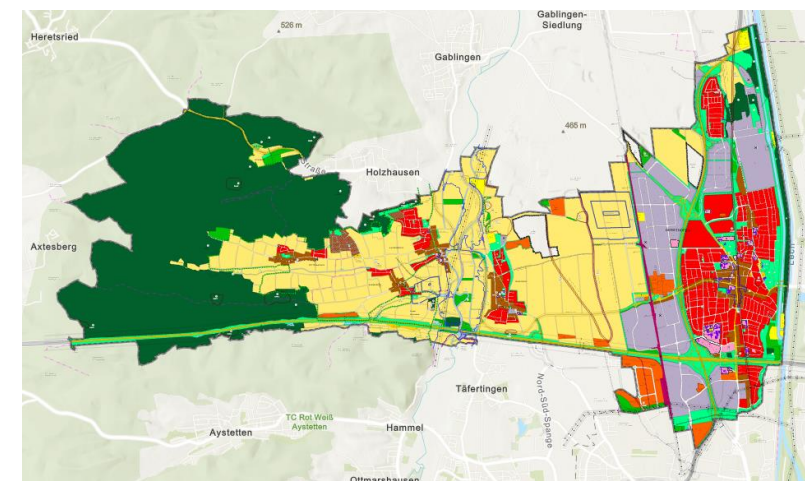


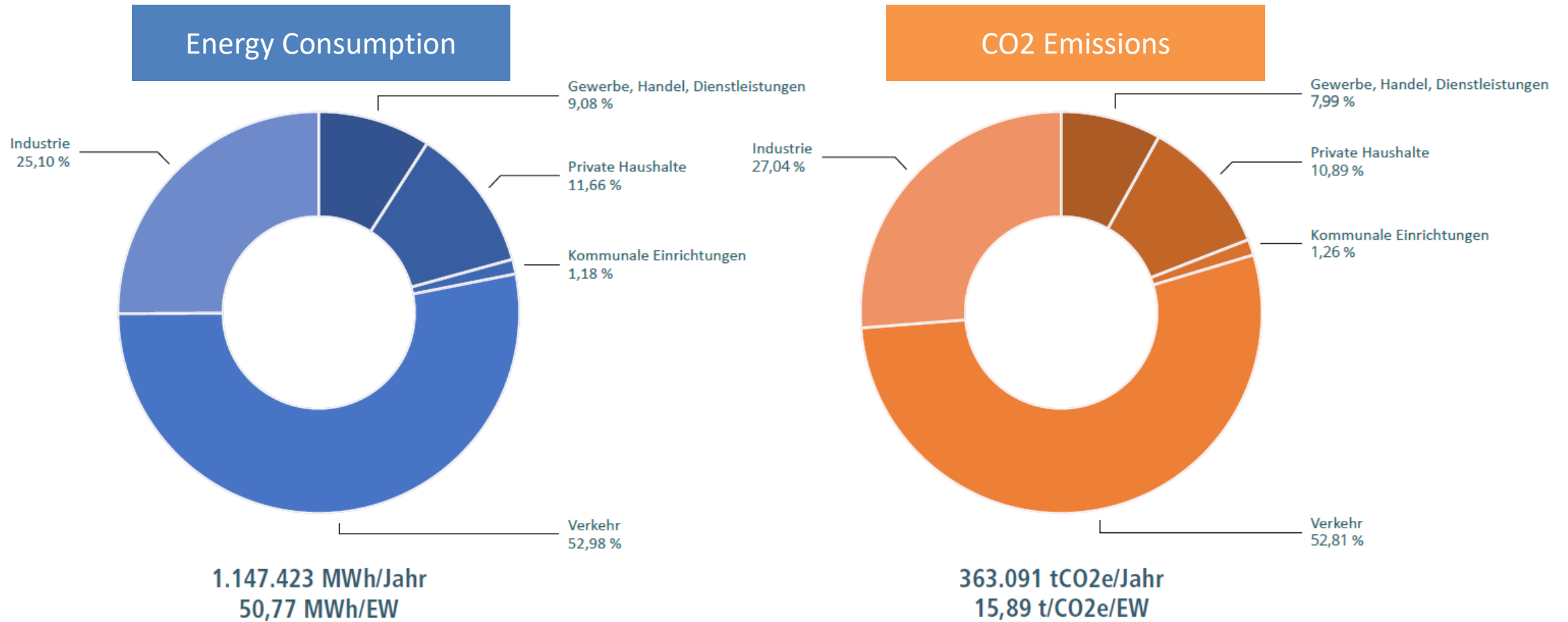
Stadtwerke Gersthofen a local municipal utility (local infrastruclur and energy provider)

Some key facts about the city of Gersthofen

- Gersthofen is a Bavarian city in the county of Augsburg (80 kilometers from Munich)
 - *550 employees (administration of a city) and over 100 million € budget*
 - *Inhabitants: 23.500*
 - *Area: 34.000 m²*
- The city has a large industry including 2.500 companies with an overall of 15.000 employees.



