

# THE HyEfRe NEWSLETTER

HYDROGEN INTEGRATION FOR EFFICIENT RENEWABLE ENERGY SYSTEMS



## ABOUT THE PROJECT:

Sector-coupling is a promising approach to replace fossil fuels with renewables. However, this idea of “electrifying” the entire economy requires the rollout of new technologies and rules. **The HyEfRe project helps with this by establishing green hydrogen ecosystems in eight regions.** The partners foster an investment-friendly environment for renewable energy and green hydrogen technologies. They evaluate hydrogen potentials with a new model and develop and test a new tool to calculate ideal parameters for technical plants. Their action plan for policy actors will reduce regulatory barriers impeding a timely expansion of renewables and green hydrogen.

## CONTENTS:

1. From analysis to investment: HyEfRe business models for hydrogen hubs
2. Implementation of a green hydrogen ecosystem in Central Europe: A stakeholder analysis
3. HyEfRe policy recommendations: a leaflet

**Interreg**  
CENTRAL EUROPE



Co-funded by  
the European Union

HyEfRe

START DATE: JUNE 2024

END DATE: NOVEMBER 2026

# From analysis to investment: HyEfRe business models for hydrogen hubs

*Over the past months, one of the most strategic outputs under HyEfRe project has been developed and has now been finalised - Business Models' List.*

The analytical development was led by WeEurope Srl SB, which structured the framework, methodology and content of the document. Project partners contributed during the initial design phase – helping define the analytical perimeter – and in the final review stage, ensuring coherence with national contexts and validation of the proposed configurations. The objective of this document is straightforward, but ambitious: to move the discussion on hydrogen from “technology potential” to “investment logic”.

In many Central European regions, hydrogen is no longer a purely visionary topic. Regulatory frameworks are evolving, national strategies are in place, public funding instruments are active and industrial players are beginning to position themselves. Yet, one structural question remains unresolved in most territories: what is the right business model to make hydrogen viable in this specific context?

HyEfRe *Business Models' List* does not offer a one-size-fits-all answer. Instead, it identifies **five recurring and structurally coherent business model archetypes for hydrogen hubs**, derived from case analysis across Central Europe and beyond.

The first is the **Industrial Decarbonisation Anchor Model**, where a large industrial offtaker – such as a refinery, steel plant or chemical cluster – acts as the demand backbone of the ecosystem. In this configuration, hydrogen replaces grey inputs or fossil fuels in hard-to-abate processes and long-term offtake agreements provide the revenue stability required to unlock production and infrastructure investments. This model is particularly relevant in contexts where carbon pricing, CBAM exposure and industrial transition pressures are strong.

*The objective of this document is straightforward, but ambitious: to move the discussion on hydrogen from “technology potential” to “investment logic”.*



*Hydrogen deployment in Central Europe will not depend solely on technology maturity. It will depend on whether projects are structured in a way that aligns demand, infrastructure, regulation and finance in a coherent ecosystem logic. HyEfRe Business Models' List contributes precisely at this level.*

A second configuration is the **Integrated Port and Logistics Hub Model**. Here, hydrogen is embedded within a port or logistics ecosystem, combining production, storage, bunkering, heavy-duty mobility and industrial uses. Ports become multi-vector energy nodes, where infrastructure synergies and high demand density improve utilisation rates and reduce fragmentation risk.

**The Transnational Corridor and Backbone Model** shifts the focus towards infrastructure development. In this case, hydrogen hubs are conceived as nodes within a wider network logic – pipelines, storage, cross-border transport and backbone connections. Revenues increasingly resemble regulated network structures, and regulatory alignment becomes central to bankability.

**The Captive Mobility Fleet Hub Model** represents a more contained and often public-driven configuration. Hydrogen demand is seeded through buses, municipal fleets or logistics vehicles operating under predictable contracts: this reduces early utilisation risk compared to purely merchant refuelling models and allows gradual scaling of production and refuelling infrastructure.

