

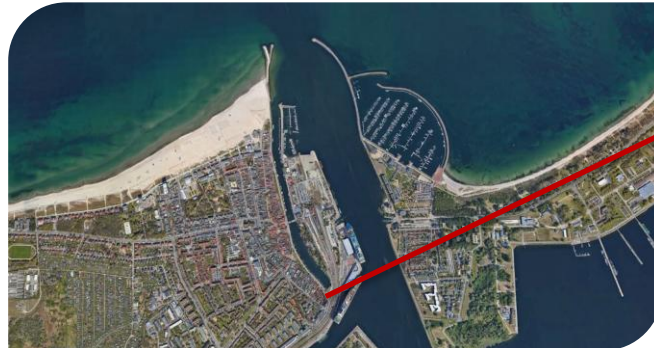


Progress in green power

**The Energy  
Transformation  
Institute**

# IWEN - The Energy Transformation Institute

- **Founded in 2019 by Prof. Dr. Uwe Ritschel and Carlo Schmidt (WindProject GmbH)**
- **Non-profit limited liability company**
- **Affiliated institute of the Rostock university**
- **Located in Rostock-Warnemünde, currently 8 employees**
  
- **Research, development and innovation in the field of renewable energies**
- **Project management**
- **Consultancy**
  - Energy concepts
  - Potential studies
  - Feasibility analyses



# Current research projects

## Baltic Sea H2

Horizon Europe

International H2-cooperation in the Baltic Sea Region

## Decarbon DHS

Interreg South Baltic

Decarbonisation of district heating systems

## Baltic EnerShift

Interreg South Baltic

Monitoring and Investigation of ageing processes in DH pipelines

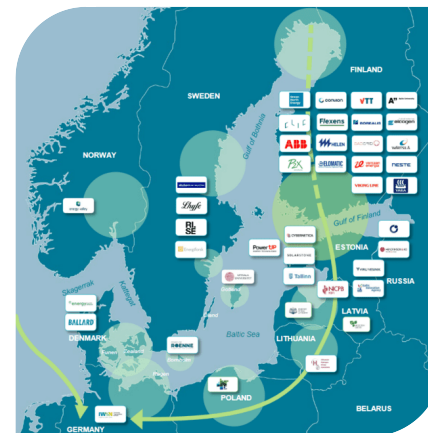
## IMPETUS

Interreg South Baltic

VAWT project with students in the South Baltic Area

## Baltic Grow

Interreg South Baltic



# Commercial projects

## Energy concepts

- Residential areas, commercial zones and leisure parks
- Supplying quarters with renewable energy in accordance with national subsidy guidelines
- MatLab/Simulink simulations, based on hourly time series with weather data from DWD, Copernicus etc.

- **Included components**

- Photovoltaic systems
- Wind turbines
- Battery storage systems
- Thermal storage systems
- Heat pumps
- Solar thermal energy
- Heating networks
- Combined heat and power plants
- H2 electrolyzers



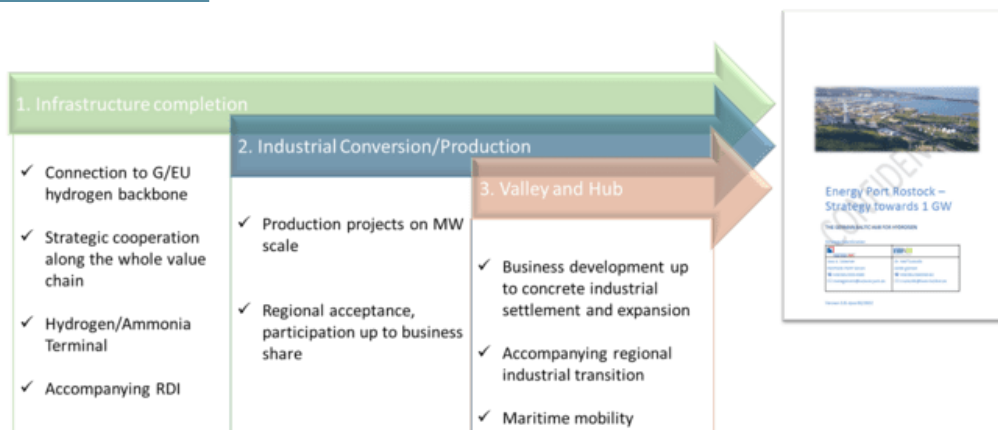
# Strategy „Energiehafen“ - Getting a European Clean Energy Hub

