23rd EUROPEAN WEEK of REGIONS and CITIES

Shaping Tomorrow, Together

13 October
-30 November
Close to You
2025

#EURegionsWeek

23rd EUROPEAN WEEK of REGIONS and CITIES

Shaping Tomorrow, Together

13-15 OCT 2025

PLENTY Life

Shaping the Energy Transition

Innovative approaches for Energy-efficient Small Towns – Insights from Austrian Pilot Projects

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BOKU UNIVERSITY

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Co-funded by the European Union

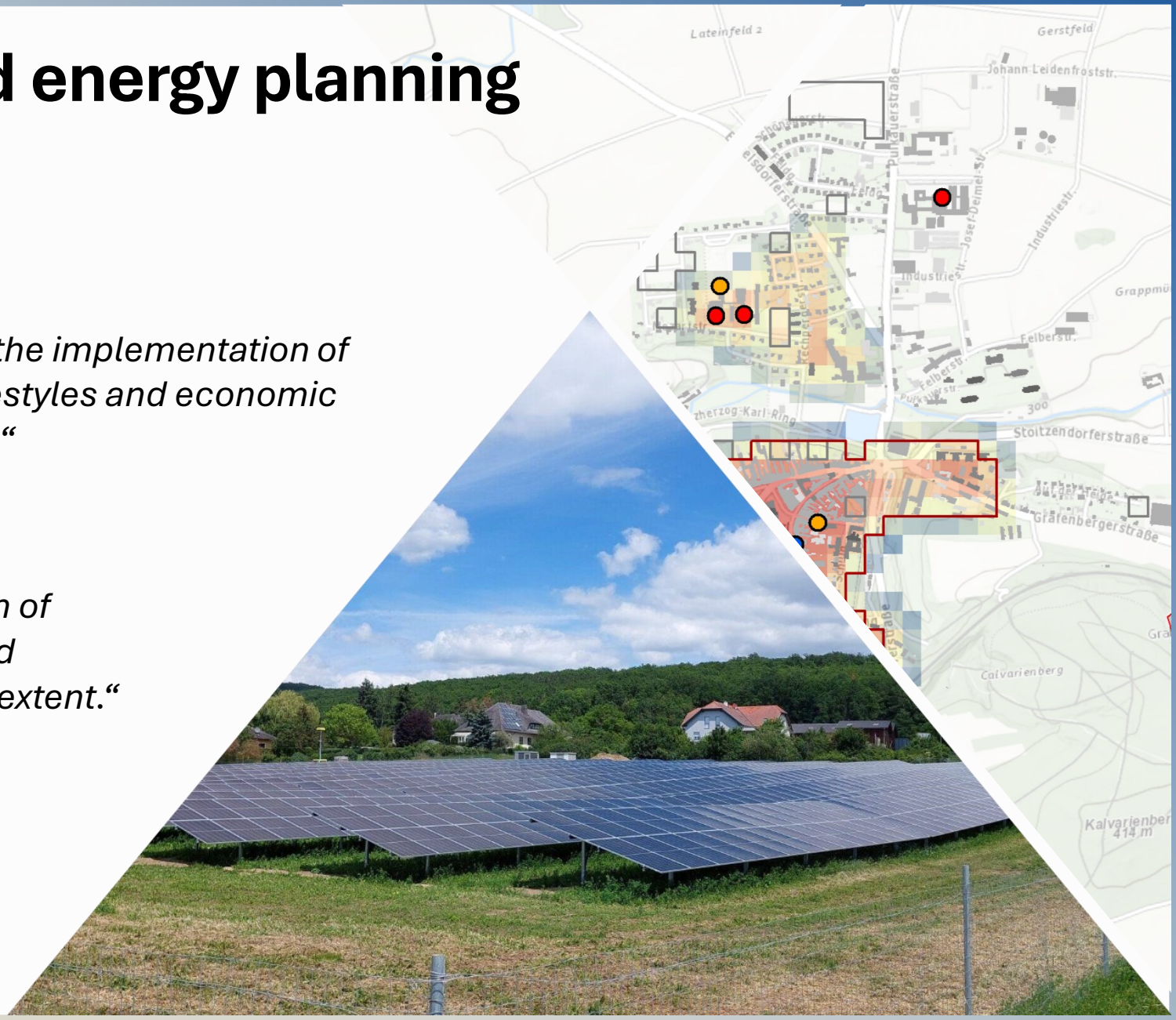
Integrated spatial and energy planning

Objective 1:

*„The potential of **spatial structures** for the implementation of **energy-saving** and **energy-efficient** lifestyles and economic forms must be preserved and improved.“*

Objective 2:

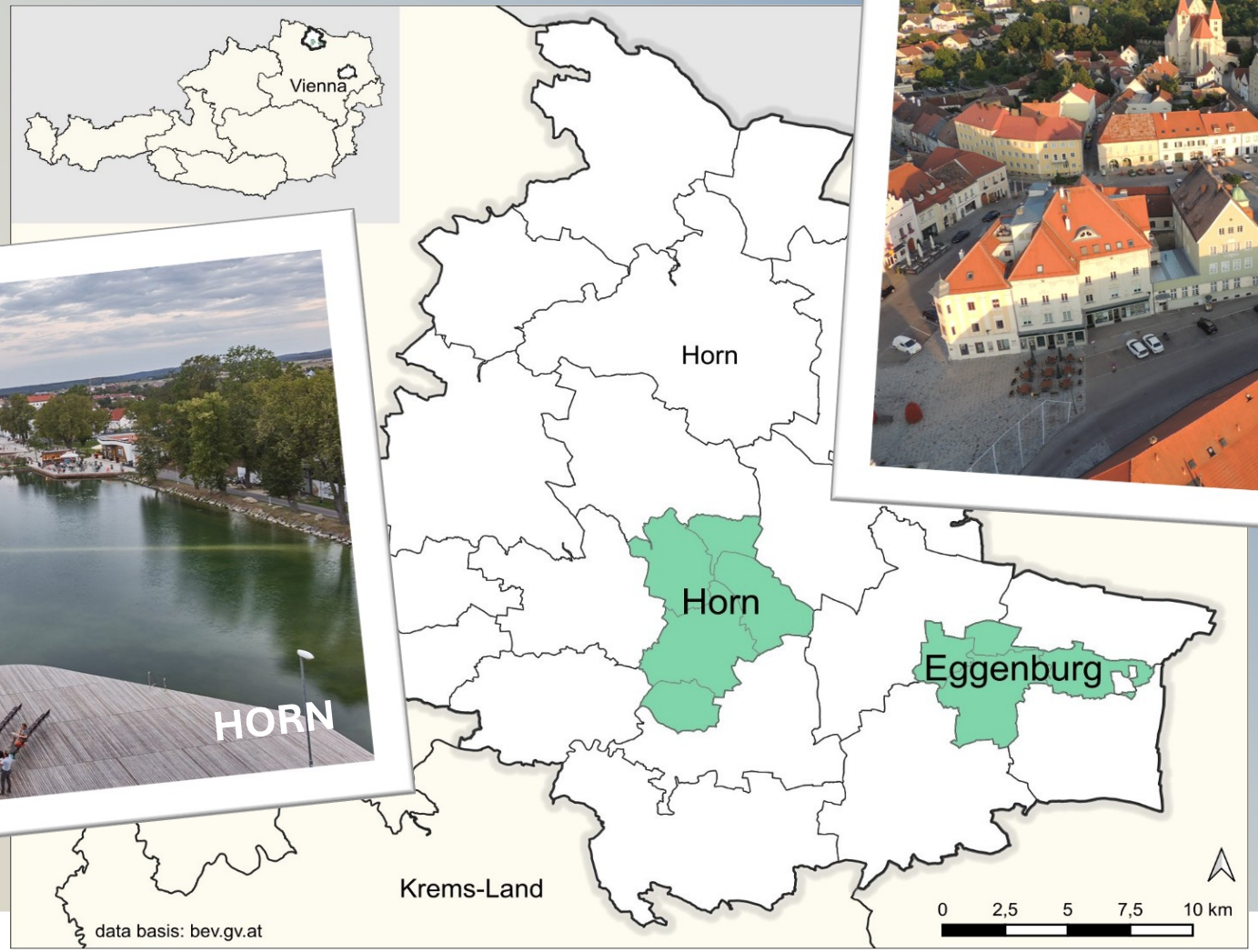
*„The **spatial potential** for the generation of **renewable energy** must be retained and mobilised to a sufficient and affordable extent.“*



Source: Stoeglehner et al. 2014, 2016
Stoeglehner and Abart-Heriszt 2022
https://doi.org/10.1016/j.rser.2022.112587