Finally, the **Decentralised Supply and System Service Hub Model** is more closely linked to renewable integration and energy system flexibility. In this configuration, hydrogen production is distributed and connected to renewable generation, storage and balancing services. The value proposition goes beyond molecule sales and includes flexibility, sector coupling and system optimisation.

What makes the report relevant is not simply the identification of these five models, but the analytical structure that underpins them.

Each configuration is assessed through a matrix that considers:

- the initiative driver (demand-side, supply-side or territorial),
- the end-use application,
- the financing structure (public, private or hybrid/PPP),
- the production pathway and energy source,
- and exposure to cost drivers such as electricity prices and LCOH dynamics.

This is complemented by structured SWOT analyses and by an implementation roadmap integrating business planning logic with Cost-Benefit Analysis (CBA), Multi-Criteria Analysis (MCA) and Life Cycle Assessment (LCA). The intention is not theoretical completeness, but practical orientation. The document therefore serves as a positioning tool for different stakeholder categories. Municipalities can assess whether a mobility-driven model is realistic given fleet density and fiscal capacity. Industrial players can evaluate whether they are strong enough to act as anchor offtakers. Infrastructure operators can understand when a backbone logic becomes viable. Investors can better interpret risk allocation and revenue stability patterns across configurations.

Hydrogen deployment in Central Europe will not depend solely on technology maturity. It will depend on whether projects are structured in a way that aligns demand, infrastructure, regulation and finance in a coherent ecosystem logic. Therefore, *HyEfRe Business Models' List* contributes precisely at this level: it provides structured coordinates for choosing not just whether to invest in hydrogen, but how to structure that investment in a way that is economically viable, territorially coherent and scalable over time.”

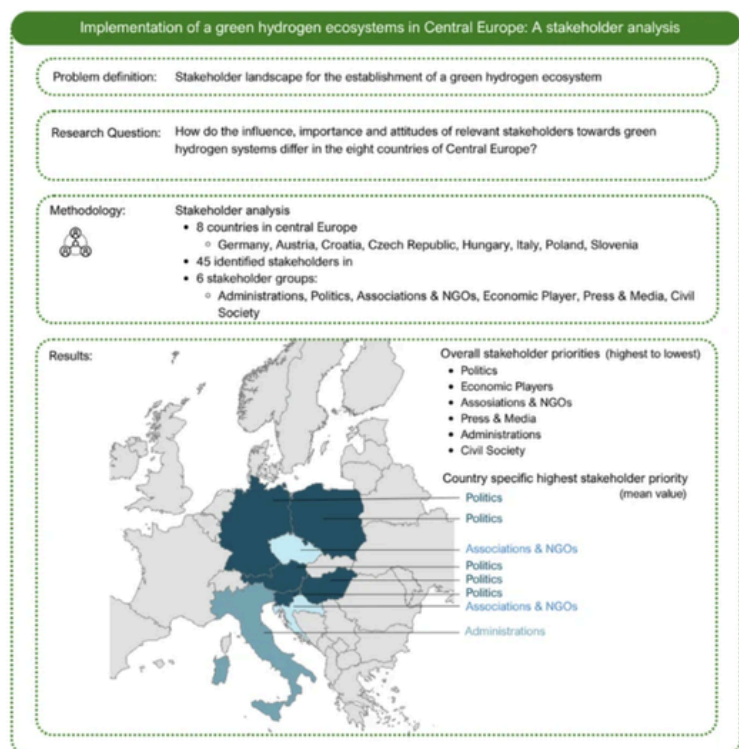
You can read the document [here](#).

# Implementation of a green hydrogen ecosystem in Central Europe: A stakeholder analysis

*The recent study, supported by activities of HyEfRe project, “Implementation of a Green Hydrogen Ecosystem in Central Europe: A Stakeholder Analysis” examines how a green hydrogen economy could be developed across eight Central European countries, highlighting the roles, interests and influence of diverse stakeholders in shaping this pivotal energy transition.*

Drawing on a systematic stakeholder mapping researchers identify 45 key actors—including political institutions, energy suppliers and industrial firms—and analyse their perceived importance, influence and attitudes toward hydrogen ecosystem deployment. The analysis reveals notable country-specific differences and common patterns, such as the strong influence of policymakers and major economic players, alongside ambivalent positions from fossil energy actors, underscoring potential governance challenges and opportunities for tailored strategies. With green hydrogen seen as vital for decarbonising hard-to-abate sectors, these insights aim to inform more effective participation strategies and policy design to accelerate the region’s climate transition.

