

Infrastructure of Hydrogen Transport

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Agenda

What will we discuss in the next 20 Minutes?

- I. Who is OGE?
- II. What has to be done to reach the climate targets?
- III. What is OGE doing to support the climate targets?
- IV. Q&A

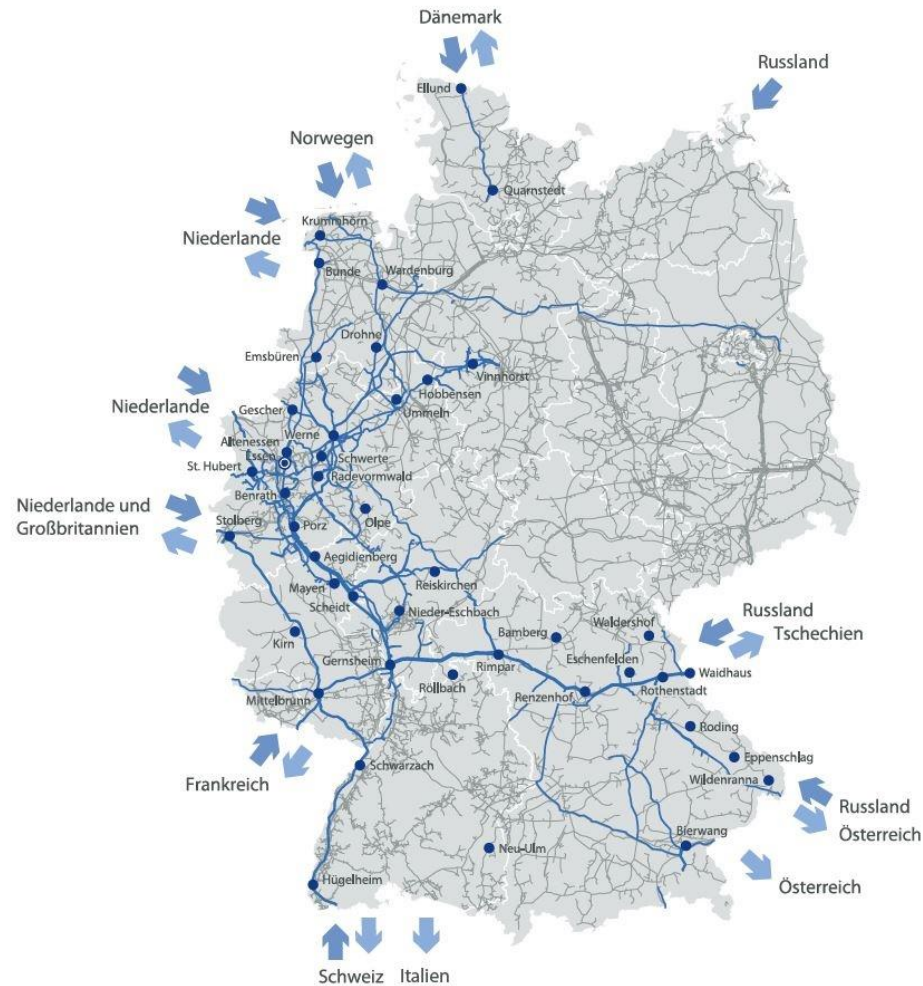


<https://pixabay.com>

Who is OGE?

One of Europe's leading gas transmission system operators

- Sole responsibility for the **Operation, Control, Expansion and Marketing** of the company's pipeline network
- Approx. **12,000 km** of pipelines
- **27** compressor stations equipped with **98** compressor units with a total capacity of approx. 1,000 MW
- **17** border-crossing points and approx. **1,000** exit points
- More than **450** German and European customers



What has to be done to reach the climate targets?

