Austria‘s biggest innovation lab for a sustainable energy future.

green energy lab.at

“Together we create integrated energy systems for a sustainable future”

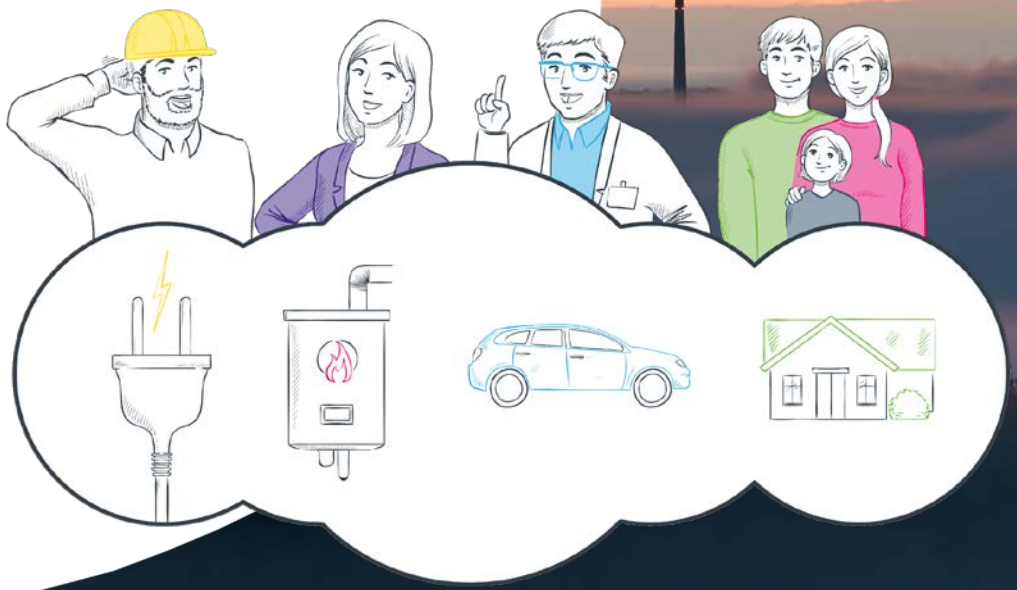
Raphaela Reinfeld
Webinar: EBC Technical Day - Energy innovations for the city of tomorrow
June 24, 2020

This project is supported with the funds from the Climate and Energy Fund and implemented in the framework of the FTI-initiative “Flagship region Energy”.

Green Vision

With customer-oriented solutions, we create an integrated energy system for a sustainable future.

Video clip



Partners & Goals

200 Partners

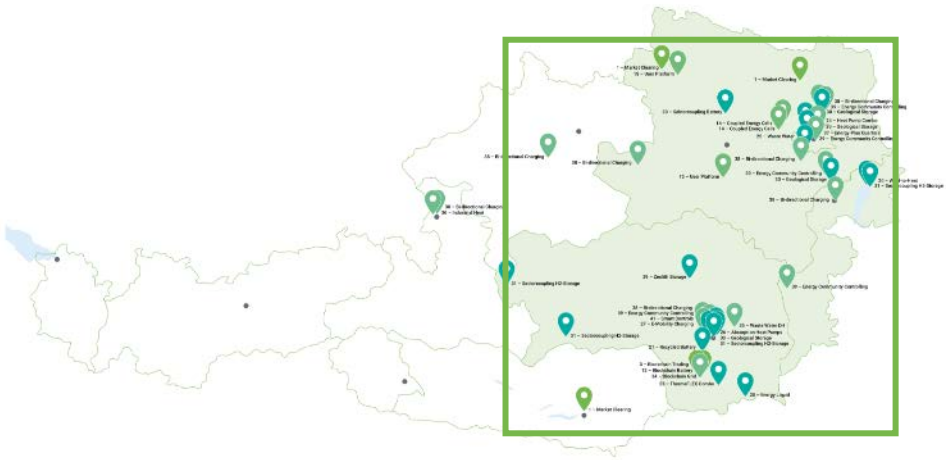
More than **200 partners** from industry, research and administration are working together within Green Energy Lab.

Goals

Together, we bring **new ideas for the energy future** to life, enable them to be **marketed worldwide** and thus make our flagship region the **global innovation leader** for sustainable energy technologies.

