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# German energy transition – business opportunities in North Rhine-Westphalia

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# Important business partner: Sweden as climate protection pioneer

## Climate Change Performance Index – Rating table

| Rank |   | Country             | Score** | Categories   |
|------|---|---------------------|---------|--|
| 1.*  | - | -                   | -       |  |
| 2.   | - | -                   | -       |  |
| 3.   | - | -                   | -       |  |
| 4.   | - | Sweden              | 74.42   |    |
| 5.   | ▲ | United Kingdom      | 69.66   |    |
| 6.   | ▼ | Denmark             | 69.42   |    |
| 7.   | ▼ | Morocco             | 67.59   |    |
| 8.   | ▲ | Norway              | 65.45   |    |
| 9.   | ▲ | Chile               | 64.05   |    |
| 10.  | ▼ | India               | 63.98   |    |
| 11.  | ▼ | Finland             | 62.63   |   |
| 12.  | ▲ | Malta               | 62.21   |  |
| 13.  | ▲ | Latvia              | 61.88   |  |
| 14.  | ▲ | Switzerland         | 60.85   |  |
| 15.  | ▼ | Lithuania           | 58.03   |  |
| 16.  | ▲ | European Union (28) | 57.29   |  |
| 17.  | ▲ | Portugal            | 56.80   |  |
| 18.  | ▲ | Croatia             | 56.69   |  |
| 19.  | ▲ | Germany             | 56.39   |  |
| 20.  | ▼ | Ukraine             | 55.48   |  |

**Index Categories**

- GHG Emissions (40% weighting)
- Renewable Energy (20% weighting)
- Energy Use (20% weighting)
- Climate Policy (20% weighting)

Source: Climate Change Performance Index (CCPI)

# Business Opportunities in Germany

## *Why?*

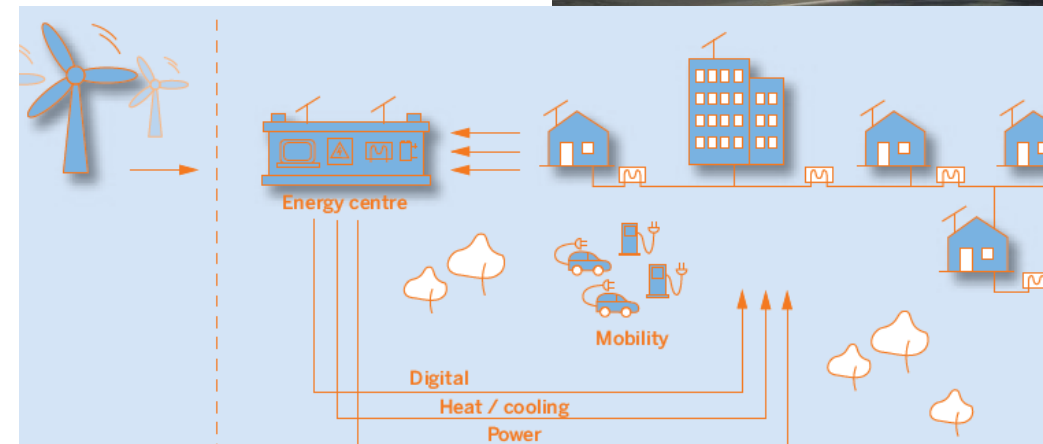
- So far: German energy transition focused strongly on electricity market
- Now: challenge to transform heating, transport and industry sector

## *Incentives:*

- **EU:** Green deal / European directives, ...
- **Germany:** CO<sub>2</sub> price system introduced for heat and transport sector in 2021, Renewable Energy Act (EEG), Hydrogen strategy, funding programmes, ...
- **NRW:** state programmes, strategies and funding schemes
- **Local:** smart city incentives, funding programmes, ...
- **Business:** more green investments, cPPA, ...

# Business Opportunities in Germany / NRW

- Climate-friendly **mobility** solutions (18 millions NRW inhabitants)
- Climate-friendly **heat** market, district heating
- More **renewable power** production:
  - Wind energy: 10.5 GW in 2030 in NRW (2018: 5.8 GW)
  - PV: 11.5 GW in 2030 in NRW (2018: 4.9 GW)
- **System integration**
- **Storage** solutions / Power-to-X / Flexibilisation
- ➔ **Hydrogen**: 5 GW Green Hydrogen by 2030 in Germany
- **CO<sub>2</sub> neutral industry**
- **Energy Efficiency**
- **Digitalisation**
- ➔ Smart Grids / Metering
- **Urban solutions**: Climate mitigation



# 100 Climate Protection Estates in NRW

- **target:** Reduction of heat-related CO<sub>2</sub>-emissions in residential estates & reduction of energy costs
- new buildings & refurbishment
- all technologies that are suitable for CO<sub>2</sub> reduction can be used
- innovative energy concept, special urban planning, architectural and social qualities
- coordinated by: EnergieAgentur.NRW
- financial support: State of North Rhine-Westphalia

[www.energieagentur.nrw/gebäude/klimaschutzsiedlungen](http://www.energieagentur.nrw/gebäude/klimaschutzsiedlungen)

**53 completed**  
**25 in construction**  
**21 planned**



Gelsenkirchen

# Climate Protection Estate Hürth: One of the largest passive house projects in Germany



source: Görres und Partner Architekten, Köln

312 new apartments for students  
(University of Cologne is located nearby)

## Energy Concept:

- Passive house standard
- Central ventilation systems with heat recovery
- District heating with support of solar thermal systems
- Photovoltaic systems with 105 kW<sub>p</sub>

→ 10,000 people already live in 53 climate protection estates in NRW

→ Once all estates have been completed, around 25,000 people will live there

# H2 Roadmap NRW (2020)

## H2 as ...

- basic material for energy-intensive industry
  - fuel for trucks, buses, ships, aircraft and cars
  - supply-secure electricity and heat production
- ➔ Up to 130,000 jobs, especially in supplier industry



### 2025: 500 FC buses for public transport

### 2030: 3,800 FC buses for public transport (45 %)



Source: RVK

Source: WSW

### Projects JIVE: Regional Transport Cologne

### Projects JIVE: Stadtwerke Wuppertal

- 50 buses in operation or on order
- Involved in testing since 2011, Starting point by-product hydrogen

- 20 buses in operation or on order
- Green H2 from electrolysis with waste-to-energy plant

## Events 2021

- **Webinar: The European Green Deal - How can sustainable business and financing succeed for companies?**  
*18th February 2021*
- **E-world 2021: Swedish-German Sustainability Forum – cooperation as key success factor for Agenda 2030**  
*5 May 2021, Trade Fair E-world in Essen, Infrastructure Forum*
- **Webinar: Financing sustainable projects in Scandinavia**  
*24 June 2021*
- **NRW business trip – energy market Sweden (NRW.Global Business)**  
*Autumn 2021, Stockholm, North Sweden or Gothenburg // virtual*

More information: [www.energieagentur.nrw/international](http://www.energieagentur.nrw/international)





# Thank you for your attention!



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