Diverging renewable generation and consumption is the major challenge for the energy transition

Past



- Calculable base load
- Generation = Consumption
- Little storage or transportation need

Future



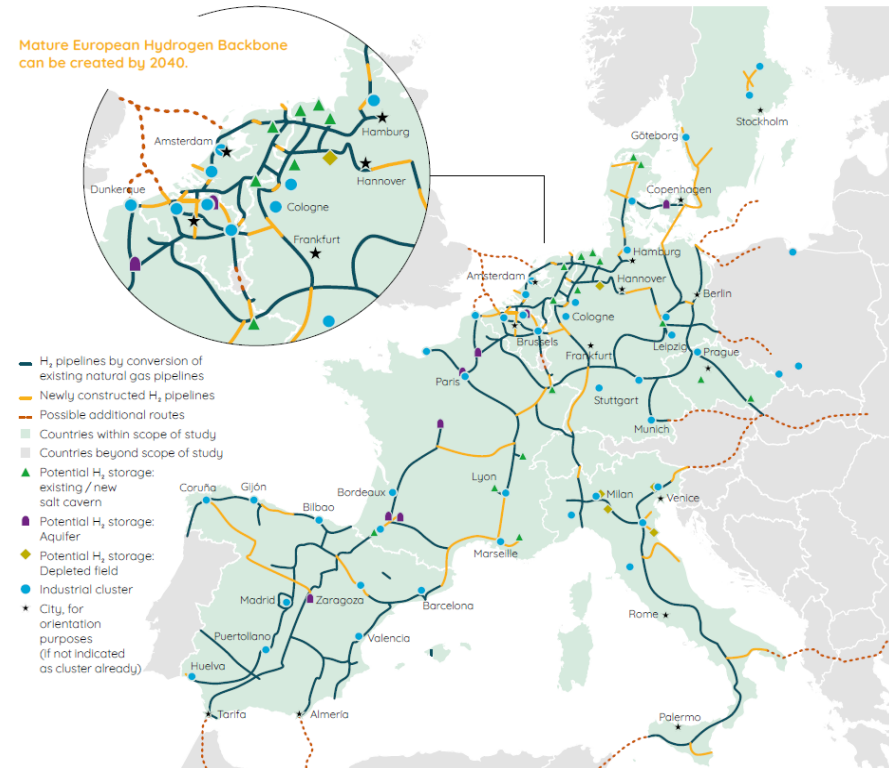
- Volatile production
- Generation \neq Consumption
- High storage and transportation need

Task can be solved by using H₂



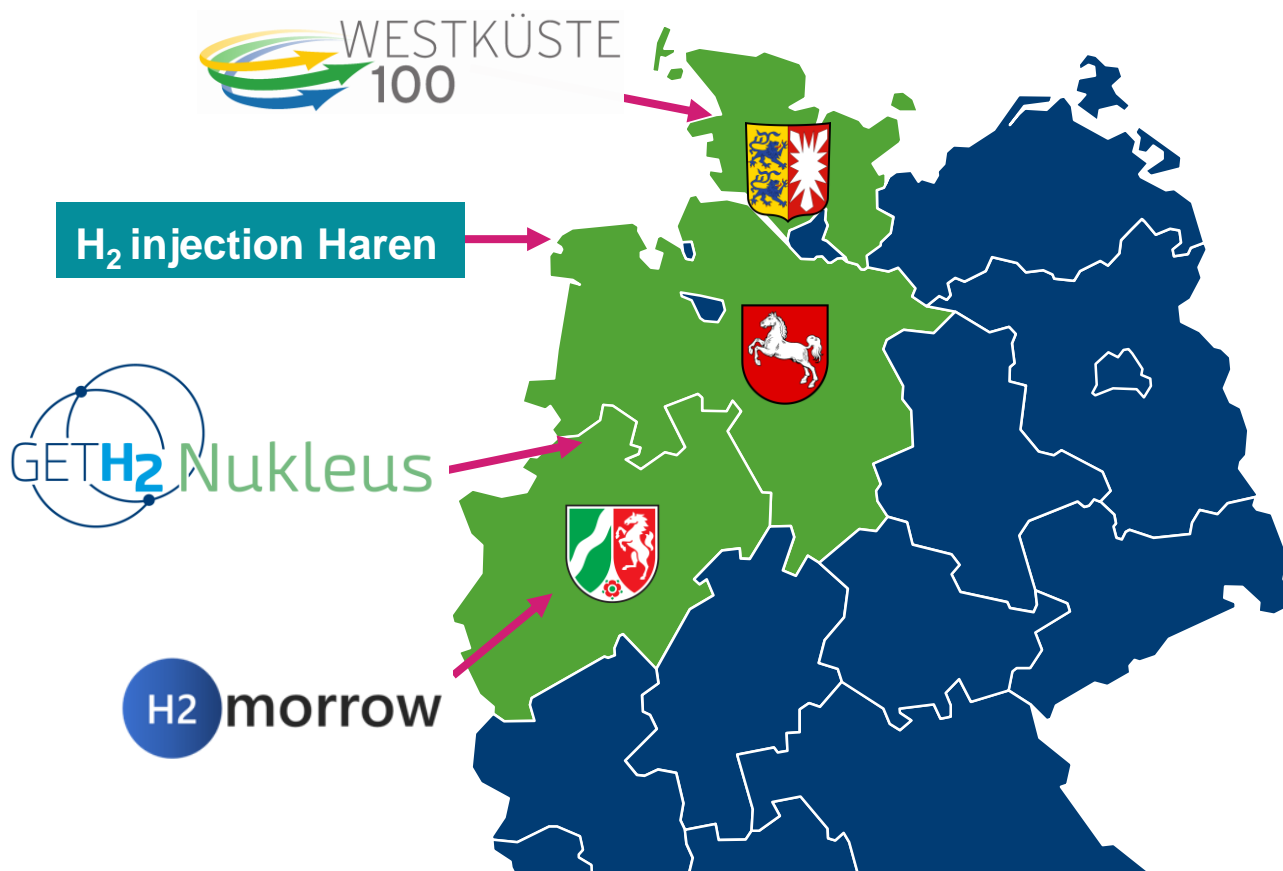
„European Hydrogen Backbone“ Cost-effective long-distance H2 transport is possible