Green Energy Lab-Region

Locations of energy innovation



Core region with 5 millionen people in Vienna, Lower Austria, Burgenland and Styria

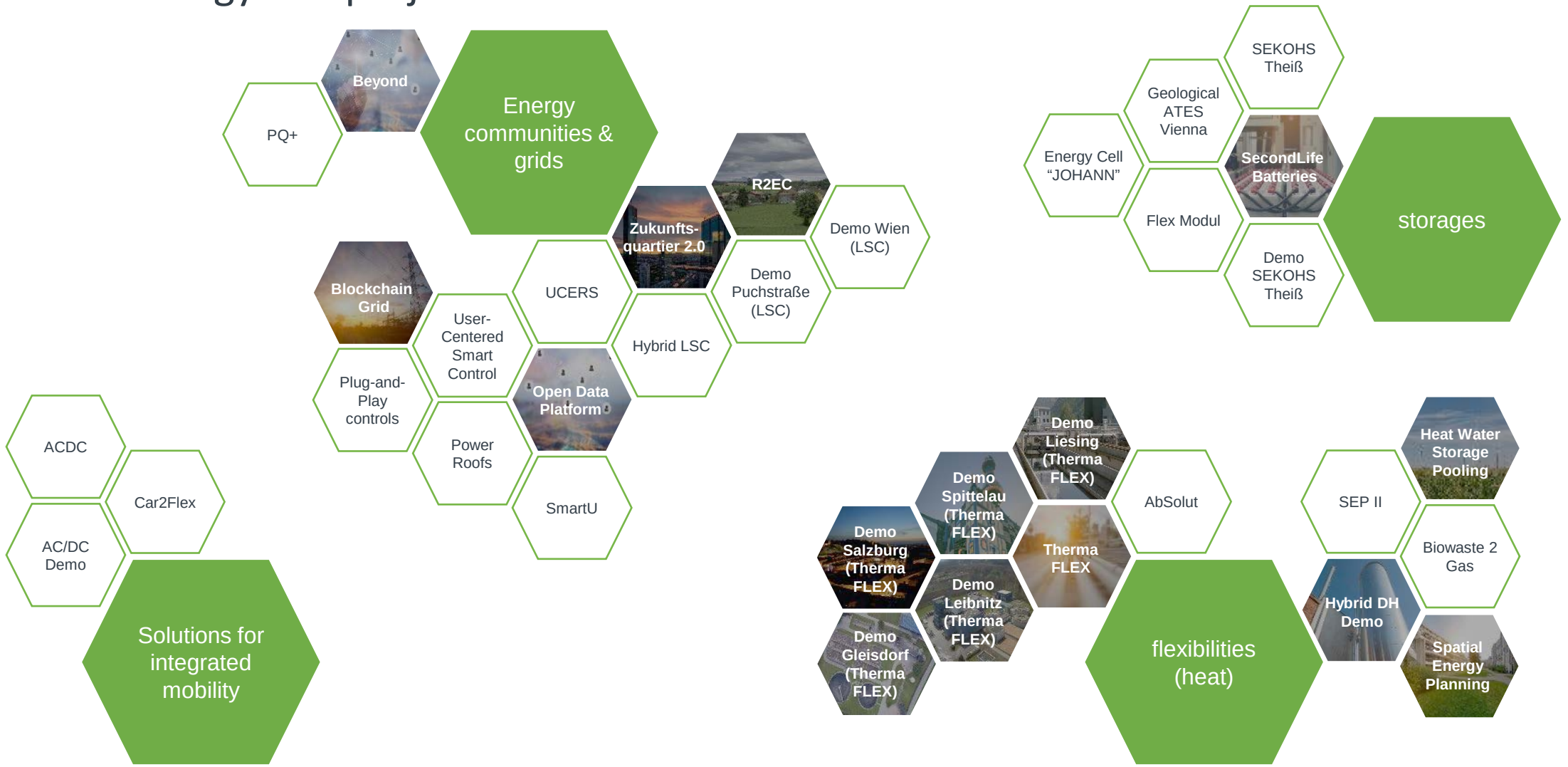
Close cooperation with the four energy providers in the four Federal States..

A wide range of demographic, topographical and economic structures.

98 % of the Austrian wind energy generation

64 % of the Austrian PV production

Green Energy Lab-projects



Project cluster

15 current Green Energy Lab projects
Project volume approx. € 45 million;
thereof approx. € 17 million funding volume

20 submitted projects 3rd Call Modell Region
Project volume approx. € 28 million;
thereof approx. € 14 million funding volume

Spatial Energy Planning

Spatial energy planning for the heat transition

Project tasks and goals

- Development of planning-processes for the spatially optimized development of the heat supply infrastructure, taking into account local conditions such as existing energy infrastructure, land use and available renewable energy resources and waste heat.
- The results will be incorporated into the digital HEATatlas and a HEATapp prototype.

Expected results

- HEATatlas: shows the complex relationships in energy systems and thus makes long-term energy and infrastructure planning with a high investment security possible.
- HEATapp: allows automated queries and can be used in three specific main applications of the public administration: site development, spatial planning and monitoring of energy strategies.
- Pilot trials of the developed energy spatial planning tools in the participating pilot communities.