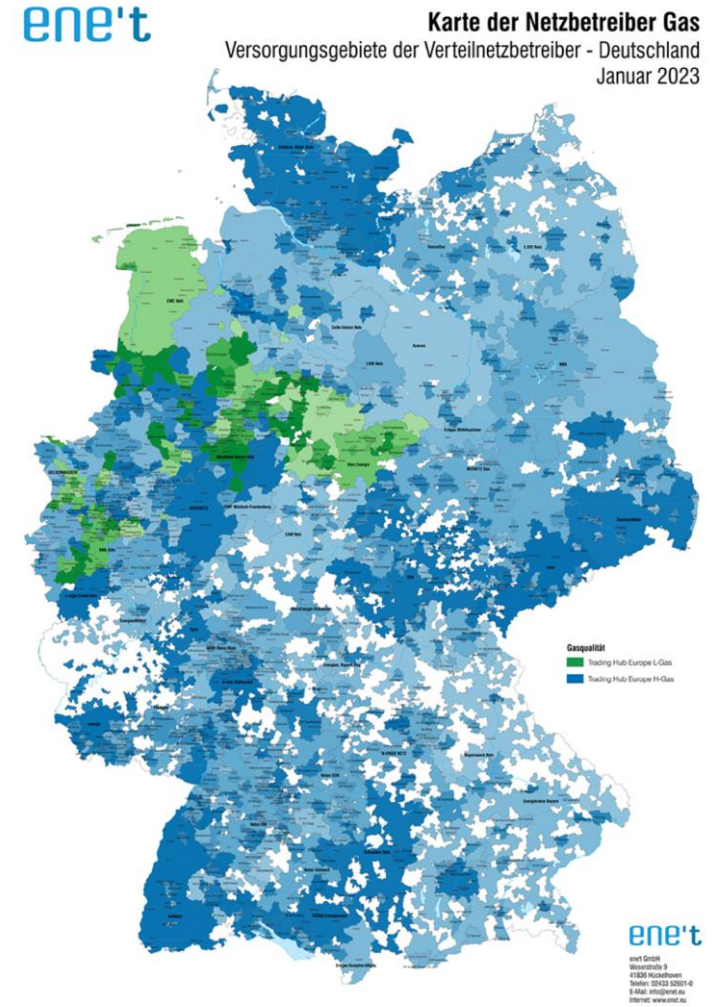
One of the biggest challenges of the city of Gersthofen is the avoidance of CO2



ORGANIZATION OF THE GERMAN ENERGY MARKET

German grids are organized in TSOs and DSOs

- **TSO / Transmission System Operator**
Operator at least 220 kilovolts (kV) throughout Germany and transport the electricity from the large producers (power plants and offshore wind farms) over long distances to the downstream distribution grids.
- **DSO / Distribution System Operator**
Operator up to 100 KV are responsible for the distribution of energy to customers



