

# Re-industrialise Flagship



## HyDistrict

A virtual institute to enhance  
the hydrogen economy in  
industrial areas

# Re industrialise Programme

A hiker in a grey jacket and dark pants stands on a rocky mountain peak, holding a trekking pole. The background shows a vast, hazy mountain range under a cloudy sky.

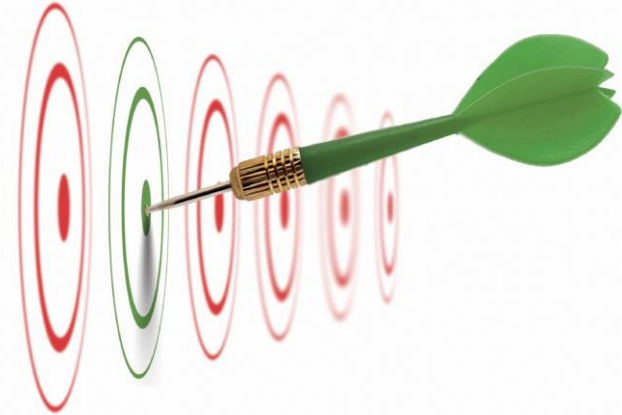
Develop **place-based solutions** that unlock industrial regions' potential to design and implement their low carbon **transition innovatively, inclusively and sustainably**

## Re industrialise mission

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Re industrialise aims to accelerate transition to **low carbon, competitive and just economies** by establishing a **Solutions Hub** for industrial regions in transition. Our approach is embedded in regional ambitions, challenges and opportunities to:

- Catalyse the application, adoption and scaling of innovative place-based solutions for **low carbon regions**.
- Stimulate investments and the scale-up of low carbon businesses for **competitive regions**.
- Facilitate the engagement of citizens, workers and communities for **inclusive regions**.



# HyDistrict: Virtual institute pilot in North-Rhine Westphalia

- Share knowledge
- Explore innovative concepts
- Identify emerging technologies & investment opportunities
- Establish effective collaboration

## Context

The energy transition process managed by the IRR in the Rhenish Lignite Area offers a **chance to transform a lignite-based ecosystem into a hydrogen-based economy.**

However, and despite political will, high (perceived) risks and market uncertainties hamper the scalability of the sector. Engie, through stakeholder engagement, identified a critical need for creating a **value chain based ecosystems.**

HyDistrict displays a bodies of **knowledge** on hydrogen applications and technologies to **de-risk** the sector, demonstrate its **relevance** and **reliability** and to generate new business models **for industrial territory.**

# HyDistrict approach



Knowledge



Co- design



Innovate



Unlock

# HyDistrict methodology

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## Understand stakeholders needs

- **Interview** stakeholders from the hydrogen value chain to identify systemic barriers
- **Workshops** to defined key principles and functionalities of HyDistrict virtual institute

## Co-Design the Virtual institute

- **Design thinking** process with local stakeholders to manage virtual institute ergonomics
- Develop a virtual institute that tackles interdependent barriers of multiple stakeholders

## Identify best practices & Replicate

- Draw lessons from the HyCologne and HyDistrict
- Adapt approach to other industrial regions
- Develop a network of place-based virtual institutes

# HyDistrict partners



- Industrial cluster on hydrogen
- About 30 members
- Founded in 2007

Multi stakeholder membership:

- Areva H2 Gene, Linde Gas Germany
- University of Bonn-Rhein-Sieg, City Brühl...

Currently involved in 3 main projects

- **JIVE:** Joint Initiative for Hydrogen Vehicles across Europe
- **CHEMERGY:** Enhance local hydrogen production uses through local hydrogen infrastructure development
- **CHIC:** Clean Hydrogen for European cities



Regional leader for low carbon transition

The agency provides the Virtual Institute with strategic support and network among key industry players



Re - industrialise

Provides a platform for experimentation of systemic innovation and implementation



# Cities & municipal representatives feedback

Cities & municipal representatives are not hostile to the development of the hydrogen economy BUT they identify barriers that prevent investments

## Our services to mitigate their barriers:

- Knowledge on technology & regulation
- Knowledge on operational projects
- Awareness on emerging market opportunities