Case studies in Austria

Population (1.1.25):
6,492 inhabitants



Population (1.1.25):
3,509 inhabitants

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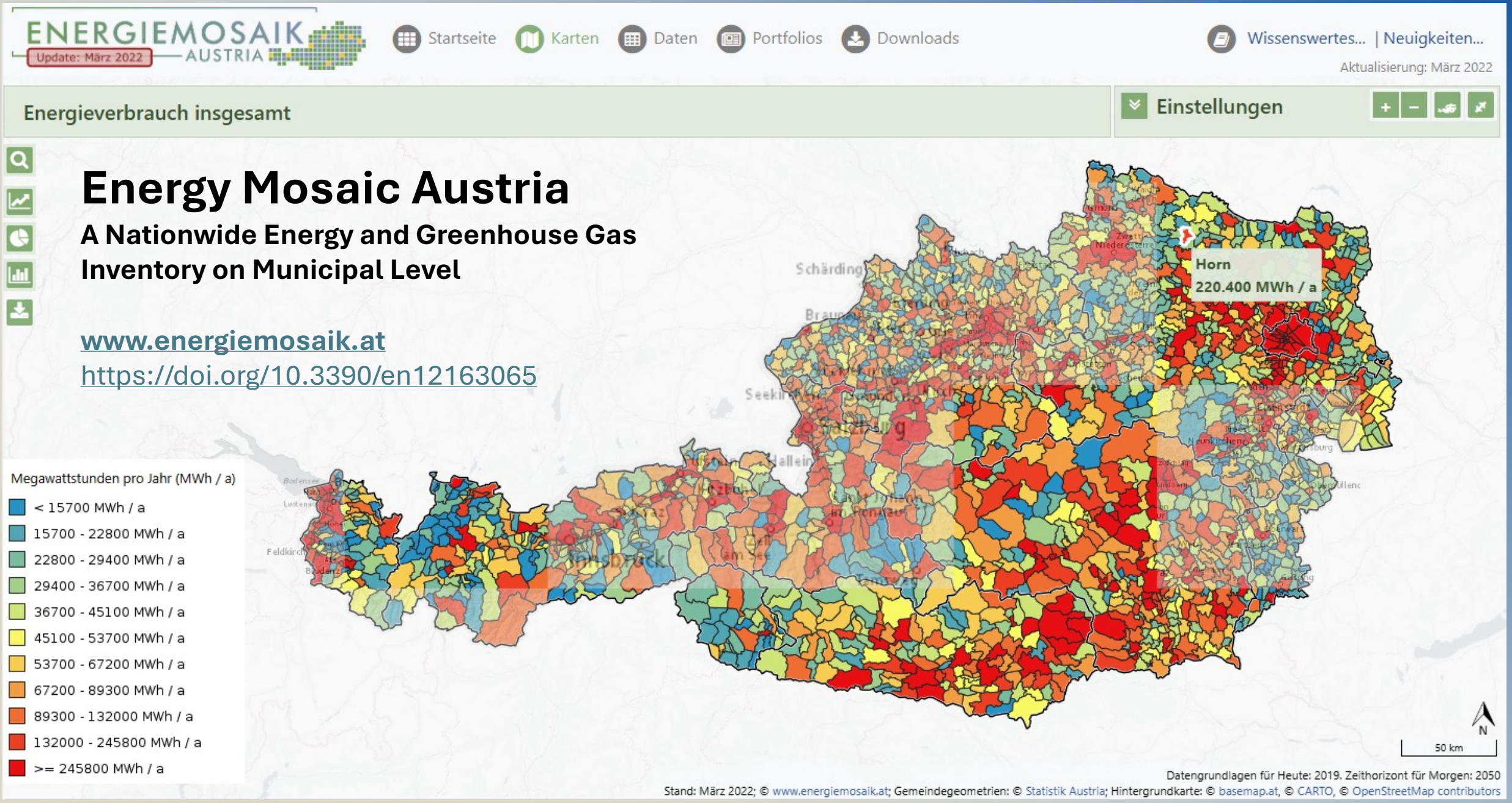
Source: Statistics Austria 2025

