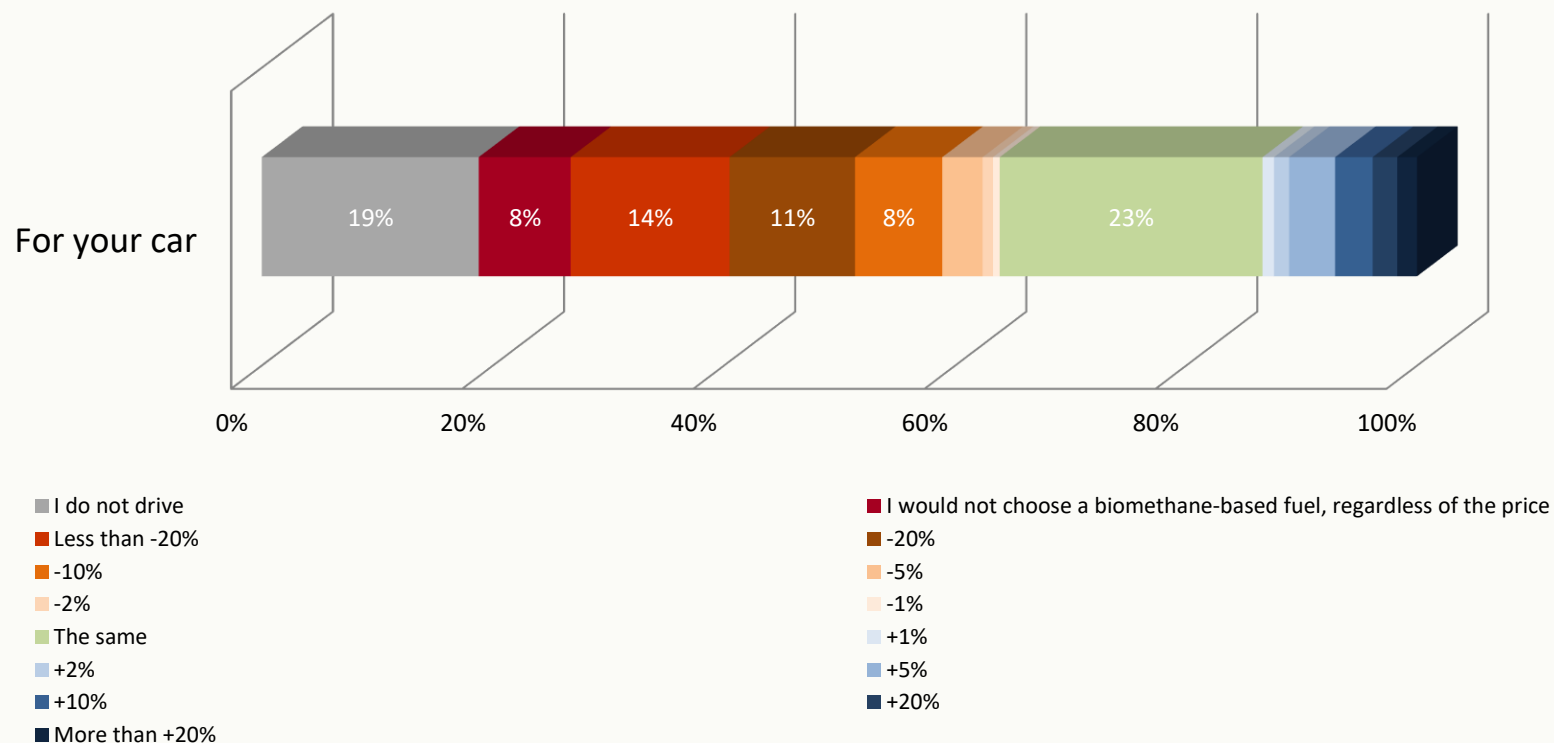
Survey results – market acceptance

How much would you be willing to pay for a biomethane-based fuel, compared to conventional fuels?