Source: <https://www.enet.eu/portfolio/karten>

German grids are organized in TSOs and DSOs

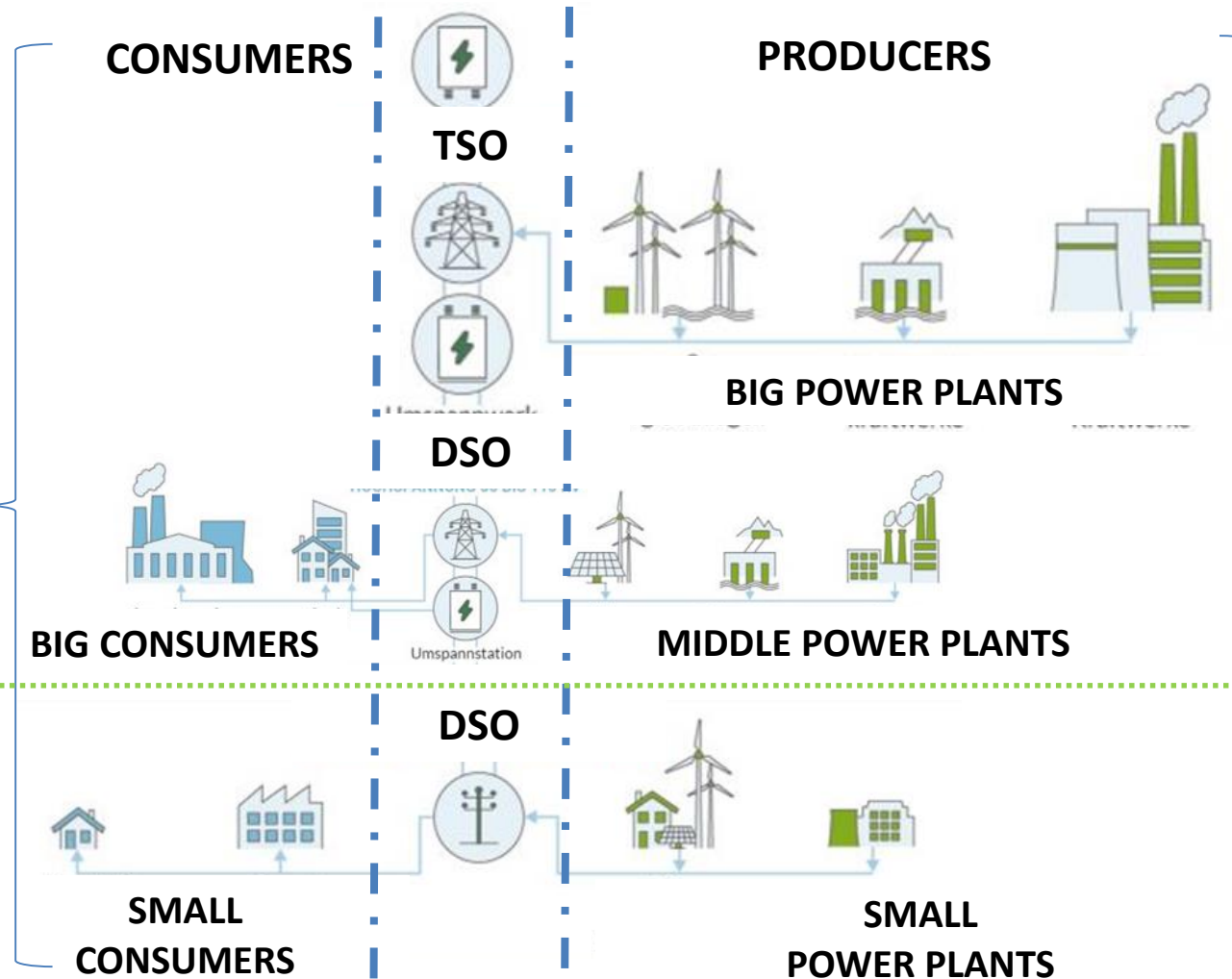
Produced energy can be purchased

- directly from a power plant
- from an energy provider
- EEX* or OTC**-Market

* European Energy Exchange
 ** over the counter

Produced energy can be sold

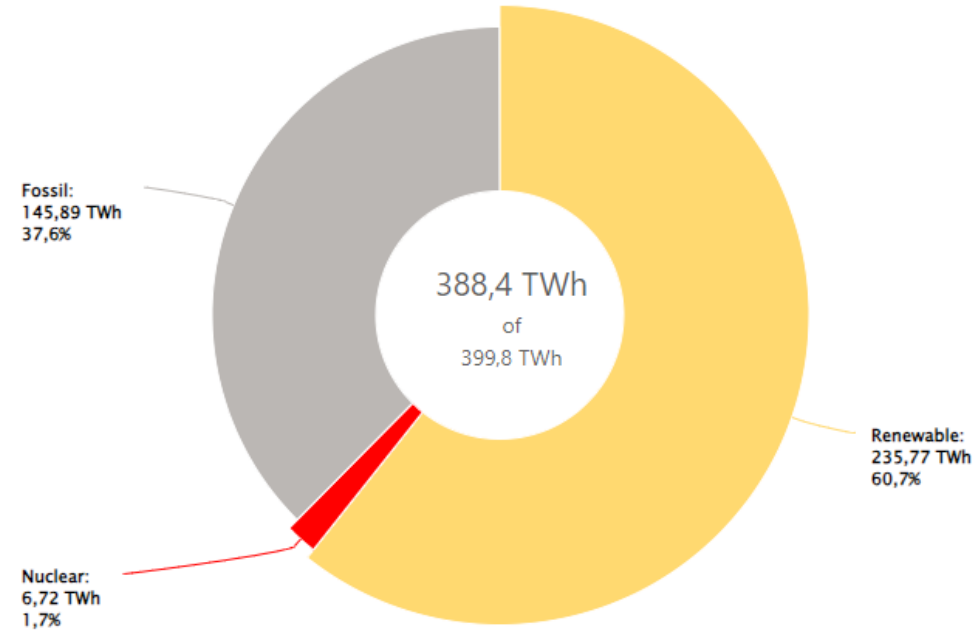
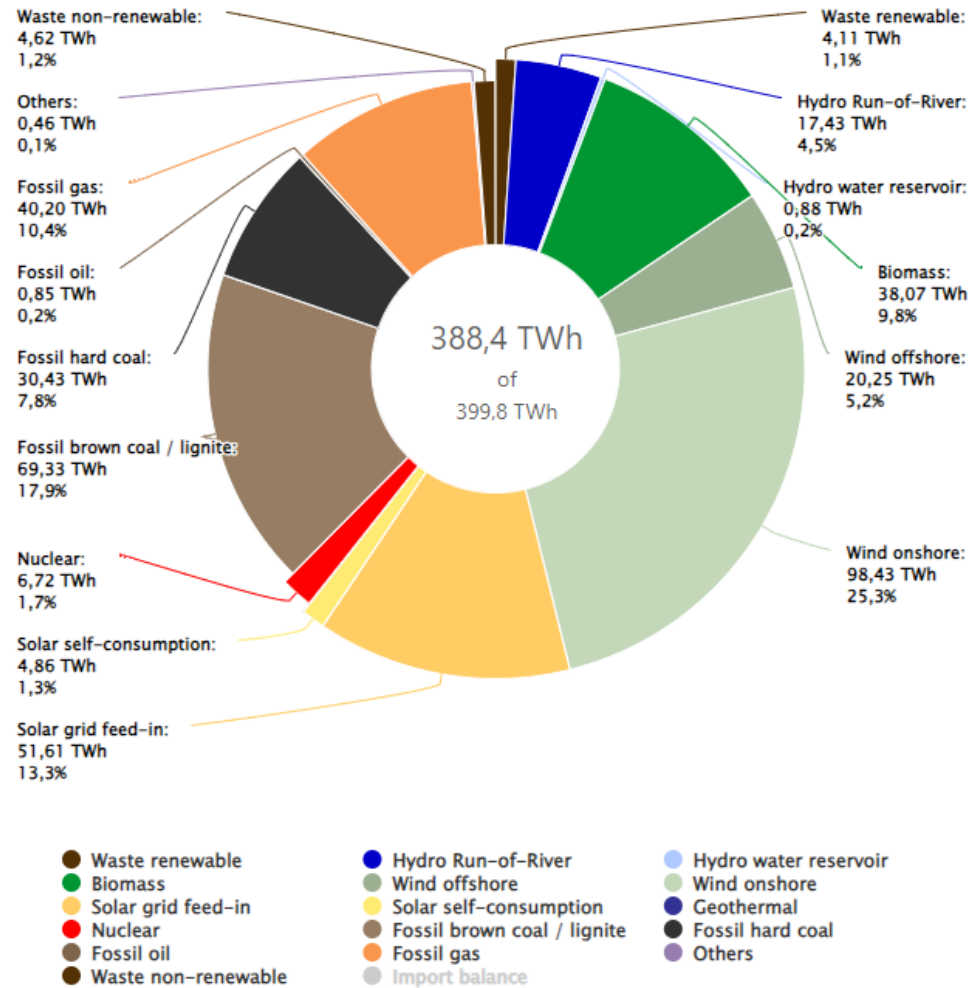
- directly to consumers
- to an energy provider
- EEX or OTC-Market