You can read the [publication here](#).



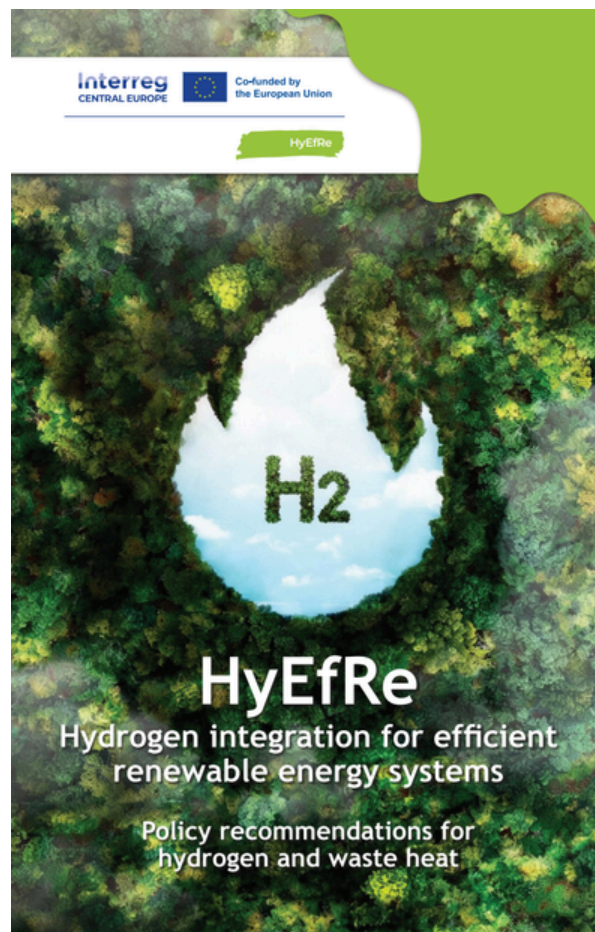
## HyEfRe policy recommendations: a leaflet

*Designing frameworks that both enable renewable hydrogen technologies while also supporting the use of the associated waste heat is crucial for maximising energy system efficiency and achieving the climate and energy goals of the European Union.*

In this context, HyEfRe has developed a leaflet based on a previously prepared document, presenting a set of collaboratively formulated policy recommendations to enhance national and local framework conditions for renewable hydrogen and waste heat use. These recommendations draw on assessment findings, stakeholder feedback, and expert insights.

The recommendations, compiled in a short leaflet to be shared across relevant networks and stakeholder groups, aim to reduce regulatory barriers, support effective hydrogen deployment, and align national and regional frameworks with EU goals. They serve as a practical guide for policymakers to advance renewable hydrogen and fully utilise waste heat.

Find our leaflet [here](#).



# JOIN US!

Discover more about our initiatives and updates on HyEfRe webpage and social networks

Like and Follow us on:



[www.facebook.com/HyEfReCE](http://www.facebook.com/HyEfReCE)



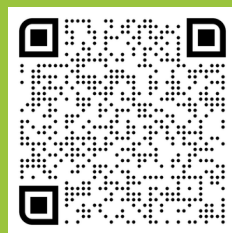
[www.linkedin.com/company/hyefre/](http://www.linkedin.com/company/hyefre/)



[x.com/HyEfReCE](https://x.com/HyEfReCE)



[www.interreg-central.eu/projects/hyefre/](http://www.interreg-central.eu/projects/hyefre/)



**Interreg**  
CENTRAL EUROPE



Co-funded by  
the European Union

HyEfRe