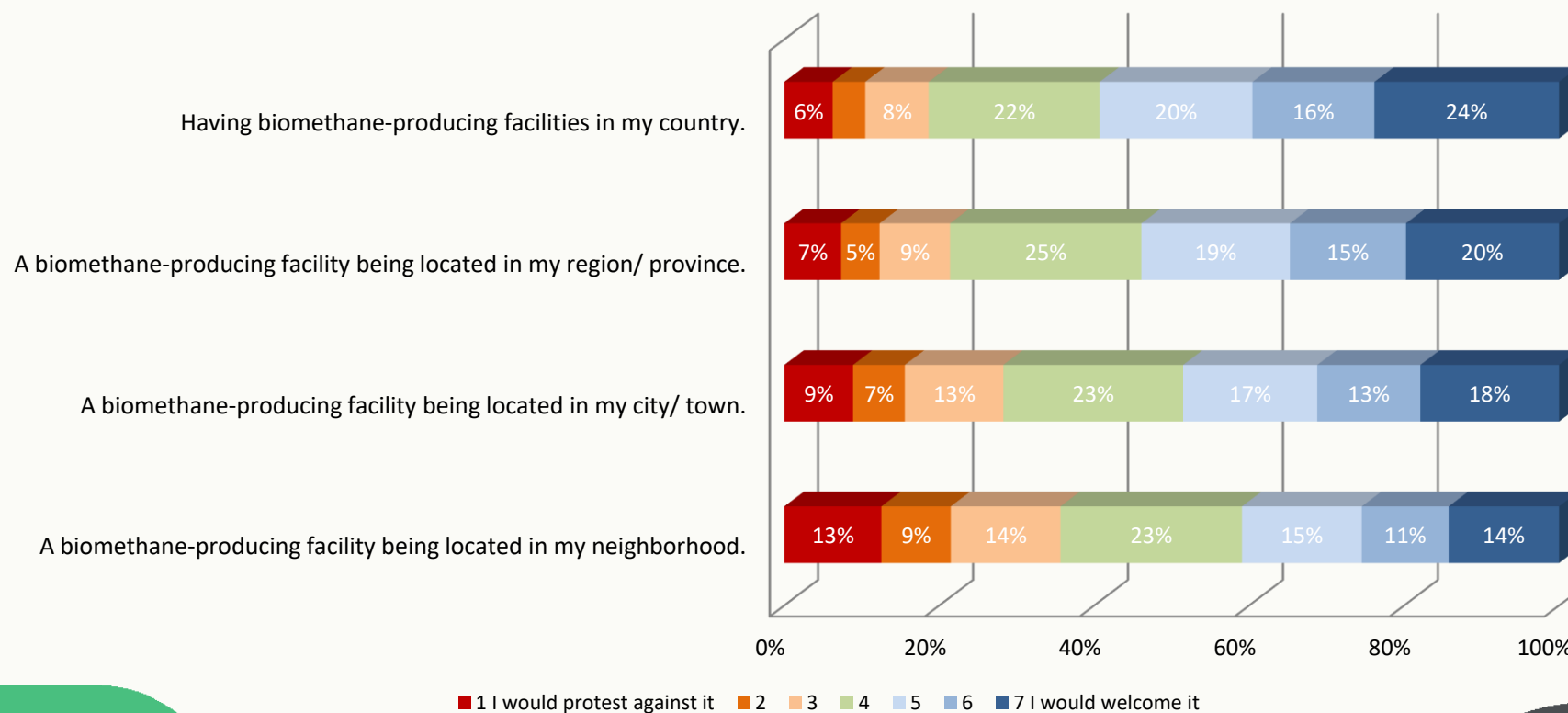
Survey results – market acceptance

How much would you be willing to pay for a biomethane-based fuel, compared to conventional fuels?