Energy and climate concept

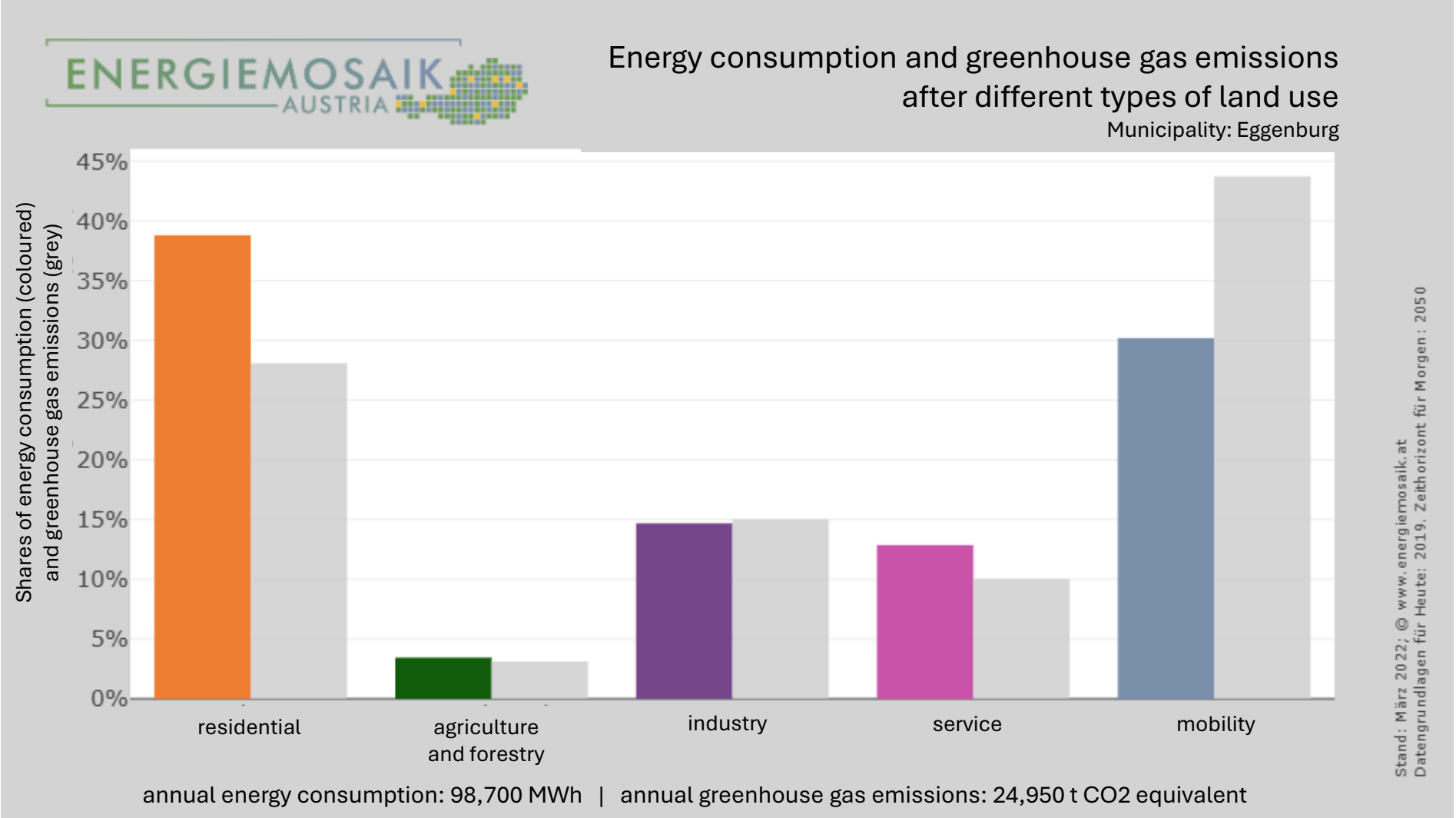
- What forms of **renewable energy generation** are feasible in the municipal area?
  - … e.g. wind energy, photovoltaics, geothermal energy, biomass
- What forms of **sustainable energy supply** are feasible in the municipal area?
  - … e.g. district heating
- Which forms of **settlement development** are chosen to ensure a **positive carbon footprint**?
  - … e.g. compact settlement forms, development in areas with good supply, community with short distances, connection density for public transport and heat supply

Source: Lower Austrian Government 2020


ENERGIEMOSAIK AUSTRIA
Update: März 2022
Startseite
Karten
Daten
Portfolios
Downloads
Wissenswertes... | Neuigkeiten...
Aktualisierung: März 2022
Energieverbrauch insgesamt
Einstellungen
Energy Mosaic Austria
A Nationwide Energy and Greenhouse Gas Inventory on Municipal Level
www.energiemosaik.at
https://doi.org/10.3390/en12163065
Horn
220.400 MWh / a
Megawattstunden pro Jahr (MWh / a)
< 15700 MWh / a
15700 - 22800 MWh / a
22800 - 29400 MWh / a
29400 - 36700 MWh / a
36700 - 45100 MWh / a
45100 - 53700 MWh / a
53700 - 67200 MWh / a
67200 - 89300 MWh / a
89300 - 132000 MWh / a
132000 - 245800 MWh / a
>= 245800 MWh / a
Schärding
Innsbruck
Feldkirch
N
50 km
Datengrundlagen für Heute: 2019. Zeithorizont für Morgen: 2050
Stand: März 2022; © www.energiemosaik.at; Gemeindegeometrien: © Statistik Austria; Hintergrundkarte: © basemap.at, © CARTO, © OpenStreetMap contributors

Energy consumption and greenhouse gas emissions

(Status: 2022)



