

Just Transistion in the Rhenish lignite mining area: In4climate.RR

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Speaker: Christoph Zeiss, Senior Researcher Wuppertal Institute

Our Challenges

Implementing the EU's and Germany's climate policy goals on the ground

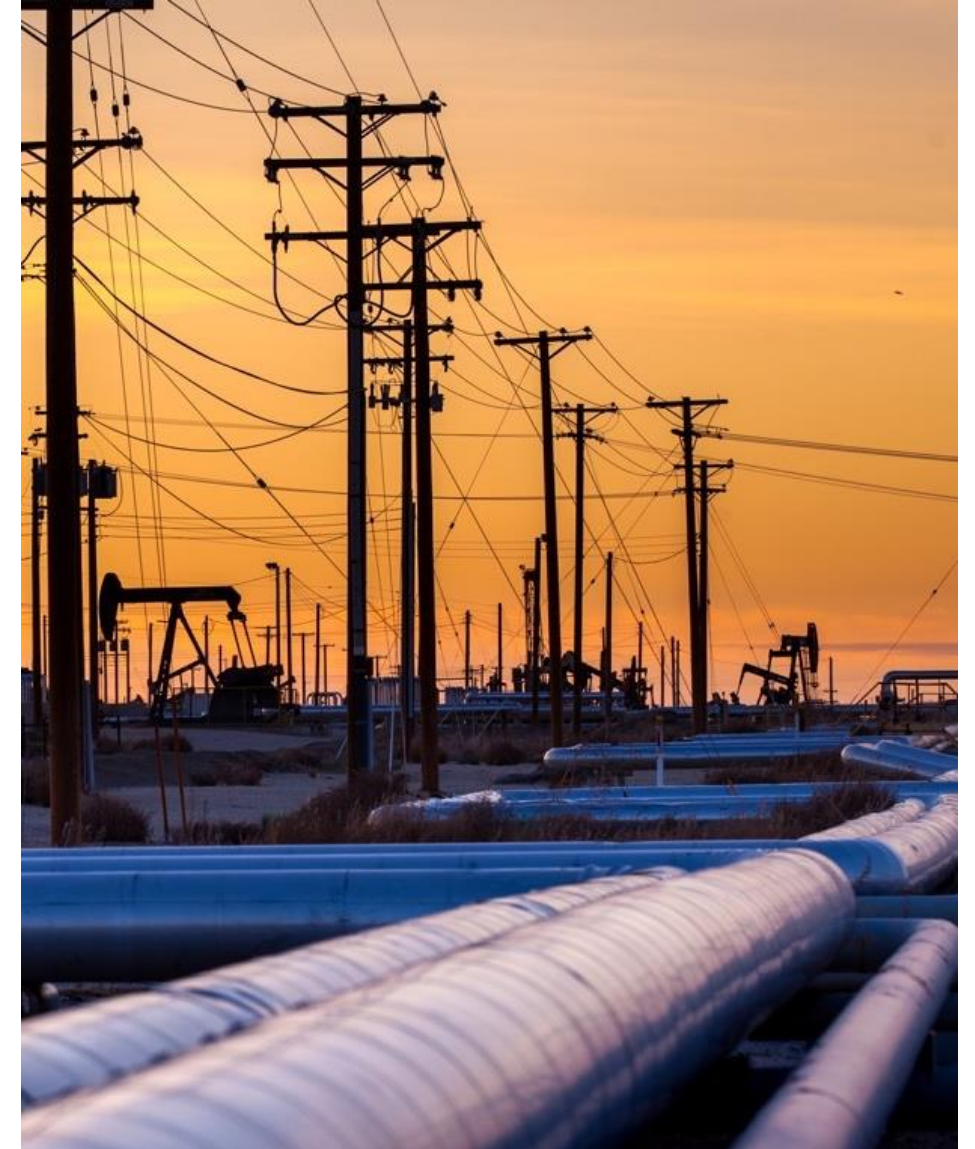
Transforming the energy-intensive industry of North Rhine-Westphalia to climate neutrality

Preservation of value creation and jobs in North Rhine-Westphalia

High proportion of process-related emissions in industry in North Rhine-Westphalia, which cannot simply be replaced by renewable energies

Different core industries with different interests

- **Steel**
- **Chemical Industry**
- **Cement Industry**



What do we need

Roadmaps for the implementation of technologies and infrastructure projects

Knowledge of climate-neutral technologies and their system requirements

Industrial companies that want to invest in climate neutral technologies in North Rhine-Westphalia

Political framework conditions that enable climate-neutral value creation

A shared vision of a climate-neutral industry among companies, policymakers and science in North Rhine-Westphalia



Our approach: dialogue backed by research



IN4climate.NRW is a unique collaboration platform between industry, science and the state government of North Rhine-Westphalia. Its aim is to develop strategies to achieve the Paris climate targets while maintaining or improving the high competitiveness of the energy intensive industries in North Rhine-Westphalia.