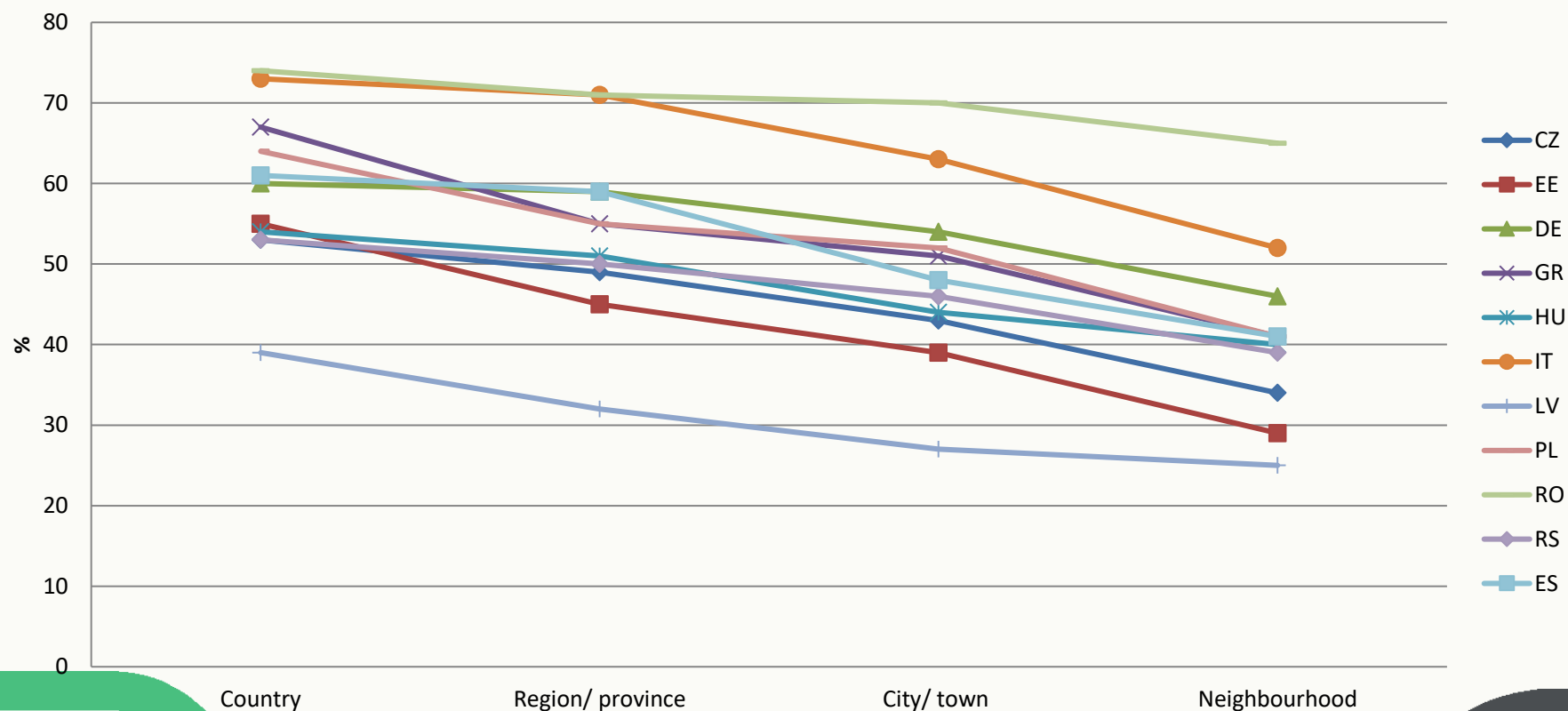
Survey results – sociopolitical & community acceptance