Issues & type of barriers	Knowledge	Economic
Technology	Lack of knowledge of existing & available technology & applications	<ul style="list-style-type: none"> <li>• Lack of technology diversity</li> <li>• Cost of available technology</li> <li>• No German leader on H2 vehicles</li> </ul>
Regulation	Complexity of regulation process to get subsidies	<ul style="list-style-type: none"> <li>• Not in favor of investment on Hydrogen technology</li> </ul>

# Local hydrogen economy representatives feedback

Businesses along the value chain stress the need for a systemic approach of the hydrogen economy (production to consumption) BUT face economic and regulatory barriers

## Our services to mitigate their barriers:

- **Support to define emerging market (scale technology, new business cases)**
- **Knowledge on subsidies application process (small companies)**
- **A local network to strengthen collaboration (small companies)**

Companies & issues	Economic	Regulation
Large companies	Scalability of existing technology (no large market)	<ul style="list-style-type: none"><li>• Time of application</li><li>• Process to access subsidies</li><li>• Tax on network uses and electricity production not in favor of hydrogen production</li></ul>
Small companies	Lack of resources and local ecosystem to implement Hydrogen projects	<ul style="list-style-type: none"><li>• Complexity of subsidies application process</li></ul>

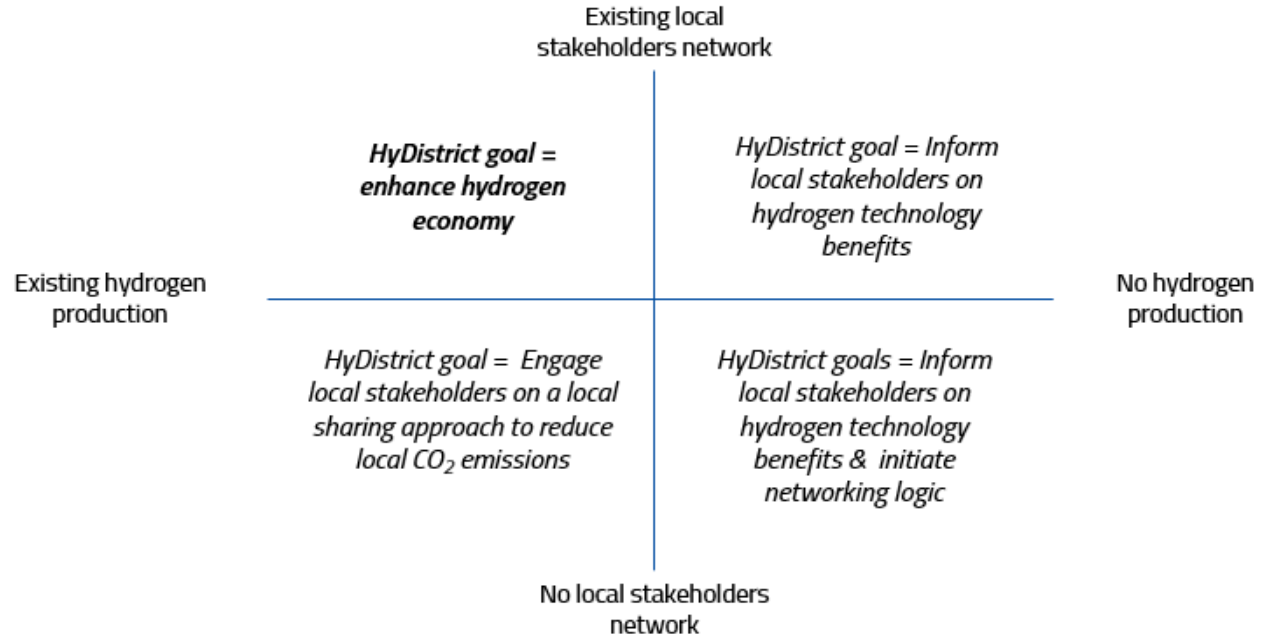
# Expected outputs and ambition

## Experiment and pilot

Enhance the development of the hydrogen economy in the Rhenish Lignite area from **single applications to complete value chains in the early stages of strategic reflections**

## Nest steps: Learn and replicate

### Adapt HyDistrict to other industrial areas



# Get involved

## Turn your region into a **low-carbon** innovation hotspot

- Become a leader in your region's transition towards sustainability
- Enter into a network of experts
- Kick-start your innovation projects
- Gain access to knowledge and learning tools





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