

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.

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HyEfRe report: Policy recommendations for green hydrogen and waste heat uptake

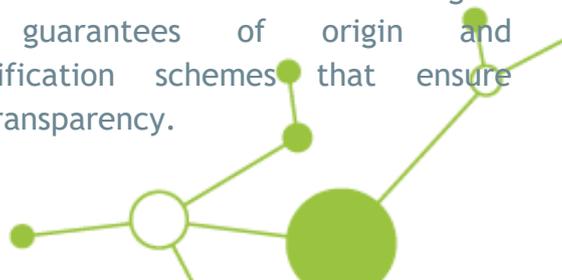
HyEfRe report on Policy recommendations shows how Central Europe can speed up the use of renewable hydrogen and waste heat.

The HyEfRe report brings together national and regional policy recommendations to accelerate the deployment of renewable hydrogen and the utilisation of associated waste heat across Central Europe and at EU level.

Every electrolyser produces large amounts of low-temperature heat; if this is recovered and fed into district heating or nearby industry, it replaces fossil fuels and improves overall system efficiency. The report argues that policy and regulation should therefore never look at hydrogen without also asking what happens to the heat it generates. Legal frameworks need to support both technologies in parallel: faster permitting for electrolysers and hydrogen infrastructure, clear definitions of renewable and low-carbon hydrogen, and concrete rules for how waste heat can be mapped, valued and connected to heat networks.

National chapters for Austria, Croatia, Czech Republic, Germany, Hungary, Poland, Slovenia and Italy translate this logic into concrete, time-phased measures for “now”, 2030 and 2040. Across countries, common short-term priorities include speeding up permitting for electrolysers and hydrogen infrastructure, clarifying definitions of renewable and low-carbon hydrogen, and reducing regulatory fragmentation across energy, transport, industrial and construction legislation. Many partners call for one-stop shops, statutory permitting deadlines and simplified procedures or exemptions for low-impact projects, in order to reduce investor uncertainty and shorten project lead times. At the same time, several countries stress the urgent need to establish guarantees of origin and RFNBO-compatible certification schemes that ensure traceability and market transparency.

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Looking toward 2030, the national recommendations converge on three main hydrogen priorities: (1) scaling electrolyser capacity with realistic sector-specific targets; (2) building first-generation hydrogen transport and storage infrastructure, often by repurposing existing gas networks and integrating into the emerging European Hydrogen Backbone; and (3) creating demand in hard-to-abate sectors like steel, chemicals, and heavy transport through targeted incentives and public procurement.

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On waste heat, the report identifies a striking gap between its technical potential and current policy frameworks. In many partner countries, waste heat is only weakly recognised in legislation, with no binding targets, limited mapping of sources and few standardised procedures for connecting waste heat to district heating networks. The recommendations call for a foundational step: legally recognise waste heat as an energy resource, define data-sharing obligations for large emitters and data centres, and launch systematic national or regional mapping campaigns that quantify technical and economic potential, including temperature levels and proximity to consumers. This evidence base should feed into municipal heat planning, national energy and climate plans, and future revisions of heating and cooling strategies..

Economic instruments are another recurrent theme. The report proposes grants, tax incentives, feed-in tariffs and tariff reforms to support investments in industrial heat recovery, modern low-temperature district heating and hybrid solutions that combine waste heat with heat pumps and thermal storage. Some partners recommend mandating waste heat recovery for high-output facilities where it is technically and economically feasible, or introducing “priority use” rules that require significant waste heat to be offered to district heating networks under regulated conditions. By 2040, the ambition is that industrial and urban waste heat will be fully valorised, with mature regulatory frameworks, standardised pricing, MRV systems and waste heat fully embedded in local and national energy strategies.



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Policy recommendations for Central Europe

National energy systems, regulations, and markets vary across Central Europe, but common challenges persist in renewable hydrogen deployment and waste heat utilization. These region-wide policy recommendations—drawn from stakeholder consultations, expert input, and regulatory analysis— address shared issues by providing guidance to policymakers on how to strengthen regional cooperation and create an enabling environment for a sustainable energy transition. Recommendations are designed to be applicable across the entire region while also addressing specific national contexts where relevant.

Hydrogen policy recommendations

Streamlined permitting & regulatory clarity

- Accelerate permitting procedures for hydrogen projects.
- Introduce one-stop shops and statutory deadlines to reduce bureaucratic delays.
- Harmonize national laws and sectoral regulations (energy, transport, industrial, construction) with EU directives (RED III, AFIR, FuelEU).

Clear definition & certification

- Develop certification schemes, including Guarantees of Origin and RFNBO recognition.
- Align national definitions with EU standards to ensure cross-border trade and market transparency.

Infrastructure development

- Build national and regional hydrogen production, storage, and distribution infrastructure.
- Plan hydrogen hubs and TEN-T aligned refuelling networks.
- Integrate with the European Hydrogen Backbone.

Financial incentives & investment security

- Introduce further CAPEX/OPEX grants, tax incentives and subsidies to reduce investment risk.
- Provide long-term funding schemes to ensure sustainable development and market uptake.
- Support end-users to stimulate demand.

Market development & demand creation

- Promote hydrogen use in hard-to-abate sectors (steel, chemicals, refining, transport).
- Encourage public procurement, fleet transformation, and regional “Hydrogen Valleys”/clusters.
- Introduce blending quotas in gas networks and mandates for industrial use.

Capacity building & R&D

- Develop training programs and workforce for hydrogen technologies.
- Support integrated projects linking hydrogen production with real users.
- Promote local manufacturing of electrolyzers.

Long-term strategic planning

- Publish 20-30 year plans linking hydrogen production to electricity/gas networks.
- Ensure domestic production capacity meets national demand.
- Foster cross-border cooperation and regional market integration.

Figure 1

Waste heat policy recommendations

Legal recognition & framework

- Recognize waste heat as a usable energy resource.
- Establish comprehensive national laws and regulations for mapping, reporting, and integration.

Mapping & assessment

- Conduct national/industry-wide surveys to quantify technical and economic potential of waste heat.
- Create databases for sources, temperature, seasonality, and proximity to consumers and district heating networks.

Economic incentives & market support

- Provide grants, subsidies, feed-in tariffs, tax reductions, or fiscal incentives for recovery projects.
- Encourage co-location of industrial waste heat with hydrogen production and district heating.
- Facilitate public-private partnerships to kick-start pilot projects.

Integration with district heating & energy systems

- Promote use of waste heat in district heating networks, renewable-based heating systems and seasonal storage.
- Encourage hybrid solutions combining heat pumps, thermal storage and renewable energy.
- Introduce priority use rules or mandatory recovery where technically feasible.

Monitoring, reporting & verification

- Implement standard methodologies to track recovery, efficiency, and emissions savings.
- Establish public registries for industrial and urban waste heat availability.
- Integrate waste heat metrics into national energy plans and climate targets.



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