Perceived attitudes toward biomethane-producing facilities



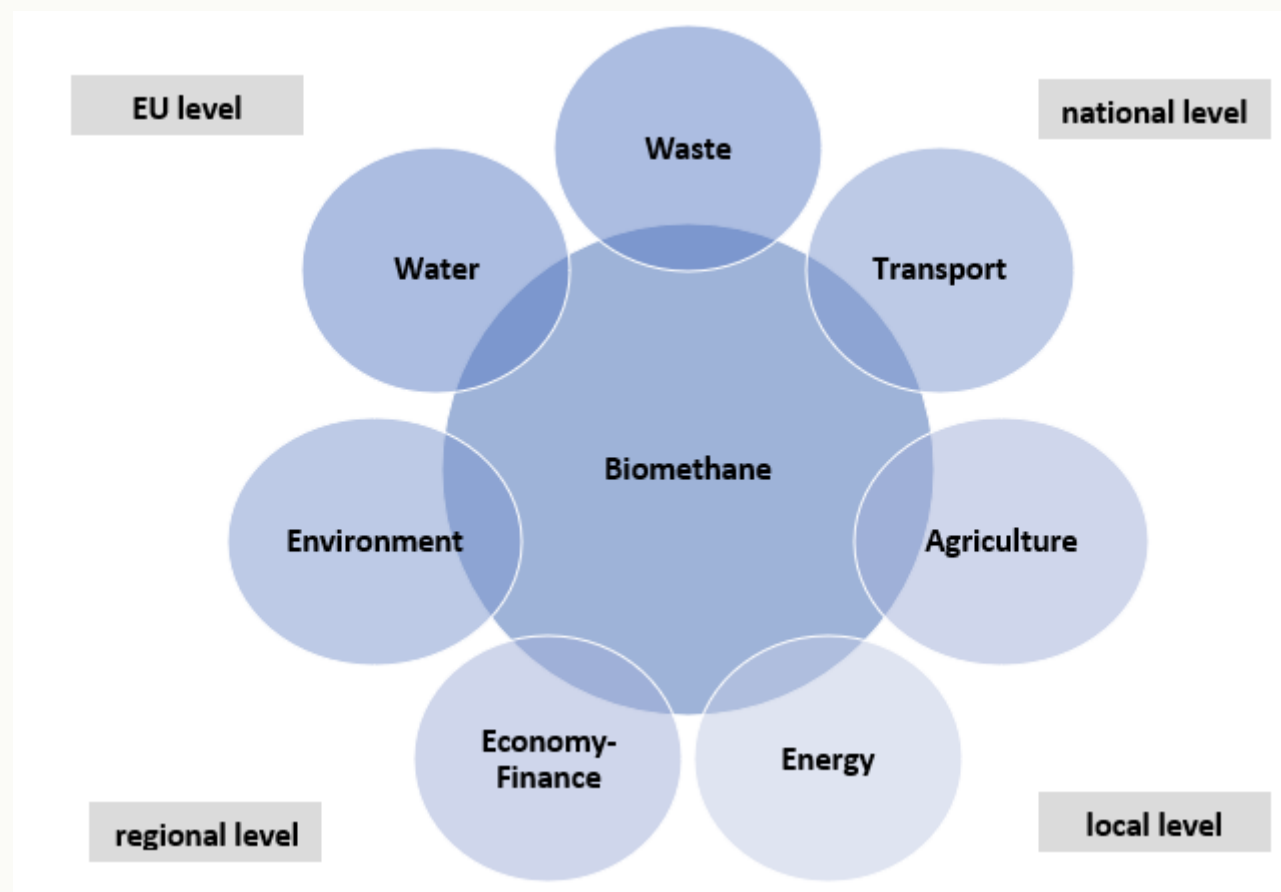
Survey results – sociopolitical & community acceptance