- **Dedicated hydrogen transport infrastructure**, connecting supply and demand
- **2030: 6,800 km** pipeline network connecting hydrogen valleys
- **2040:** stretching into all directions with a length of about **23,000 km**
- Based on using **75% repurposed** natural gas pipelines connected to **25% newly built** dedicated hydrogen pipelines



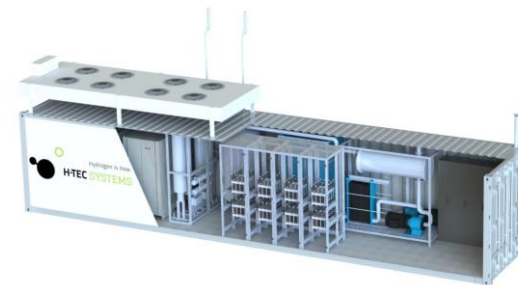
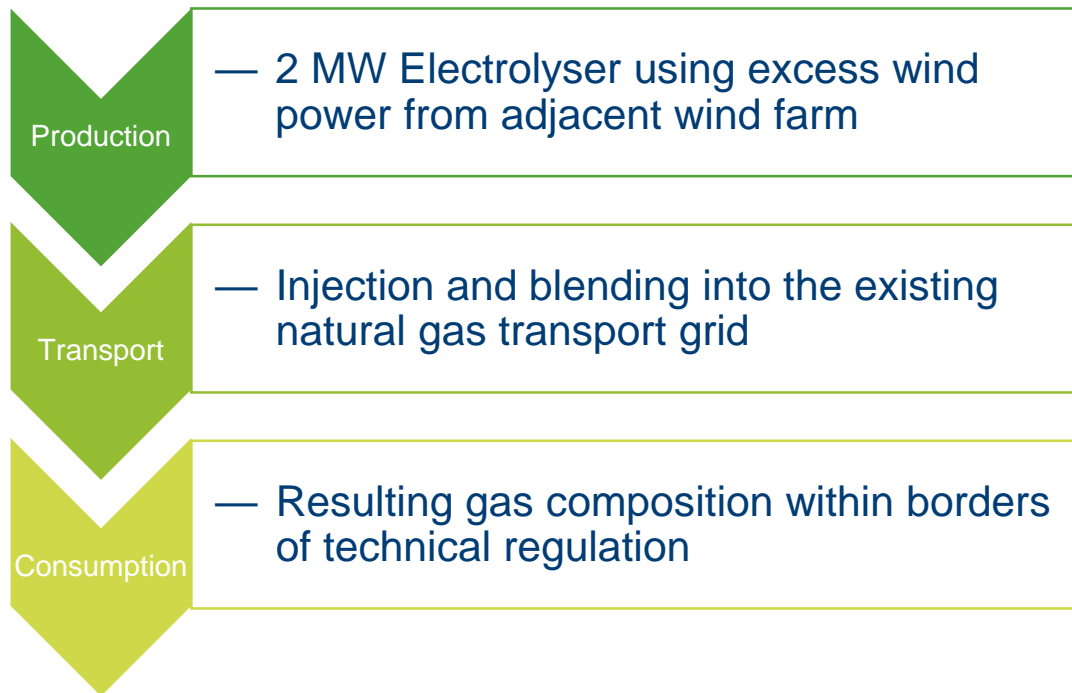
What is OGE doing to support the climate targets?