Business division of a municipal utility

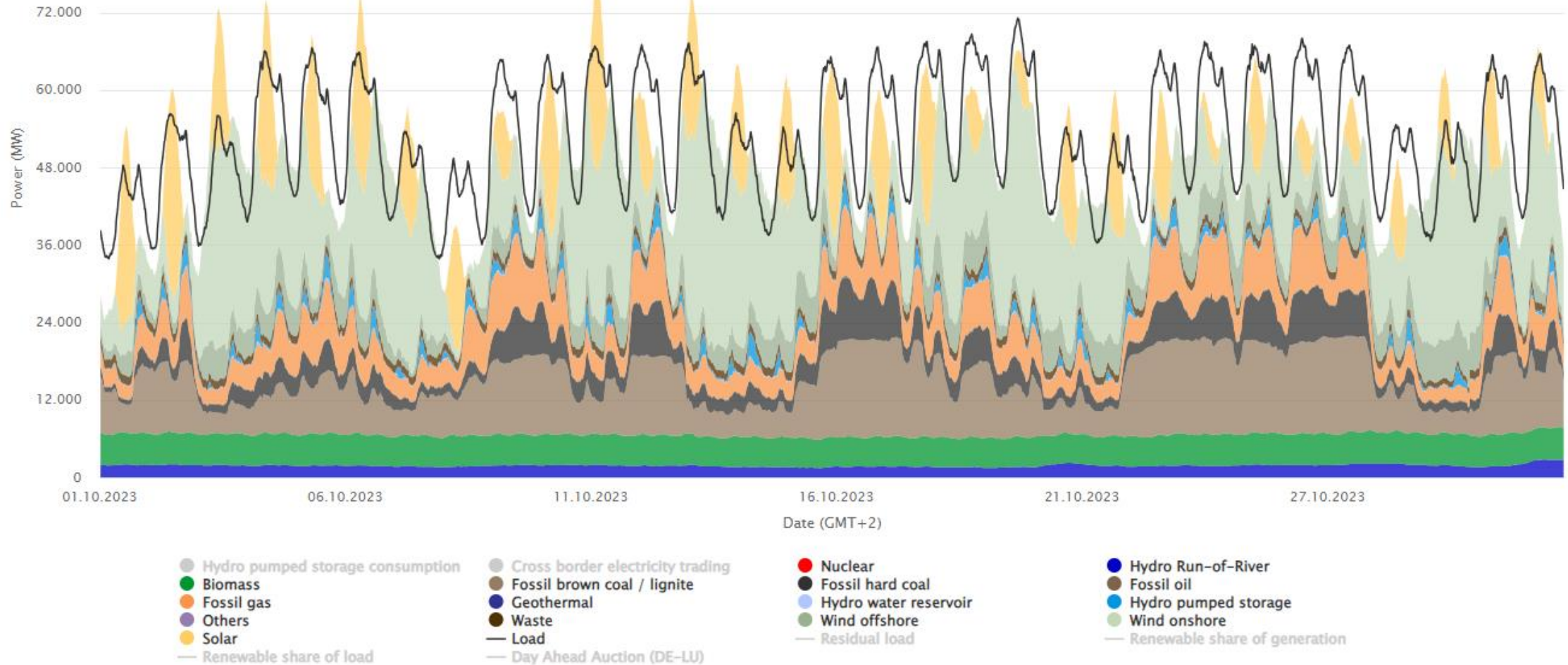
Business division of a municipal utility