## IWEN as the Strategy Coordinator

**Challenge** Transformation of Rostock seaport from a fossil fuels transshipment point to a production site and transshipment point of climate-neutral energy source

**Solution** Strategy „Energiehafen“ as a technical white paper approach to describe the location development of the next decade in a qualitative and quantitative way

**Use** Rostock region with its harbour as an industrial centre for green hydrogen in the German Baltic Sea with industrial production as well as import and distribution on an European level



## Partnerships / Memberships

As an affiliated institute, we are active members of various associations, networks and initiatives in the renewable energy sector. Together with diverse organizations, companies and partners, we develop ideas and carry out projects on a regional, national and international scope in order to support research, development and expansion of renewable energies and to strengthen the public impact.

### Memberships



PLANUNGSVERBAND  
REGION ROSTOCK



FORSCHUNGSNETZWERKE  
ENERGIE



Schiffbautechnische Gesellschaft e.V.



Landesverband  
Erneuerbare Energien  
Mecklenburg-Vorpommern e.V.



### Partner in our projects



## IWEN's role in the Baltic EnerShift Project

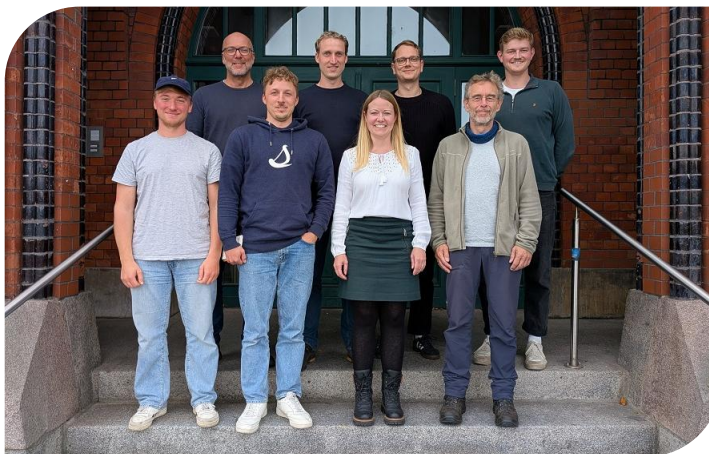
- **Monitor state and data of preinsulated pipes**
- **Investigation of PUR- foam insulation in cooperation with RISE Institute and municipal heat supply companies (e.g. Stadtwerke Rostock)**
  - Chemical lab analyses („Pipeopsy“)
  - Estimate remaining lifetime of pipes
  - Investigation of other Methods to test the ageing process of DH pipelines (more than 10 methods)
- **Digitalisation of analogue data to use this in digital asset management systems**
- **Evaluate status condition (corrosion state) of steel pipes and steel enforcement in concrete (in cooperation with Gdańsk University of technology)**

# IWEN-Team's Experience

<b>Prof. PhD. Ritschel</b>	Chair of Wind Energy Technology, University of Rostock (LWET)
<b>Jonathan Aschenbrenner</b>	Thermodynamics and turbomachineries at the University of Rostock
<b>Alexander Siwek</b>	Energy systems with the focus on thermodynamics
<b>PhD Yannik Schütze</b>	Physicists, expert of battery technologies, municipal heating concepts
<b>Others</b>	Physicists and engineers, experienced in simulation of energy systems, battery technologies, turbomachineries, aeroelastic simulation



<https://www.nordkurier.de/regional/neubrandenburg/fernwaerme-in-neubrandenburg-unterbrochen-keine-heizung-oder-warmwasser-2839490>





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