Connecting sources and sinks with H2 infrastructure



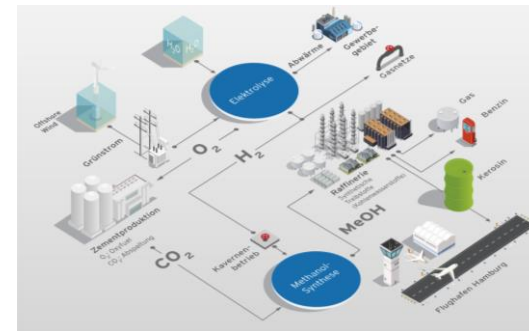
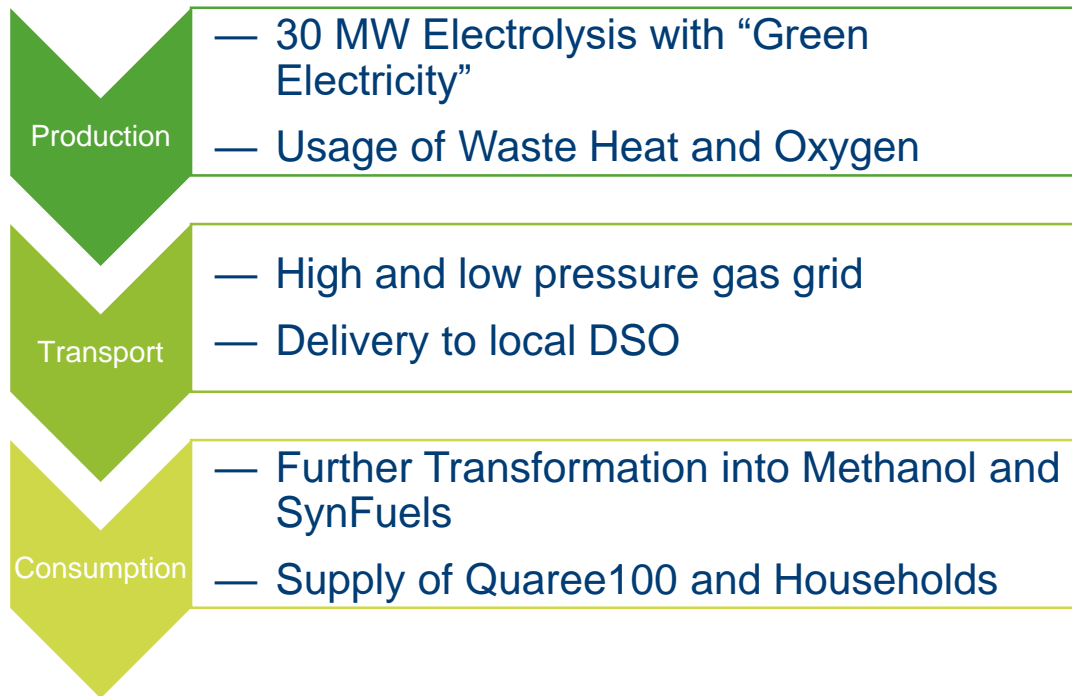
How will H2 injection looks like?