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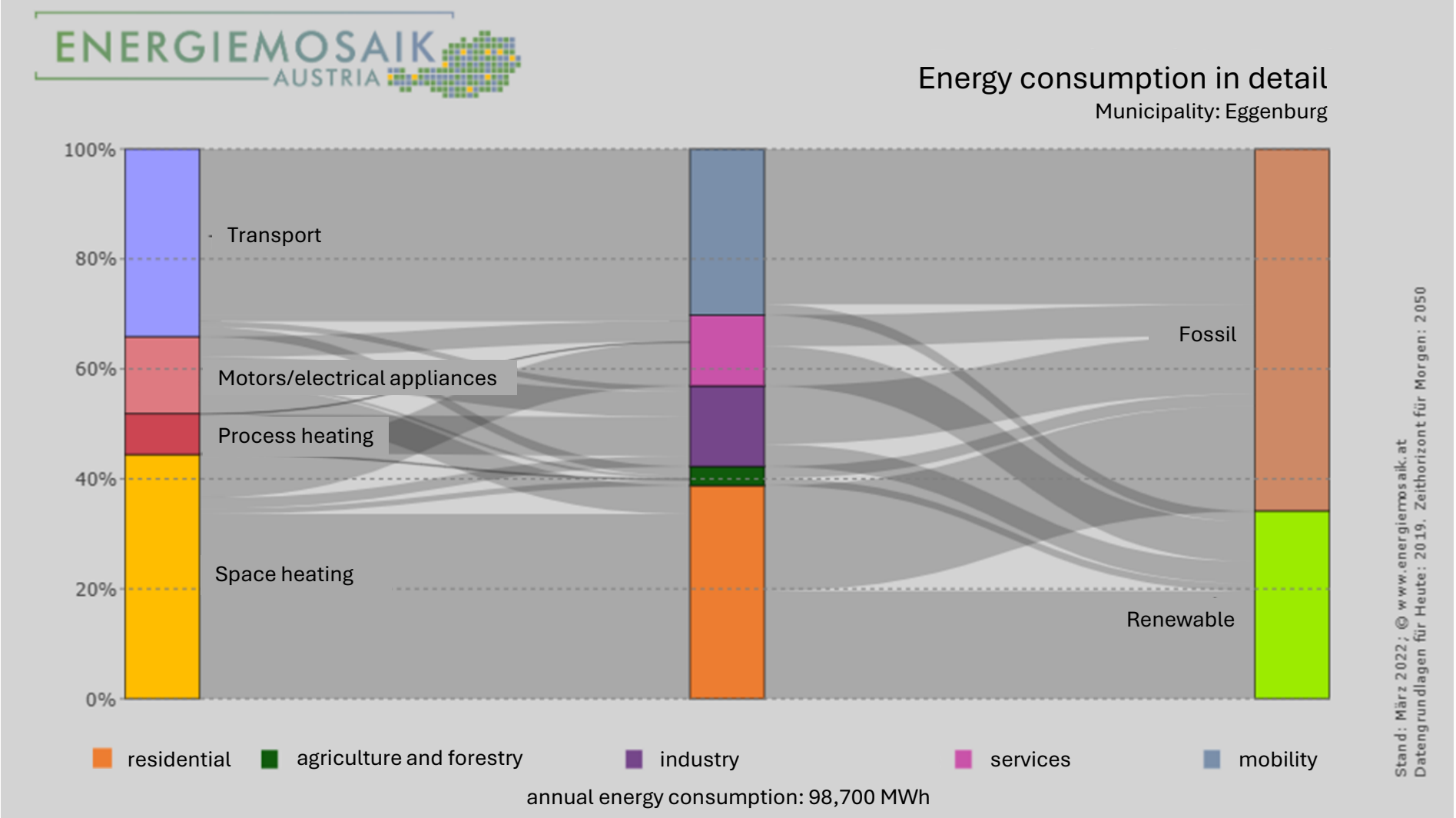
Energy consumption in detail

(Status: 2022)



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Key workshop topics in Austrian municipalities

PV potentials
Energy communities

Electricity

Expansion of district heating and Integration of solar heat

Heat

Mobility

Climate-friendly mobility (walking and cycling)
Public transport

Local Spatial Planning Eggenburg
Climate and Energy

Objective:

Promoting energy generation from renewable energy sources *and* ***supporting energy communities*** *for self-sufficiency by prioritising the use of PV on roof surfaces, building land, traffic areas, landfills and other sites that have already been taken away from agriculture, as well as reducing consumption (through thermal refurbishment).*

Measures: Energy generation and energy supply

- *Creating the conditions for the* ***expansion of the local district heating supply*** *in existing and future residential areas*
- *Promotion of further* ***alternative options for energy generation***

Source: Municipality of Eggenburg 2025

Appropriate areas for integrated spatial and energy planning

Spatial proximity of **heat generation** and **heat demand**

- Concentration of future settlement development on locations that can by supplied with district heating (from renewable energy sources or waste heat)

Spatial relationship between **settlement structures** and **mobility**

- Steering future settlement development to locations with optimal conditions for **climate-friendly mobility** (walking, cycling and public transport)

Source: Stoeglehner and Abart-Heriszt 2022
https://doi.org/10.1016/j.rser.2022.112587