Perceived attitudes: Positive attitudes per level of spatial proximity



Cross-sectoral policy integration of biomethane

Cross-sectoral policy integration of biomethane



Main policy recommendations

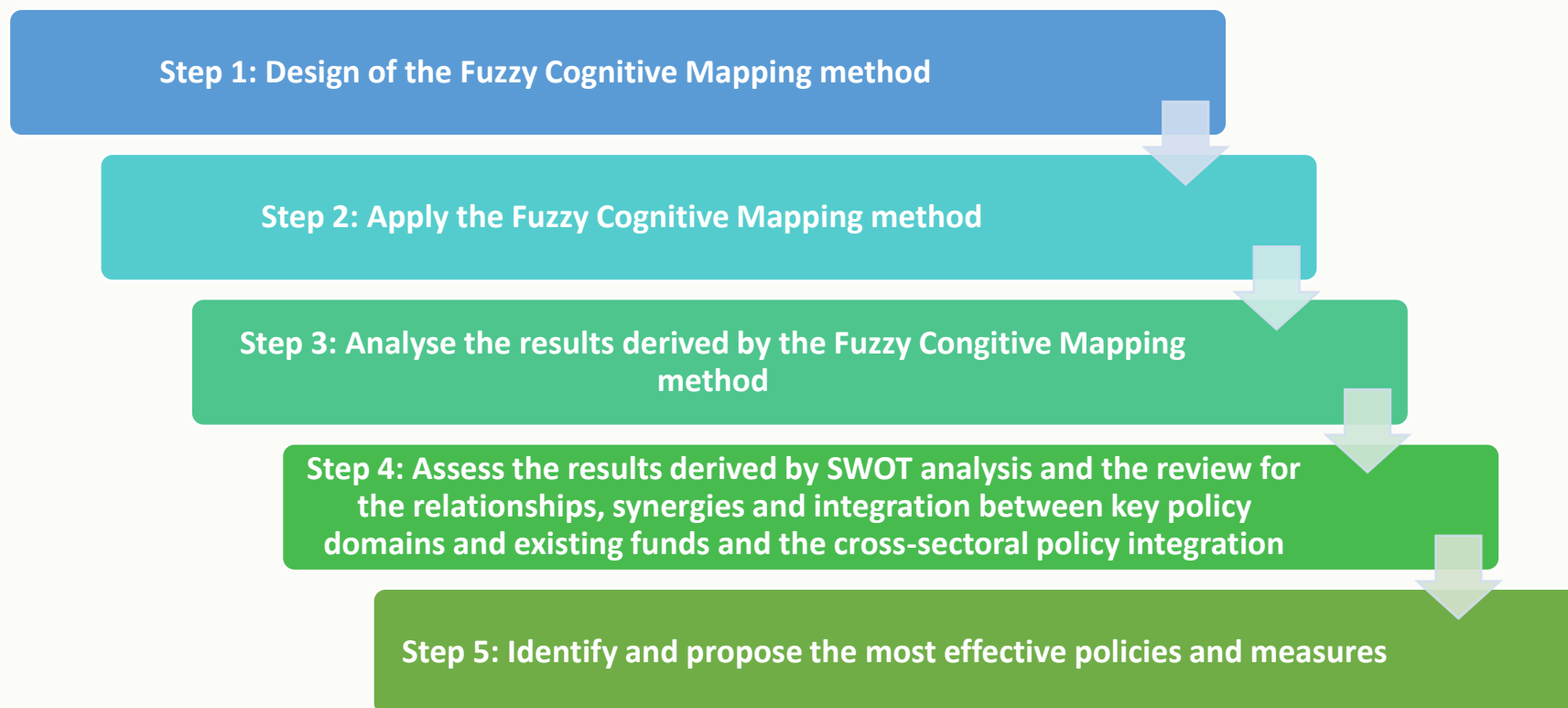
- Develop a **holistic framework for the quantification of the cross-sectoral impacts** (both triggered co-benefits and the adverse side effects) including all the identified negative and positive externalities.
- Adopt a **coherent biomethane strategy until 2050 at EU level** focusing on the maximization of the quantified cross-sectoral impacts.
- Prepare a **targeted biomethane action plan until 2030**, which will facilitate the achievement of the specified cross-sectoral targets.
- Establish a **centralized multi-level governance mechanism** for the implementation of the biomethane strategy
- Prioritize the **promotion of the circular economy** facilitating the integration of the different affected sectors
- Align the **GHG emission reduction targets with the sustainability targets of the EU taxonomy** based on the specified cross-sectoral targets.
- Enhance the **existing legislative framework of the Fit-For-55 package** so as to support the production of biomethane
- Expand the **legislative framework of the Fit-For-55 package** to include additional strategies and legislation
- Foster the **sector coupling with the adoption of mandatory quotas** to consume biomethane in specific sectors
- Incentivize the **utilization of biomethane in agriculture and transport sectors** under the Effort Sharing Regulation with appropriate crediting mechanisms.
- Highlight the crucial role of **biomethane as a methane mitigation measure** within EU Methane Strategy.
- Enhance **biomethane production incentives in Common Agricultural Policy (CAP)** to support the production of biogas from agricultural activities and waste-to-energy schemes.

Main policy recommendations

- Introduce a **comprehensive and cross-sectoral framework for the CO2 pricing**
- Allocate the **collected ETS revenues to support biomethane production** and to drive methane recovery from all sectors
- Standardize the framework both of the **Guarantee of Origin (GoO) issuance and the Proof of Sustainability (PoS) for biomethane** under the RED III framework in order to create a level playing field across sectors and member states
- Develop **common standards for the production and consumption of the biomethane across the EU** with similar requirements and specifications for the required activities.
- Foster **the cross-border and cross-sector cooperation** for grid integration and supply chains
- Reinforce and expand the role of **the Biomethane Industrial Partnership** so as to contribute meaningfully to the implementation of the biomethane action plan until 2030.
- Encourage **public-private partnerships for biomethane development**
- Engage **regional and local authorities** for the promotion of biomethane and the implementation of cross-sectoral measures.
- Conduct **awareness-raising campaigns and educational activities** on the best practices and the cross-sectoral impacts triggered
- Establish **citizen and renewable energy communities** in order to produce and consume local biomethane using the quantified cross-sectoral impacts