„Bürgerwindpark Fehndorf“



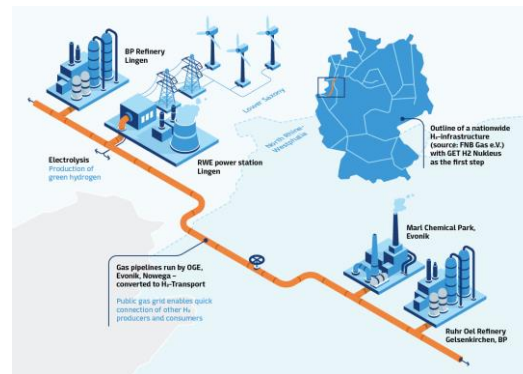
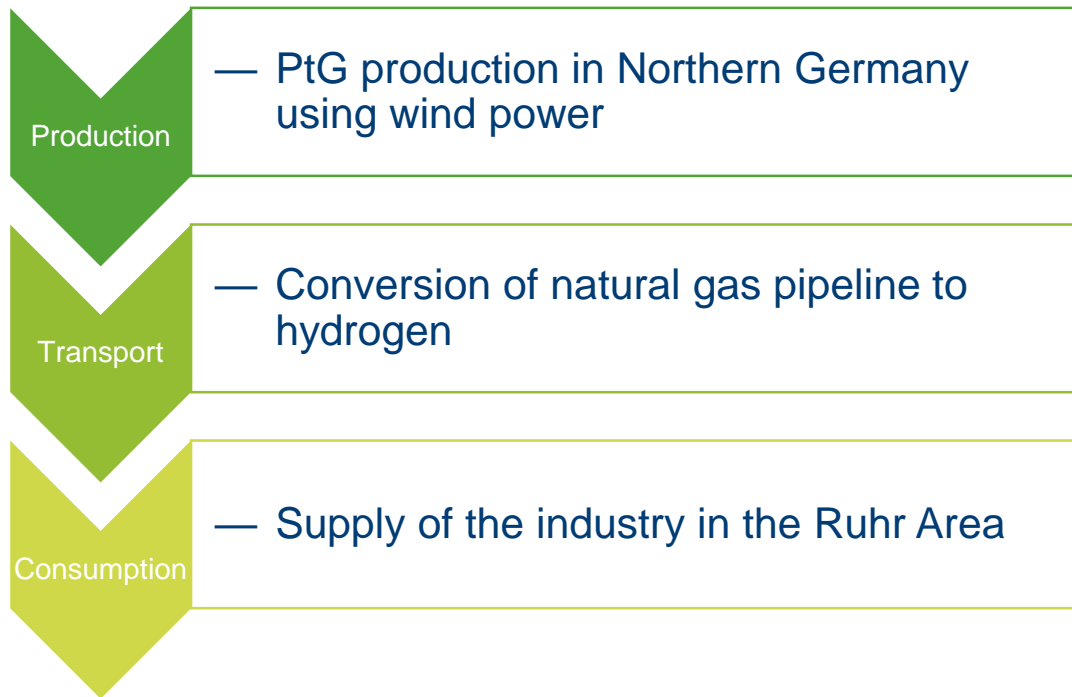
How are we going on holiday in a sustainable future?

Westküste 100 shows sector coupling with all possible elements



How are we going to produce sustainable products?