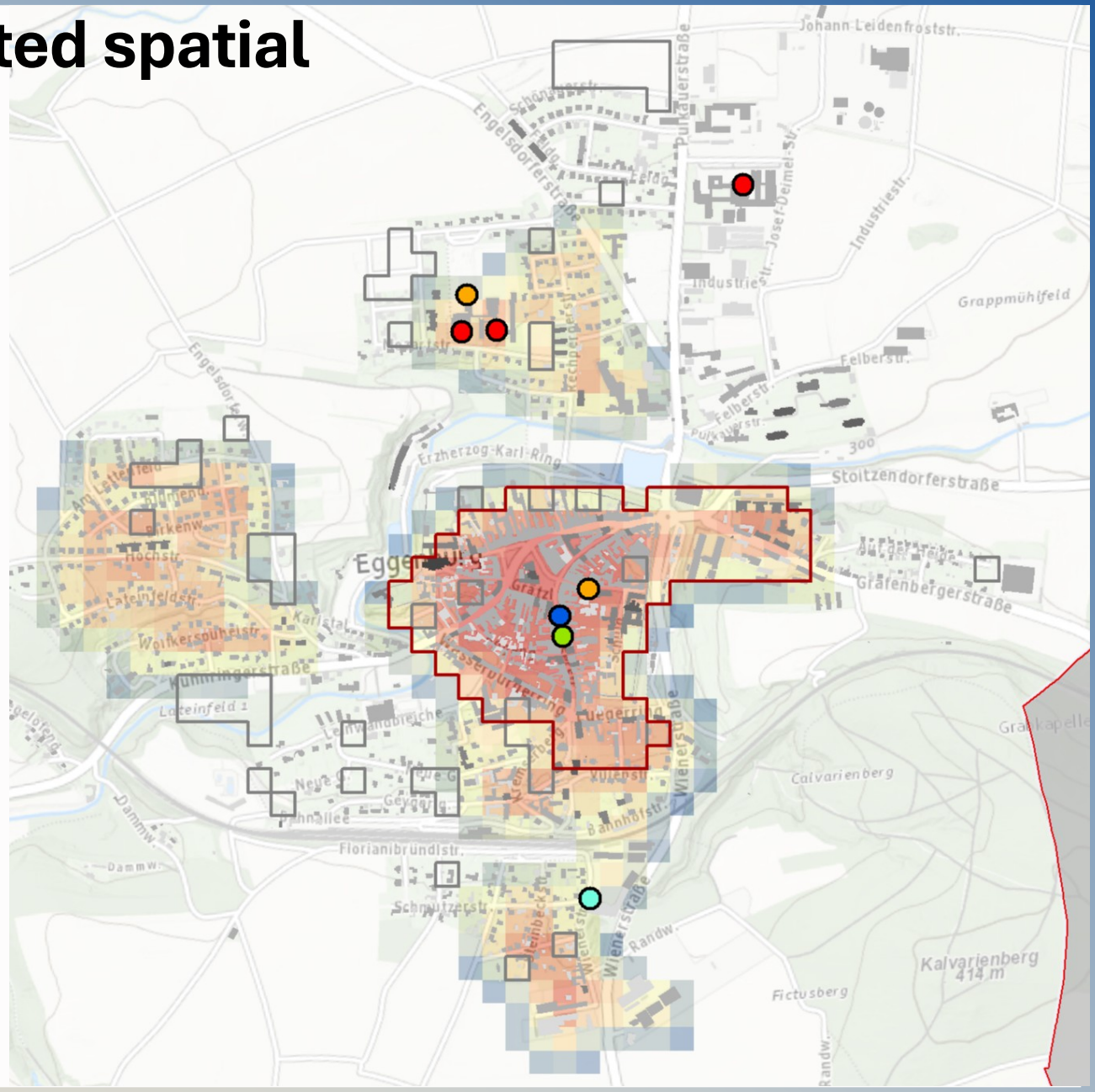
Appropriate areas for integrated spatial and energy planning

The locations are ...