**Market uptake measures at national level for the
promotion of biomethane and biohydrogen (7
target countries)**

Methodological approach for the policies and measures to promote biomethane



68 stakeholders participated into the application of the Fuzzy Cognitive Mapping method identifying 323 concepts, which are related to the further penetration of biomethane

Proposed policies and measures in Greece

Policy measure No1 Assessing the feedstock potential

- Assess the sustainable feedstock potential
- Identify and incentivise the untapped feedstock potential
- Map the targeted feedstock potential

Policy measure No2 Raising awareness with capacity building activities

- Conduct capacity building activities to increase the existing level of knowledge
- Understand and disseminate economic, social and environmental benefits and risks
- Facilitate the technology transfer and provide trainings to the respective professionals

Policy measure No3 Establishing efficient permitting and spatial procedures

- Simplify and streamline the permitting procedures to reduce the length and the bureaucracy
- Conduct spatial gas grid planning based on the mapping of biomethane production potential

Policy measure No4 Introducing financial support measures

- Define and introduce financial support measures for the production of biomethane (e.g. indicatively subsidies, fiscal measures, CfDs etc.)

Policy measure No5 Adopting the regulatory framework for waste management

- Design and adopt a long-term regulatory and legal framework for the targeted exploitation of available wastes

Policy measure No6 Fostering the exploitation of the by-products

- Design targeted regulatory and economic measures for the exploitation of the available by-products
- Promote the use of digestate as soil fertilizer

Policy measure No7 Establishing the required supply chains

- Stimulate and support the development of a reliable and competitive equipment supply chain
- Provide training to the involved stakeholders to improve their skills and to ensure quality

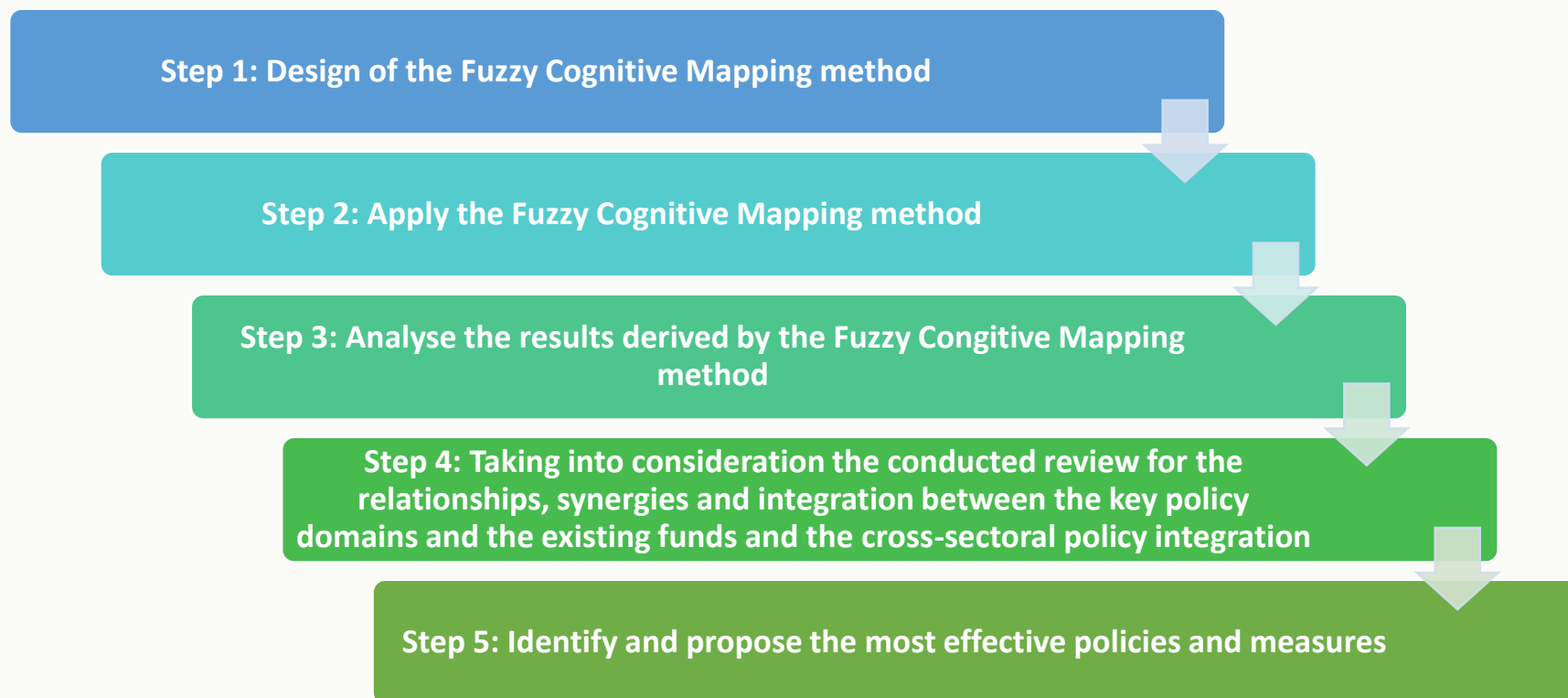
Policy measure No8 Drafting a strategy and adopting the required legislation