Public net electricity generation in Germany in 2023



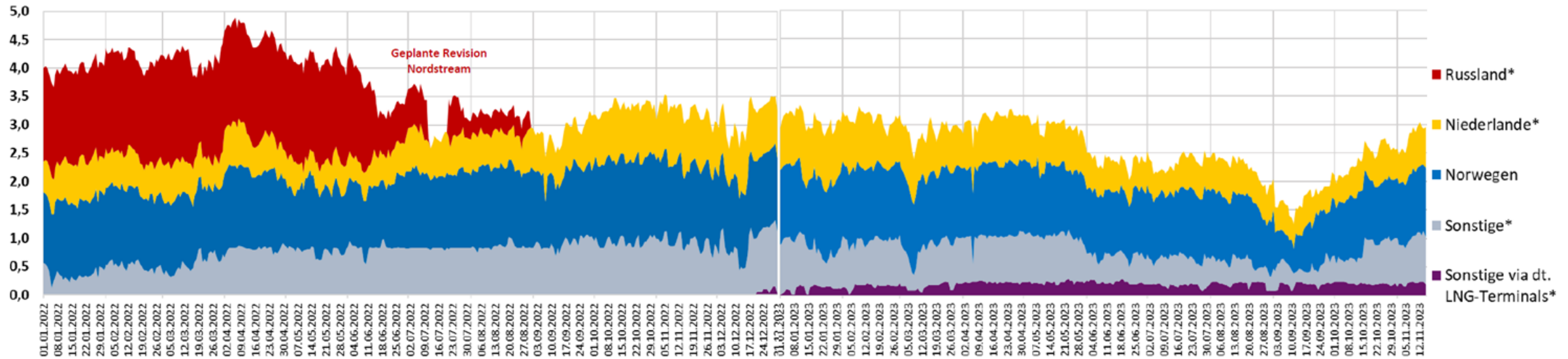
Source: [Pie Charts Electricity Generation | Energy-Charts](https://www.energy-charts.de/en/pie-charts-electricity-generation)

Public net electricity generation in Germany in October 2023



Source: [Electricity Production | Energy-Charts](https://www.energy-charts.com/)