currently less suitable

currently very suitable

... for district heating



Source: IRUB 2024

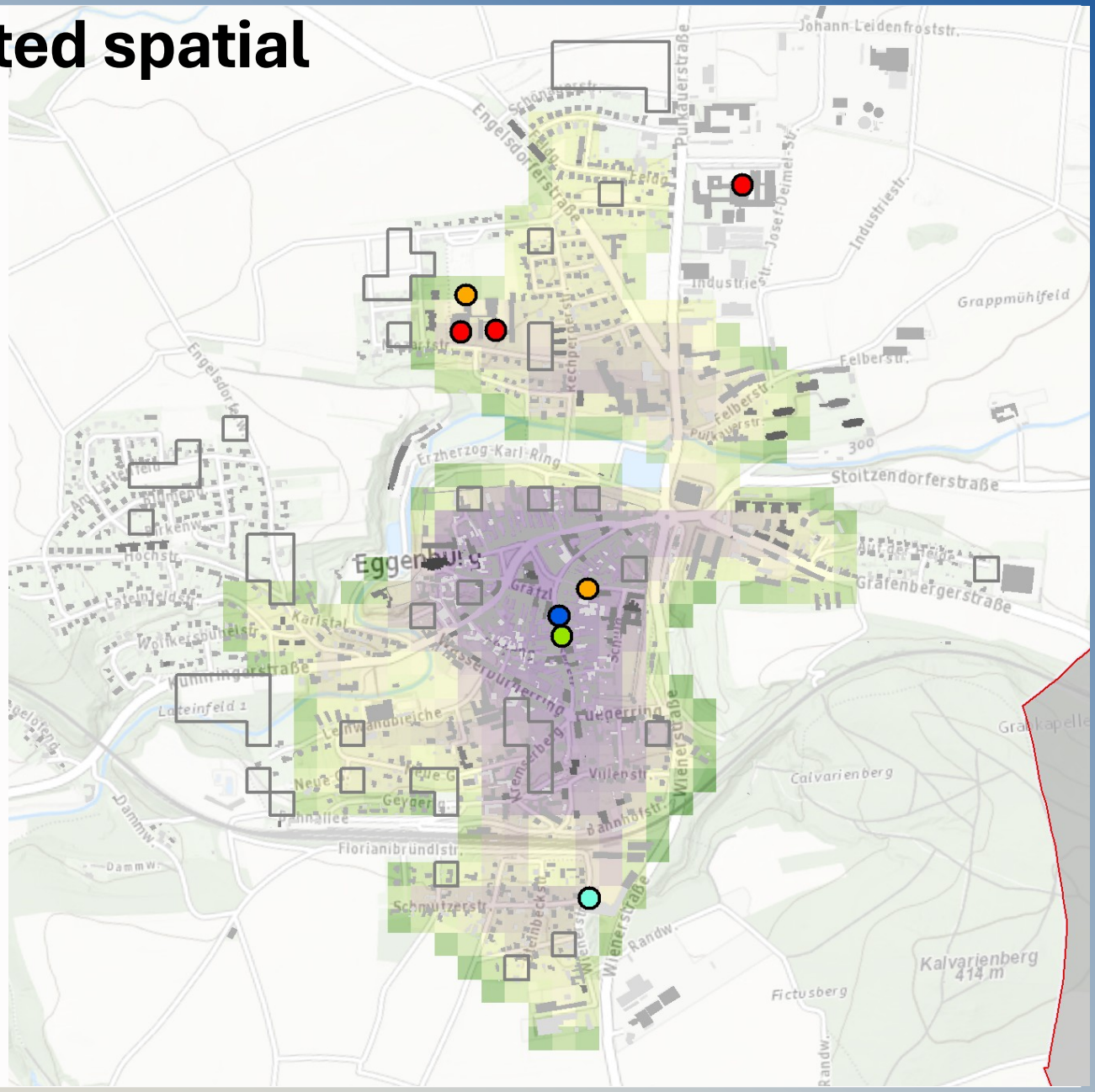
Appropriate areas for integrated spatial and energy planning

The locations are ...

currently less suitable

currently very suitable

... for climate-friendly mobility



Source: IRUB 2024

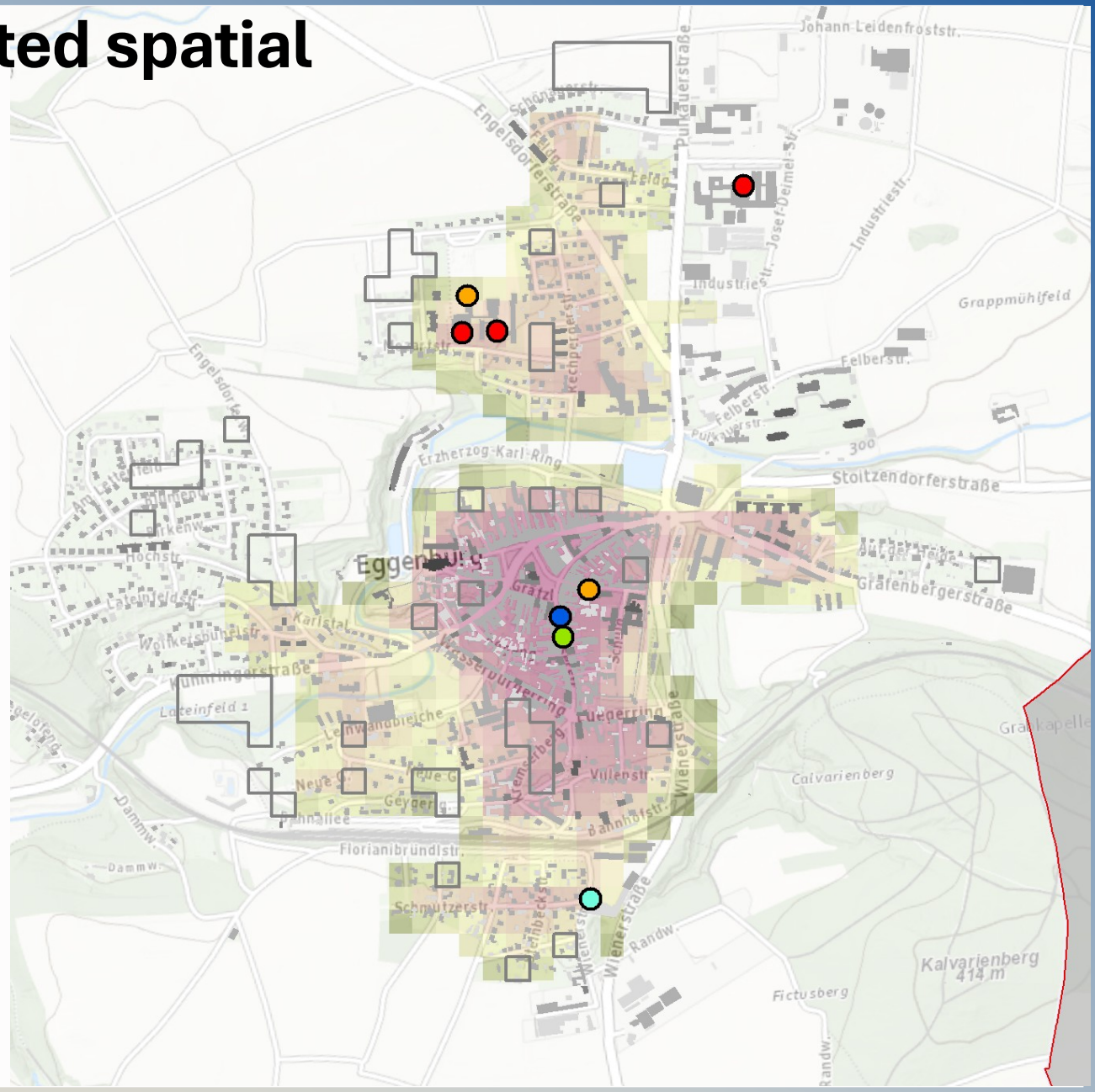
Appropriate areas for integrated spatial and energy planning