- Formulate a dedicated strategy for the further penetration of biomethane with specific targets and policies
- Adopt the required legislation for achieving the specified targets

Synopsis of the proposed policies and measures for the promotion of biomethane in the target countries

Proposed policy measure	Target countries
Introducing financial support measures	Czech Republic, Danube region, Estonia, Greece, Latvia, Poland, Spain
Drafting a roadmap with ambitious targets and adopting/improving the required legislation	Czech Republic, Danube region, Estonia, Greece, Latvia, Poland, Spain
Fostering the consumption side	Danube region, Estonia, Latvia, Poland, Spain
Assessing and exploiting the feedstock potential	Czech Republic, Danube region, Greece, Latvia, Poland
Promoting waste management and by-products	Estonia, Greece, Poland, Spain
Raising awareness with capacity building activities	Danube region, Estonia, Latvia
Promoting a common and holistic framework for cooperation and dialogue	Danube region, Spain
Ensuring political and regulatory stability	Czech Republic, Latvia
Establishing the required supply chains	Danube region, Greece
Developing the required infrastructure	Greece, Latvia
Establishing efficient permitting and spatial procedures	Greece
Reinforcing the implementation of public procurement procedures	Estonia
Decreasing the administrative complexity and bureaucracy	Czech Republic

Methodological approach for the policies and measures to promote biohydrogen



43 stakeholders participated into the application of the Fuzzy Cognitive Mapping method identifying 265 concepts, which are related to the further penetration of biohydrogen

Synopsis of the proposed policies and measures for the promotion of biohydrogen in the target countries

Proposed policy measure	Target countries
Introducing targeted financial support measures in order to implement projects for the production of biohydrogen	Czech Republic, Danube region, Estonia, Greece, Poland, Spain
Improving the social acceptance with the conduction of targeted awareness raising activities	Czech Republic, Danube region, Estonia, Greece, Poland
Fostering the consumption of biohydrogen	Czech Republic, Estonia, Greece, Poland
Adopting the legislative framework to address all the regulatory barriers for the production and consumption of biohydrogen	Czech Republic, Estonia, Greece, Spain
Assessing and exploiting the available feedstock potential for the production of biohydrogen	Danube region, Estonia, Greece
Ensuring the technological development and availability	Greece, Poland, Spain
Specifying ambitious targets for the promotion of biohydrogen	Czech Republic, Danube region
Designing pilot projects for the production and consumption of biohydrogen in order to acquire the required balance between supply and demand	Czech Republic, Estonia
Fostering the implementation of public/private partnerships for the production of biohydrogen	Danube region, Spain
Drafting a roadmap for the further production and consumption of H2 (including biohydrogen)	Estonia, Spain
Establishment of the supply chain for the collection of the required feedstocks to produce the biohydrogen	Danube region
Promoting the decentralised biohydrogen production systems	Greece
Exploiting the natural gas distribution network to facilitate the consumption of the biohydrogen	Poland

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Thank you!

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