GET H₂ Nukleus enables H₂ for the Ruhr Area

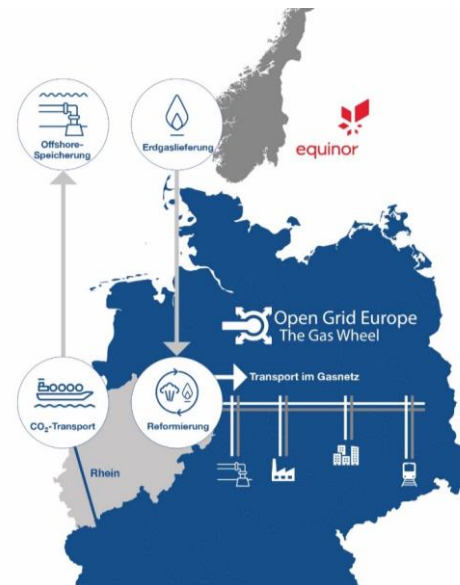
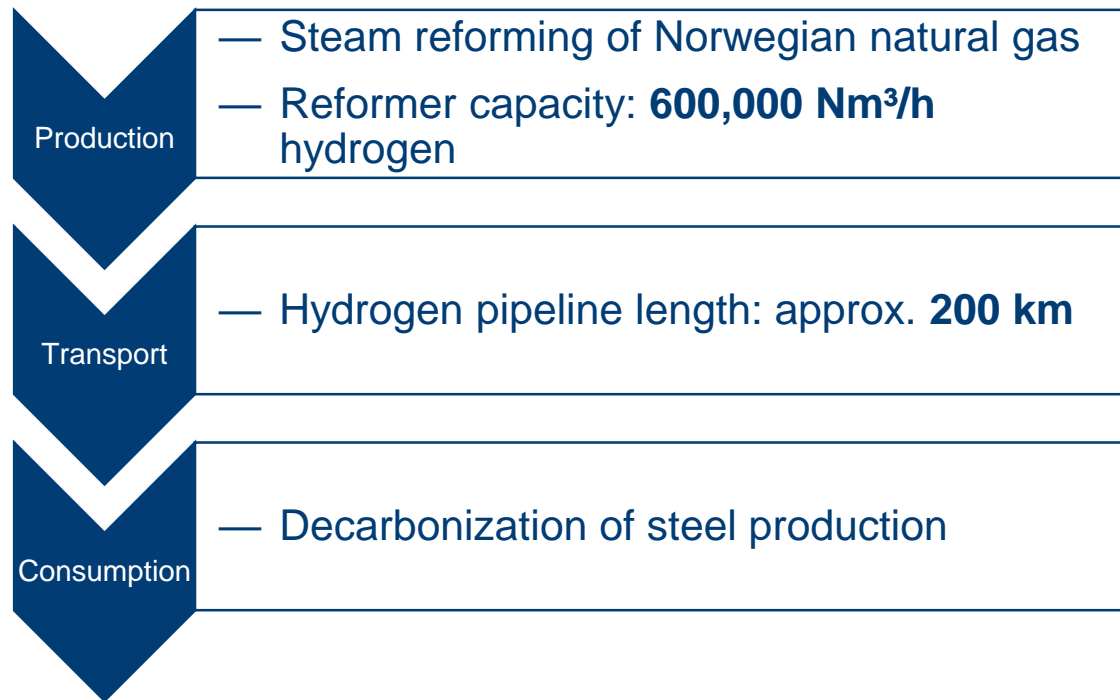


Project partners

bp
EVONIK *Leading Beyond Chemistry*
nowega *Wir transportieren Gas.*
OGE
RWE

What will be the starting point?

H2morrow - Taking hydrogen supply to the next level

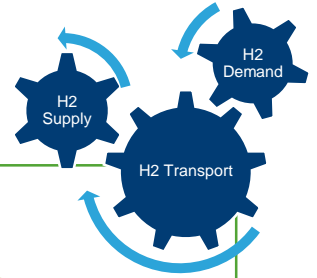


Project partners



Connecting sources and sinks

Our green & blue gas projects cover full value chain



2 MW

- Injection into natural gas grid
- Use of excess wind power from nearby wind farm



30 MW

- Regional Infrastructure
- Utilization of H2 in industry, transport & heating sector



100 MW

- Supra-regional infrastructure
- Focus on industrial customers in Ruhr area



H2 tomorrow 1.000 MW

- Starting point for national/international infrastructure
- Blue hydrogen
- Decarbonization of steel



Conclusion

To achieve the climate protection goals,
we have to act now

- I. Enable sector coupling, Power2Gas and hydrogen
- II. Use gas networks as an indispensable part of the energy transition
- III. Adapt the bounding conditions (e. g. EnWG)



**We enable energy supply.
Today and in the energy mix of the future.**