Gas flows to Germany by origin of the natural gas until 15 November 2023

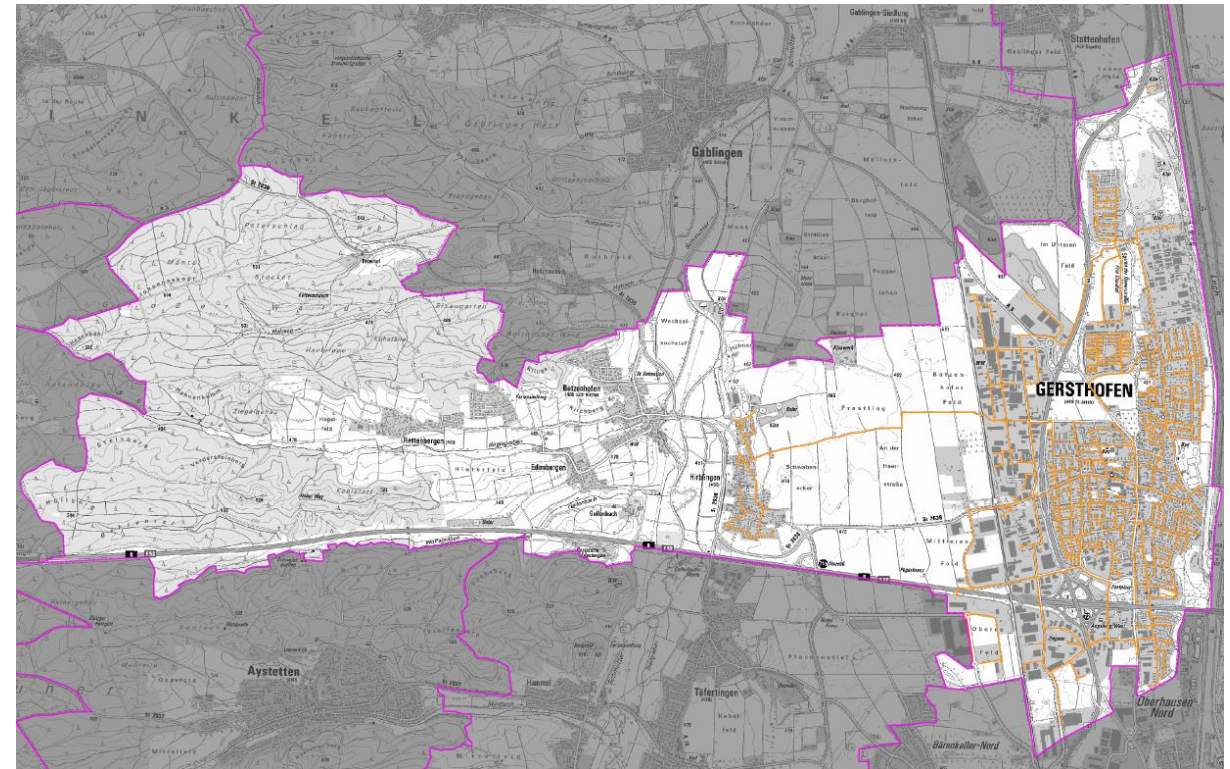


Source: ENTSOG; FNB

BUSINESS UNITS OF STADTWERKE GERSTHOFEN

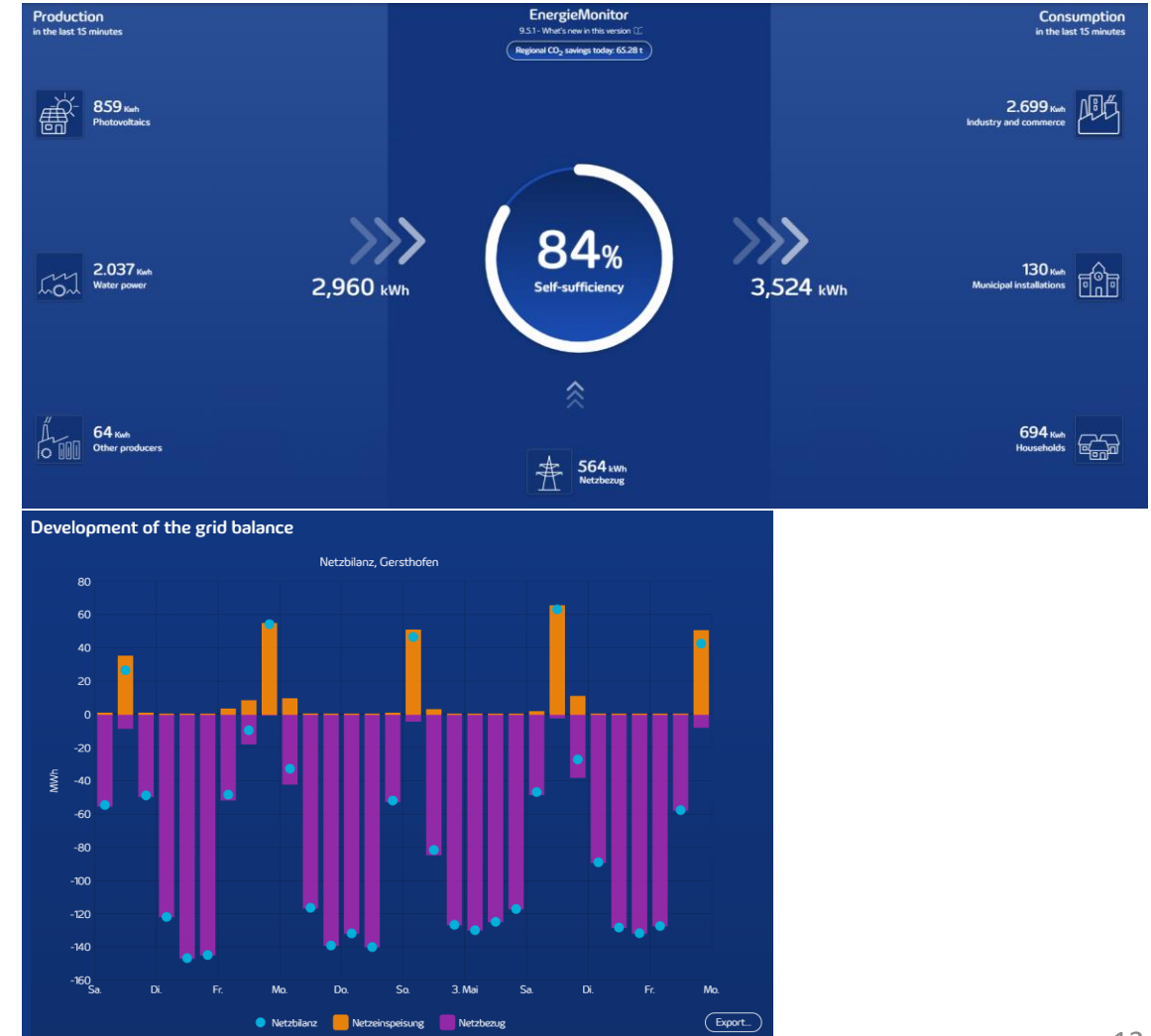
Business units of Stadtwerke Gersthofen local municipal utility / gas infrastructure

- Currently approx. 340 GWh/a natural gas consumption in the urban area (commercial and private)
- Gas grids are in municipal hands
- Gasnetz Gersthofen GmbH & Co.KG
 - 51 % Stadtwerke Gersthofen
 - 49 % Schwaben Netz GmbH
- The existing gas grid is already > 90% H2-ready