The locations are ...

currently less suitable

currently very suitable

... for district heating and climate-friendly mobility



Source: IRUB 2024

“Municipalities are crucial for Clean Energy Transition as planning authorities and infrastructure providers, and for citizens participation.”

Georg Neugebauer
PLENTY-Life coordinator

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References

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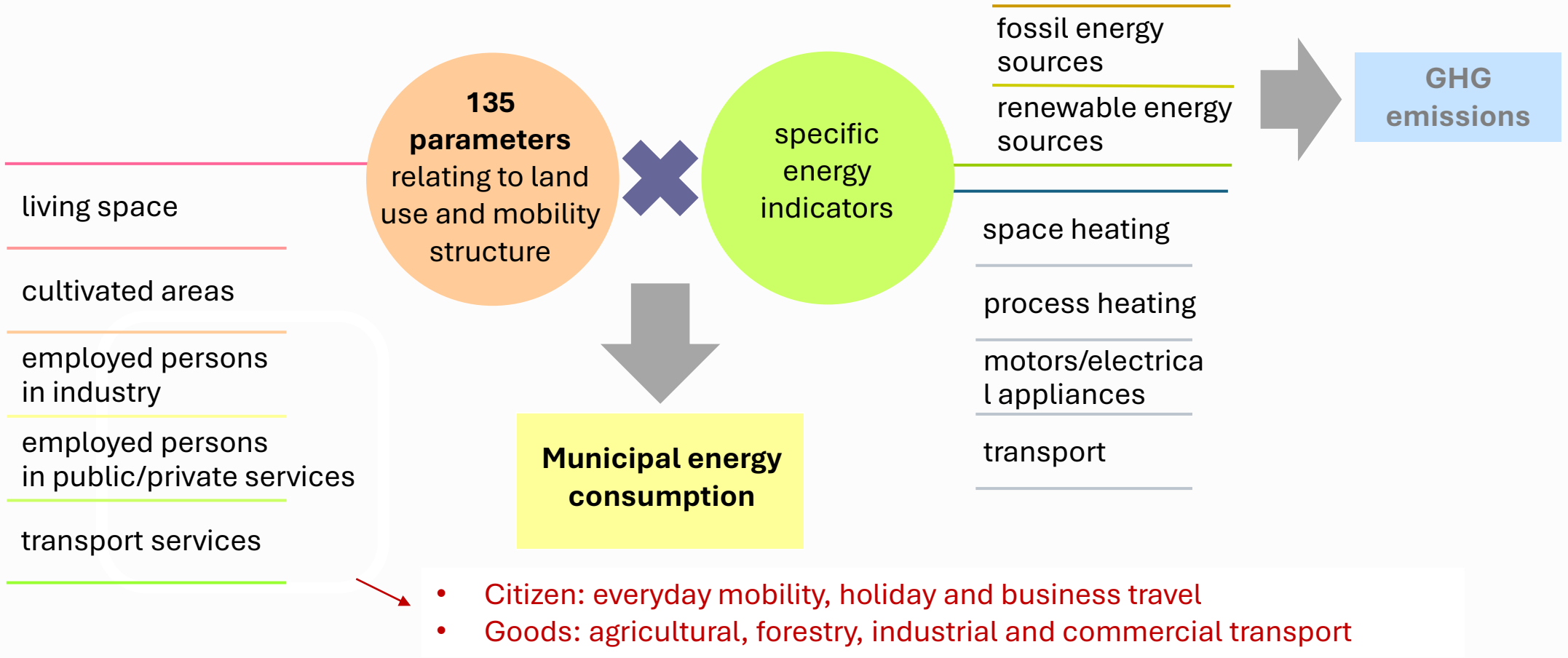
Modelling energy consumption and greenhouse gas emissions



Source: Abart-Heriszt et al. 2019, adapted