SCI4climate.NRW is an independent research project funded by the Ministry of Economic Affairs, Innovation, Digitalization and Energy of the State of North Rhine-Westphalia. It is trans-disciplinary via intensive interactions with companies and experts from industry and with society in North Rhine-Westphalia.



IN4climate.RR is a local approach to advancing the industrial transformation towards climate neutrality in the Rhenish lignite mining area region from NRW.Energy4Climate and the Wuppertal Institute.



Research-supported dialogues are highly attractive for companies in the context of the climate-neutral transformation because of

- the neutral moderating role of science in discussions with competitors and local authorities
- the cross-sectoral system knowledge of science
- the joint development of visions for the future
- the scientific analysis of possible future value chains

Topics that are less suitable for the science-based dialogue formats

- concrete implementation projects and their realisation on site
- low hanging fruits like energy efficiency or implementation of renewable energy purchase



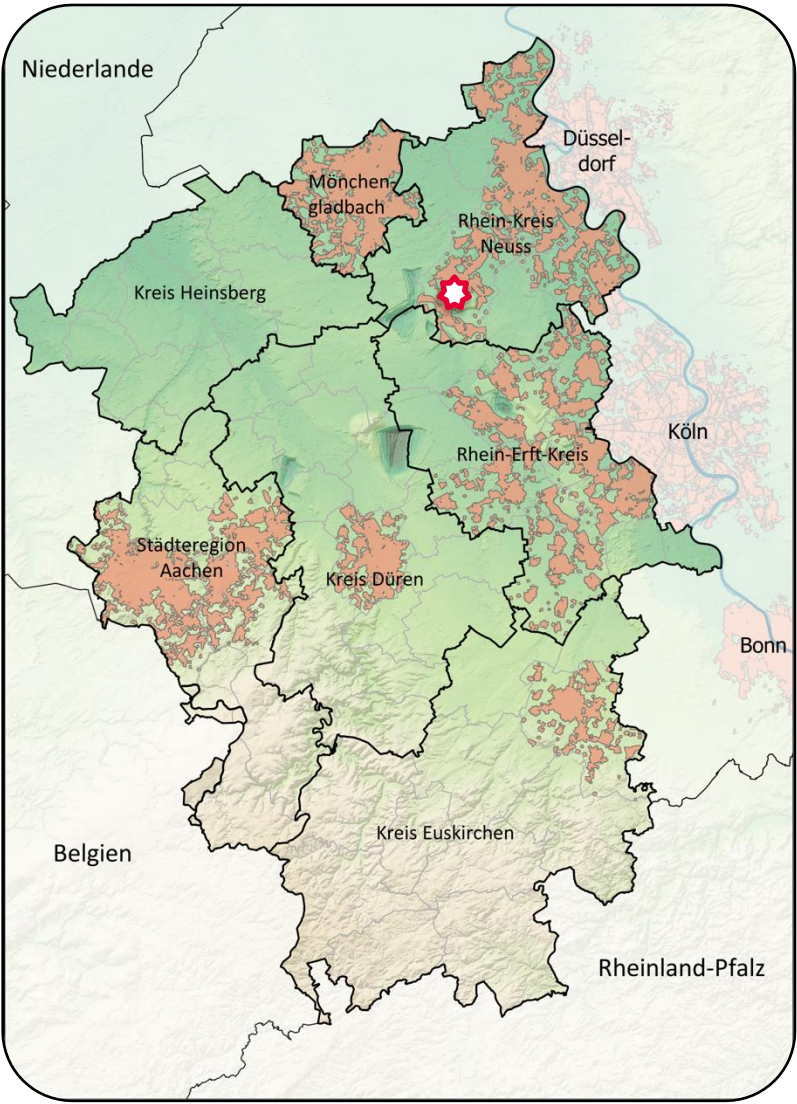
Our local approach in the Rhenish Lignite Mining Area



Our Methods

Local involvement

Location opened in Grevenbroich in 2023



Future Lab Industrial H₂-economy

Background:

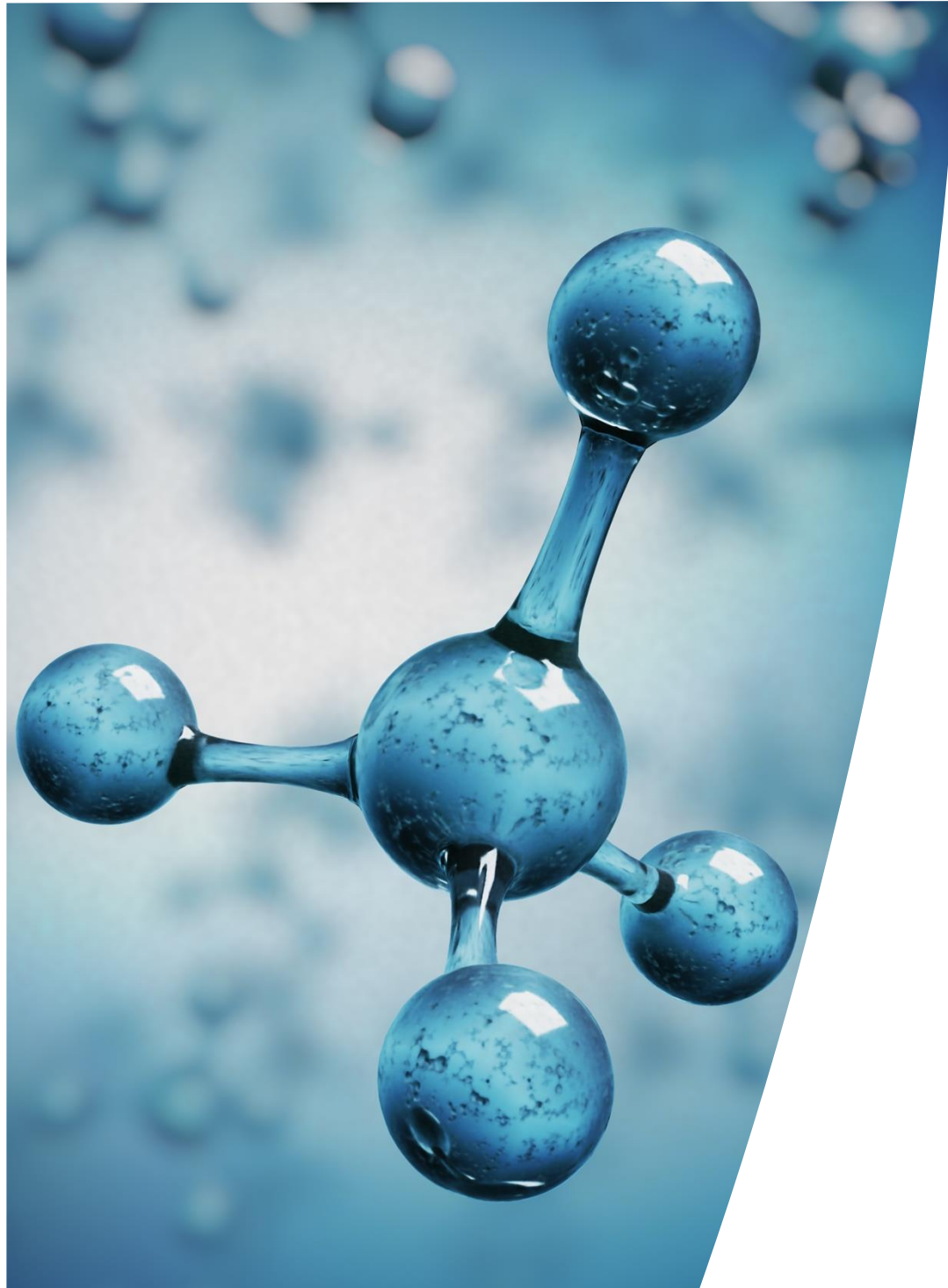
- Beside other green energy sources, (green) hydrogen will be crucial to ensure climate-neutral industry in the RR.
- The need of green hydrogen will increase massively.
- Green Hydrogen is still scarce and very expensive

Objective:

- Help to build a resilient hydrogen infrastructure to supply the region's various (energy-intensive) industries with carbon-neutral hydrogen.
- Provide a platform for cooperation, exchange and development for industrial players along the H₂ value chain.
- Representation and support in communication between politics, science and civil society.

Stakeholder involved

- Energy utilities
- Grid operators
- Manufacturing industry
- Local authorities
- Intermediary institutions



Future Lab Sustainable Carbon-Economy

Background:

- Demand for carbon-containing products will continue to exist
→ also, in a climate-neutral society
- Demand for non-fossil-based carbon will increase massively and must be addressed with biomass, recycling measures and CO₂
- Biomass can be used versatile e.g., in the chemical industry, power and heat supply and as CO₂-sink
- Unavoidable CO₂-emissions are irrelevant for the RR due to a lack of corresponding industry

Objective:

- To create a common picture of the carbon streams of a climate-neutral RR
- Value creation potentials and challenges should be compiled

Stakeholder involved

- Chemical industry
- Agriculture and forestry
- Waste management
- Local authorities
- Intermediary institutions



FutureLab Circular Economy

Background:

- Circular value chains are essential to achieve climate targets
- Resource efficiency along the value chain → economic benefits
- Closing the loop → increasing independence

Objective:

- Identification of key value chains in the *Rheinische Revier*
- Connect scientific and economic actors
- Develop projects for the region

Main Topics

- Vehicle recycling
- Secondary aluminum production
- Technical Textiles