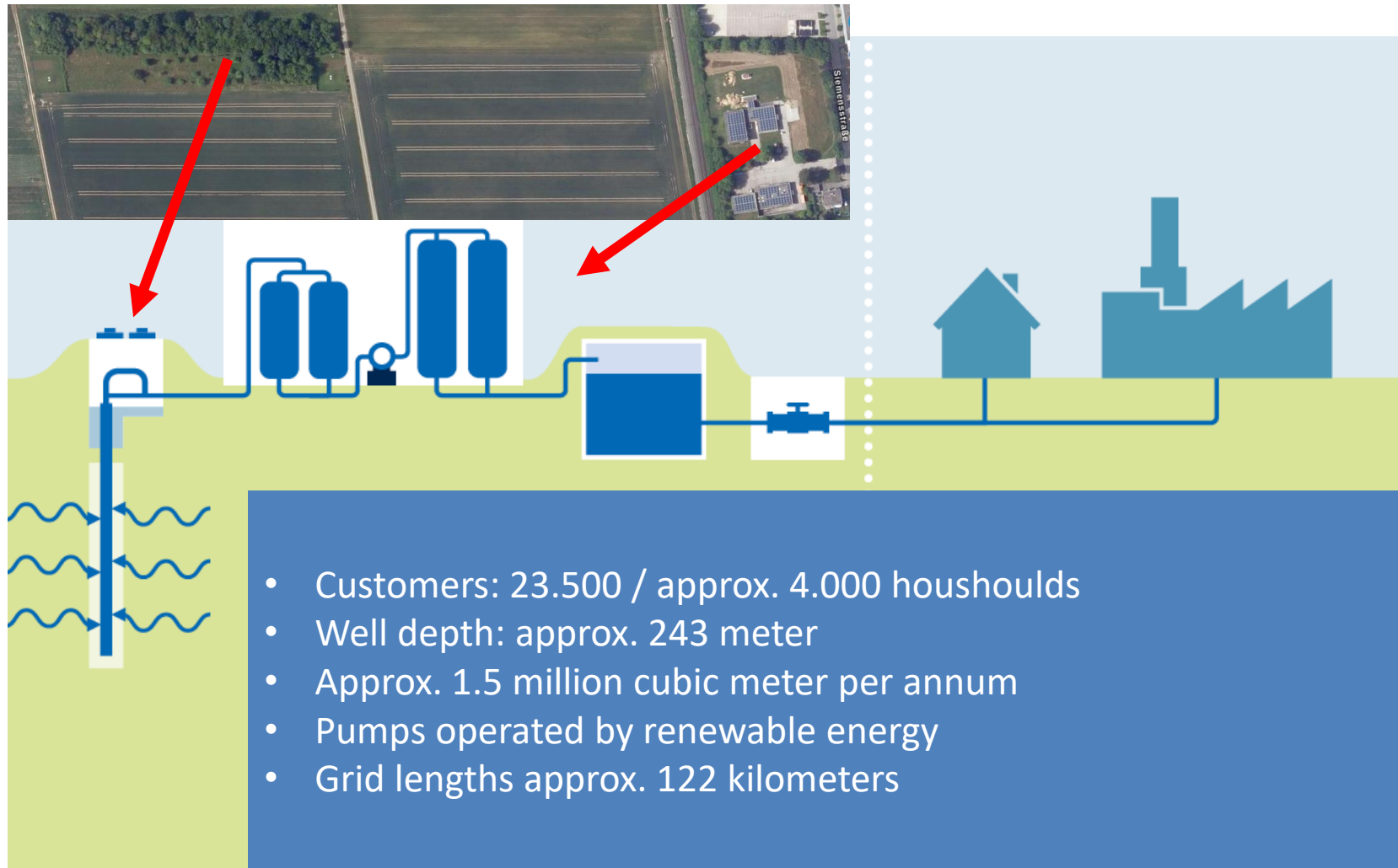


Business units of Stadtwerke Gersthofen local municipal utility / electricity infrastructure

- Electricity grids are in municipal hands
- Stromnetz Gersthofen GmbH & Co.KG
 - 51 % Stadtwerke Gersthofen
 - 49 % LEW Verteilnetz GmbH
- Grid cable length
 - Medium Voltage (20 KV) 66 kilometer
 - Low voltage (230 – 400 V) 270 kilometer
- Energy consumption approx. 135 GWh/a



Business units of Stadtwerke Gersthofen local municipal utility / water infrastructure + delivery to customers



Source: <https://www.dvgw.de/themen/sicherheit/sicherheit-wasserversorgung>

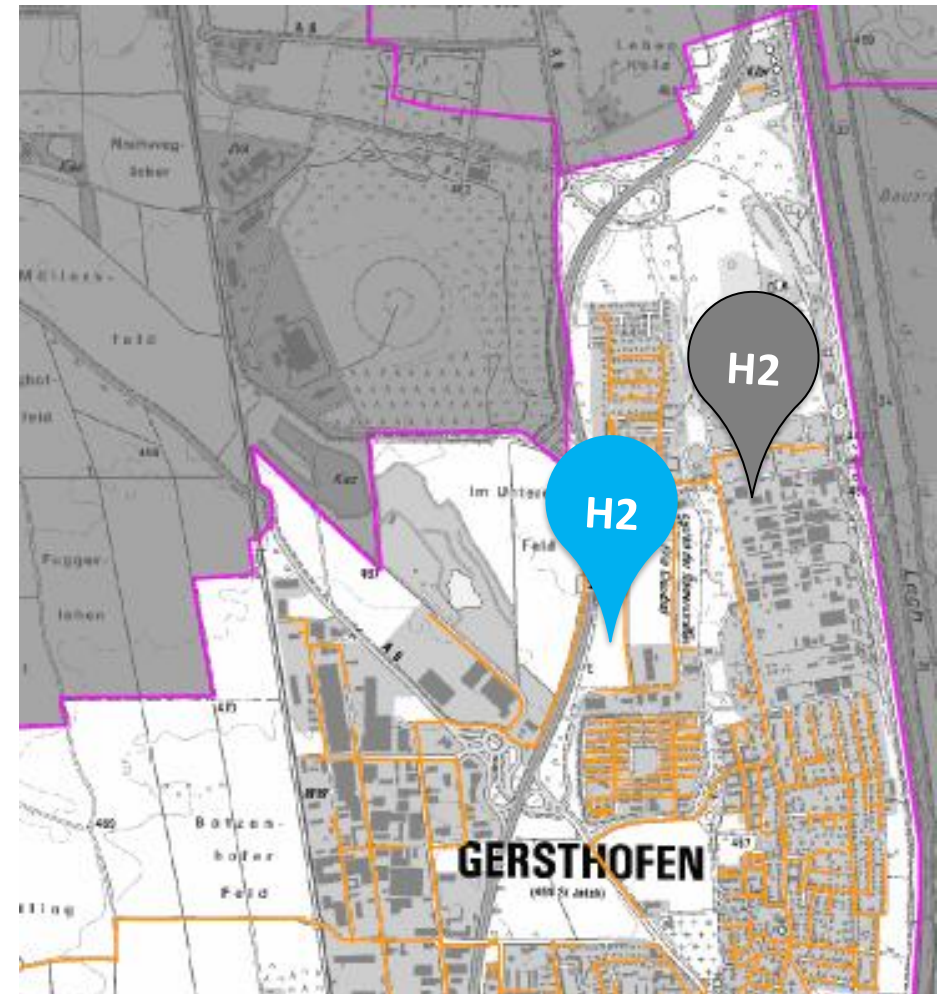
Business units of Stadtwerke Gersthofen local municipal utility / heating grids and renewables

