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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END DATE: NOVEMBER 2026

1. Hydrogen & waste heat: Exploring regulatory landscape across EU

HyEfRe report - Policy and Legal Framework Assessment - explores how EU and national regulations are shaping the development of hydrogen and waste heat, highlighting where regulatory progress is being made and where challenges remain.

The regulatory landscape for hydrogen and waste heat has been examined across the EU and in eight selected Member States. While hydrogen has gained significant attention throughout the EU—driven in part by European legislation and national hydrogen strategies—the topic of waste heat recovery and integration remains comparatively underdeveloped in most national contexts.

The assessment followed a structured approach: first, the strategic frameworks at the national level were identified, followed by a detailed review of relevant legal and regulatory provisions. Special attention was given to identifying country-specific characteristics and differences. The final section focused on incentive structures and support mechanisms for hydrogen and waste heat technologies. These included direct government funding, tax incentives, and exemptions or reductions in system usage charges, all of which could act as enablers for technology uptake.

Across all phases of the assessment, barriers within the existing regulatory frameworks were analyzed—particularly those that could hinder the practical implementation of hydrogen and waste heat solutions. These findings form the basis for Policy Recommendations that will be done by HyEfRe and will offer actionable proposals to improve the enabling environment at national and EU levels.

During the project meeting in Prague, the findings from the different partners were discussed, revealing a diverse regulatory landscape. Some countries have already developed robust hydrogen regulations and are working on further measures such as mandatory green gas quotas in the national gas supply. Others, however, have yet to go beyond the minimum EU requirements, and in some cases, even basic implementation is still pending.

In contrast, a clear best-practice example for waste heat utilization was identified: Germany. The country has introduced binding quotas for the use of waste heat generated in data centers, with the required share increasing incrementally over time. This proactive approach serves as a model for other Member States and illustrates how regulatory instruments can effectively drive the integration of underutilized energy resources.

2. Hydrogen on the rise: Key economic and financial insights from the HyEfRe project

The latest HyEfRe report - Economic and Financial Framework Assessment - dives deep into the economic and financial landscape of the sector, uncovering the secrets to successful hydrogen implementation across Europe.

Unveiling the power of policies

Countries like Germany, Italy, Austria, Poland and Croatia are leading the charge with their national hydrogen strategies. These strategies are not just plans on paper; they come with substantial financial incentives, including grants, loans and subsidies that fuel hydrogen production, infrastructure and research. Imagine a world where waste heat is seamlessly integrated into hydrogen production processes, boosting energy efficiency and slashing emissions: that's the vision these policies are bringing to life.

Spotlight on success stories

The report shines a light on regions where hydrogen projects are thriving, thanks to robust policy support and generous funding. Take Germany's GET H2 Nukleus project, for example, or Italy's Hydrogen Valley in Puglia.

These initiatives are not just about technology; they're about creating ecosystems where innovation flourishes. Successful business models like public-private partnerships (PPPs), community-driven projects and hybrid funding models are proving to be game-changers, combining resources, expertise and objectives to maximize impact.

Strategic pathways to the future

To keep the momentum going, the report offers strategic recommendations that could reshape the hydrogen landscape. Imagine a Europe where hydrogen projects benefit from a unified regulatory framework, making cross-border collaboration a breeze. Simplifying bureaucratic processes could also accelerate project activation, while increased access to funds and tax incentives could make hydrogen ventures more attractive. But that's not all. The report suggests introducing mandates for hydrogen use in industries and transportation, coupled with public awareness campaigns to boost adoption. Continuous policy monitoring and innovative financial models like green bonds could ensure long-term viability. Moreover, the power of collaboration does not have to be forgotten — bringing together research institutions, private companies and public entities with the aim to share best practices and develop pilot programs.

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3. From hype to hydrogen: How experts see Europe's clean energy transition unfolding

In the race to cut carbon emissions and ditch fossil fuels, hydrogen is emerging as a serious game-changer. The HyEfRe project is diving into how we can make hydrogen a core part of our energy system. One of their latest efforts — a series of expert interviews — uncovers what's working, what's not, and how Europe can actually hit its ambitious climate goals. So what did the experts say? Let's break it down.

Hydrogen Hubs Are Gaining Steam

Some regions are already sprinting ahead. Germany's projects in Bavaria and the Berlin-Brandenburg area are examples of serious progress, with electrolyzers producing green hydrogen and powering public buses. In Poland, the city of Rybnik has rolled out 20 hydrogen buses and a public refueling station — not bad for a country just getting started with hydrogen.
Meanwhile, the Northern Adriatic Hydrogen Valley (involving Slovenia, Croatia, and Italy) is leading the way in cross-border collaboration, aiming to produce over 5,000 tons of hydrogen per year by 2029. These efforts show that when regions align on policy, funding, and goals, real momentum is possible.

Success Factors: Collaboration + Smart Funding

From government officials to engineers, everyone agreed: strategic partnerships and strong financial support are key. Public-private partnerships, streamlined permitting processes, and access to EU innovation funds were all highlighted as effective tools. But experts also emphasized the power of "sector coupling" — integrating hydrogen into everything from industry to public transport to heating. For instance, waste heat from hydrogen production could be reused to warm homes, making the whole system more efficient.

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The Roadblocks: Regulation, Infrastructure & Costs

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Ideas that could change the game

Small pilot projects can help build knowledge, confidence, and momentum — fast and cheap.

Financial incentives, like grants, carbon pricing, and other financial tools could make hydrogen more attractive and close the cost gap.

Standardizing regulations and fast-tracking permits could boost investment.

Training programs could build the workforce needed to manage this new energy ecosystem.