- beside smaller business units like public baths, forests and cemeteries we focus on:
 - heating grids
 - using existing heat sources like industrial waste heat and waste heat from wastewater treatment plants
 - renewables
 - wind power plants
 - photovoltaic plant

CURRENT PROJECTS

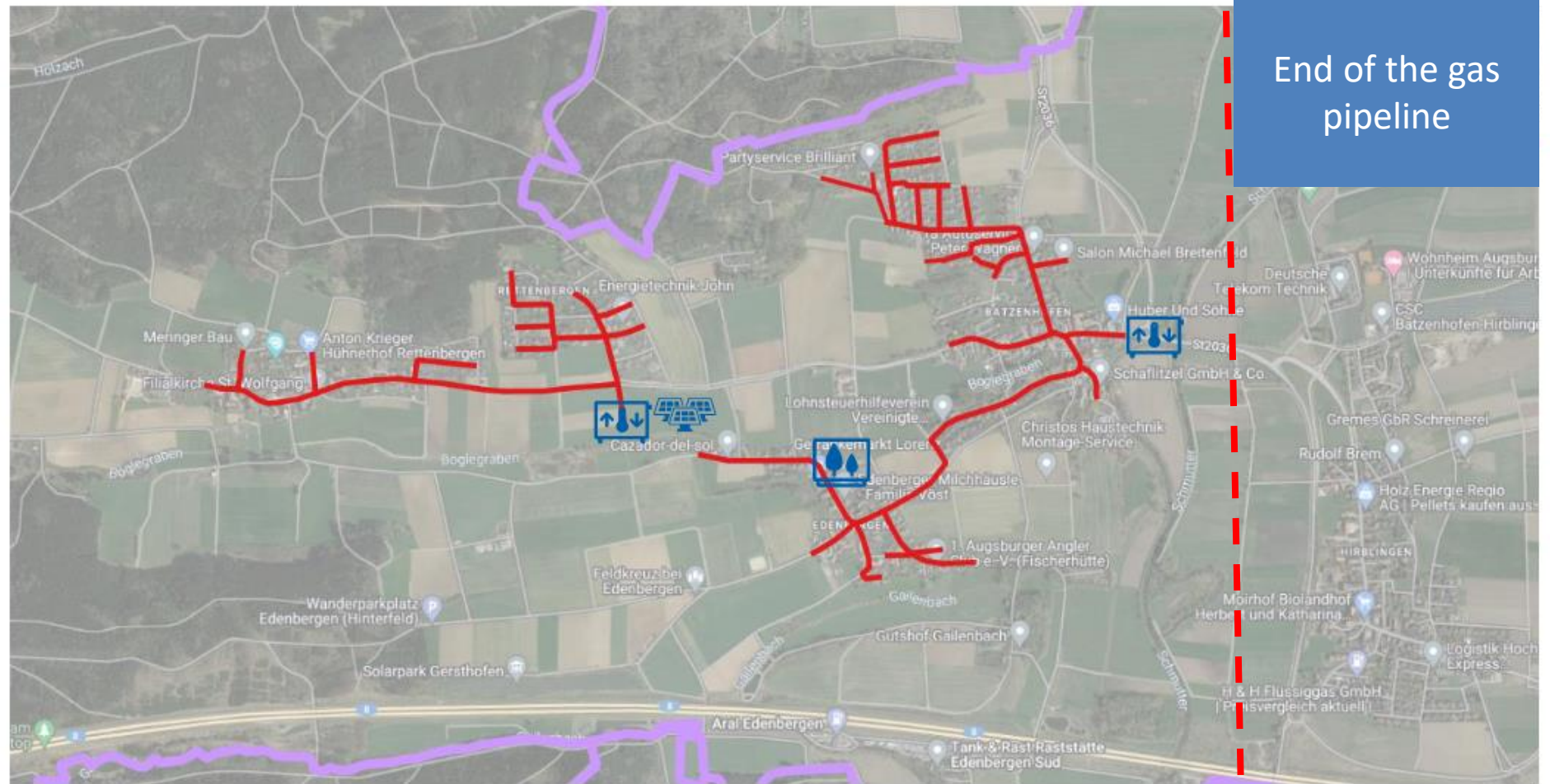
Local H2 project with already available H2 from an industrial processes

- A local company operates several chlor-alkali electrolysis plants
- In the short term, approx. 1 million standard cubic meters (Nm³) and in the medium term up to 7 million Nm³ of grey hydrogen could be made available
- The amount of hydrogen produced includes an annual potential of short-term:
 - *approx. 3 GWh*
(approx. 250 4-person households)
 medium-term
 - *up to approx. 23 GWh*
(approx. 1,900 4-person households)
- The existing hydrogen will be combined with an new 5 MW electrolysis – the funding application has already been submitted



Local heat project to reduce CO2 to „0“ emission for small villages of Gersthofen

-  Heat pump
-  Photovoltaic
-  Solar thermal
-  Biogas plant



Summary & lessons learned

- All new projects in Gersthofen
 - are justified to „0“ emission
 - we try to participate our citizen (participation models)
 - are focus „THE GLOBAL GOALS For Sustainable Development“
- We are open minded and we still share our experience with e.g. Kenya and other partner

THE GLOBAL GOALS For Sustainable Development



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