Reusing existing gas infrastructure for hydrogen transport could save money and speed things up.

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The EU wants to produce 10 million tonnes and import 10 million tonnes of hydrogen by 2030. The goals are ambitious if not a bit unrealistic without serious changes.

Are we on track for 2030? Experts say not yet

The EU wants to produce 10 million tonnes and import 10 million tonnes of hydrogen by 2030. Most experts agree: we're not on track. The goals are "ambitious" — and maybe a bit unrealistic without serious changes. If we want hydrogen to scale up and replace fossil fuels, we need faster action, clearer rules, and smarter coordination across countries.
That said, these interviews also showed that Europe has what it takes. The ideas are there. The motivation is there. What's missing is a united push to turn ideas into action.

Hydrogen isn't just for engineers and policymakers. It could power the buses we ride, the factories that make our clothes, and even help heat our homes — all while slashing emissions. That makes it everyone's business.
If Europe can get hydrogen right, it won't just meet its climate targets. It'll create new jobs, strengthen energy independence, and lead the world in clean tech innovation.The HyEfRe project's expert interviews paint a clear picture: the future of hydrogen is promising, but only if we act now — and act smart.

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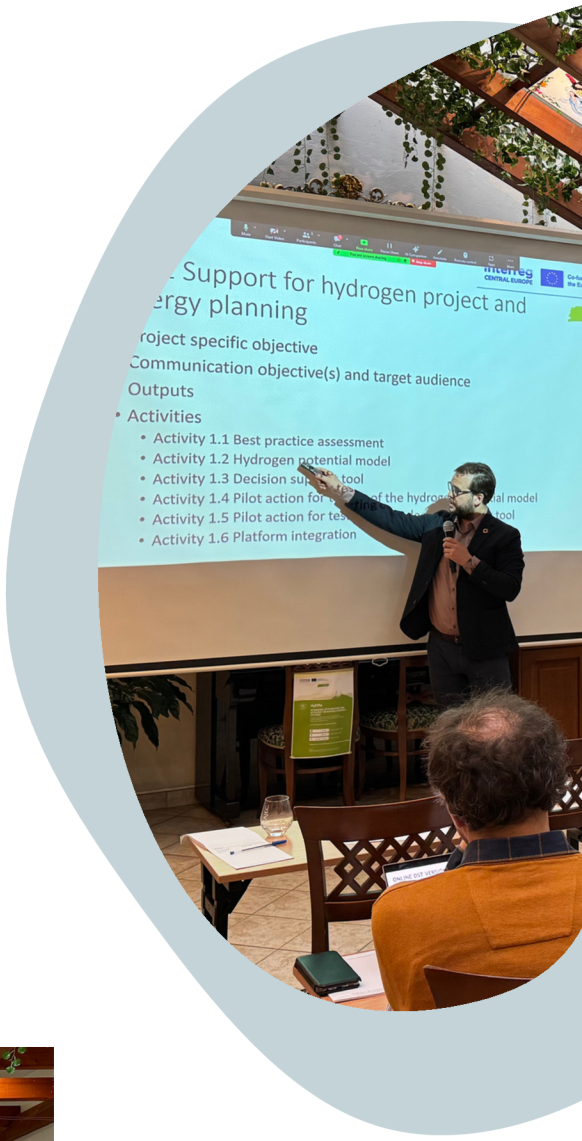
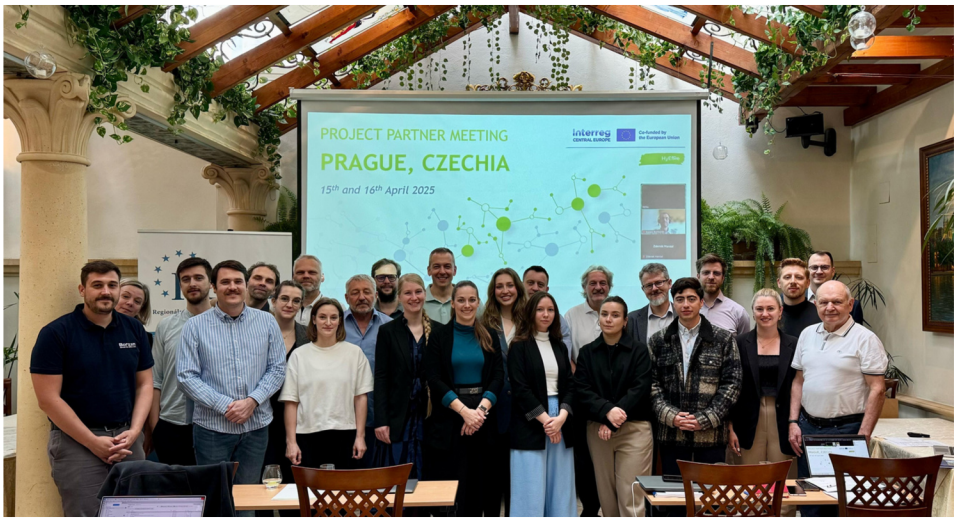
4. What is next for HyEfRe project: Partners meet in Prague

From April 15-16, HyEfre project partners met in Prague to move key parts of the project forward. Discussions focused on the next steps for the **Hydrogen Potential Model** and the **Decision Support Tool**—two innovative solutions aimed at helping municipalities, energy planners, and investors make smart, data-driven decisions about hydrogen. Partners also discussed setting up **regional pilot testing environments** to fine-tune these tools, explored approaches to assess **social acceptance of hydrogen technologies**, and began shaping **policy recommendations** to foster the growth of the hydrogen sector across Central Europe.

Exciting things are on the horizon—keep an eye out as we turn plans into action!





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