Facts & Figures

Duration: June 2018 - May 2021

Funding program: Flagship Region Energy

Project-type: Cooperative F&E-Project

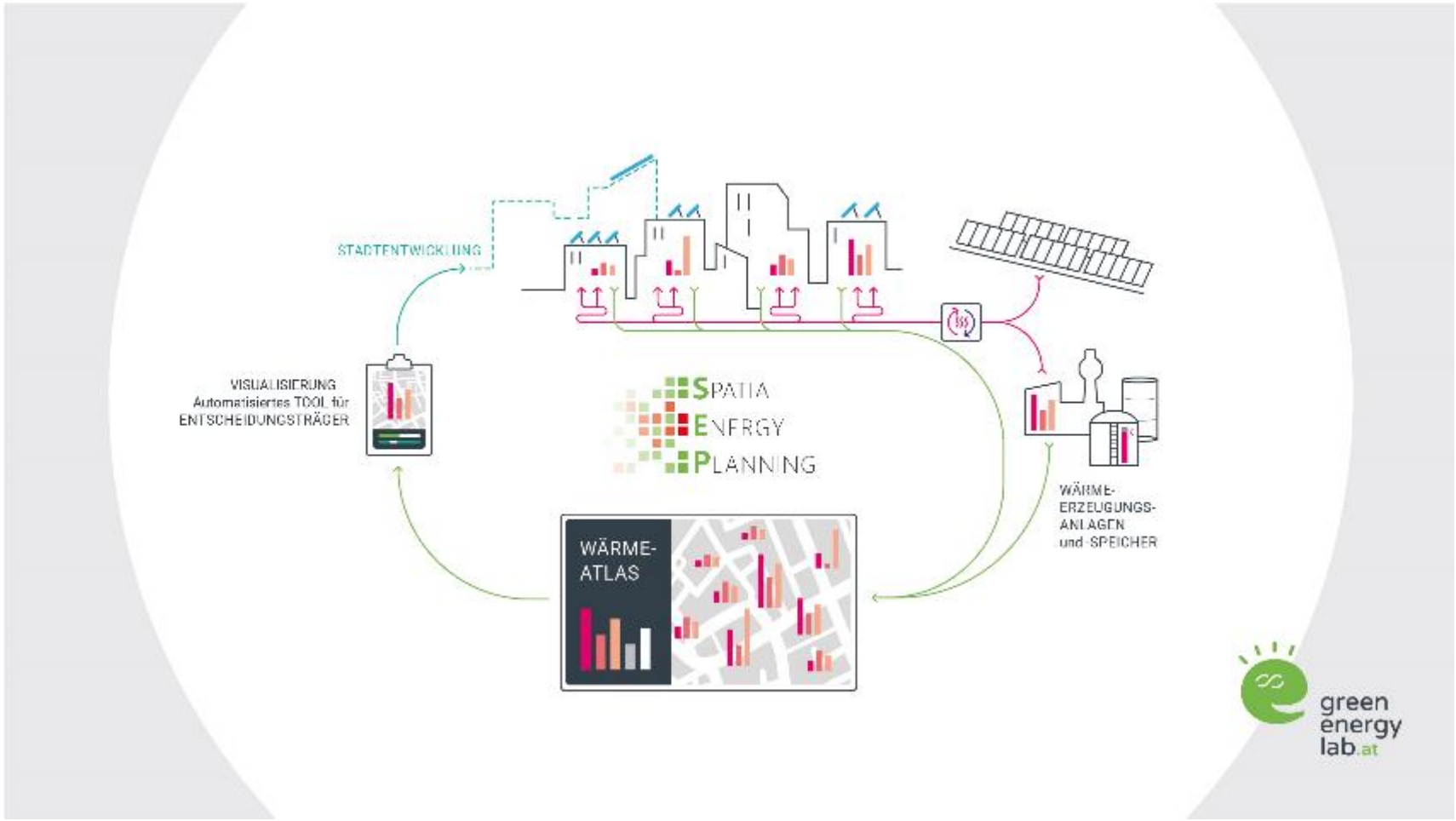
Budget: € 2,7 M

Funding: 54 %

Lead: SIR - Salzburger Institut für Raumordnung und Wohnen

Partners: Research, cities and communities, administration, Energy-agentgies (20 partners)

Spatial Energy Planning



ThermaFLEX

Flagship project developing the district heating network of tomorrow

Project tasks and goals

- Development of system-flexibility concepts for district heating infrastructure based on a maximized share of renewable energy sources and waste heat.
- Integration of heat storage systems, heat pumps, intelligent control & operational strategies, as well as sector coupling.
- Use of several interconnected demo projects to present, validate and optimize the developed concepts
  - Virtual heating plant Gleisdorf – increasing the output of biogas
  - Spittelau waste incineration plant – use of latent energy from flue gas by means of a high-temperature heat pump
  - Conceptual design of the eco-energy park Salzburg-Süd – integration of low-temperature industrial heat
  - Low-carbon district heating for the city of Leibnitz
  - Heat recovery from waste water in Vienna-Liesing

Expected results

- Increasing system flexibility and reducing CO_2 emissions from the district heating sector.
- Simulation-based technical and economic assessment of flexibility options.
- Quantitative assessment of technical, economic and environmental benefits based on demo projects.

Facts & Figures

Duration: September 2018 - August 2022

Funding program: Flagship Region Energy

Project-type: Lead-project

Budget: € 4,6 M (lead-project, without demo-projects)

Funding: 65 %

Lead: AEE INTEC

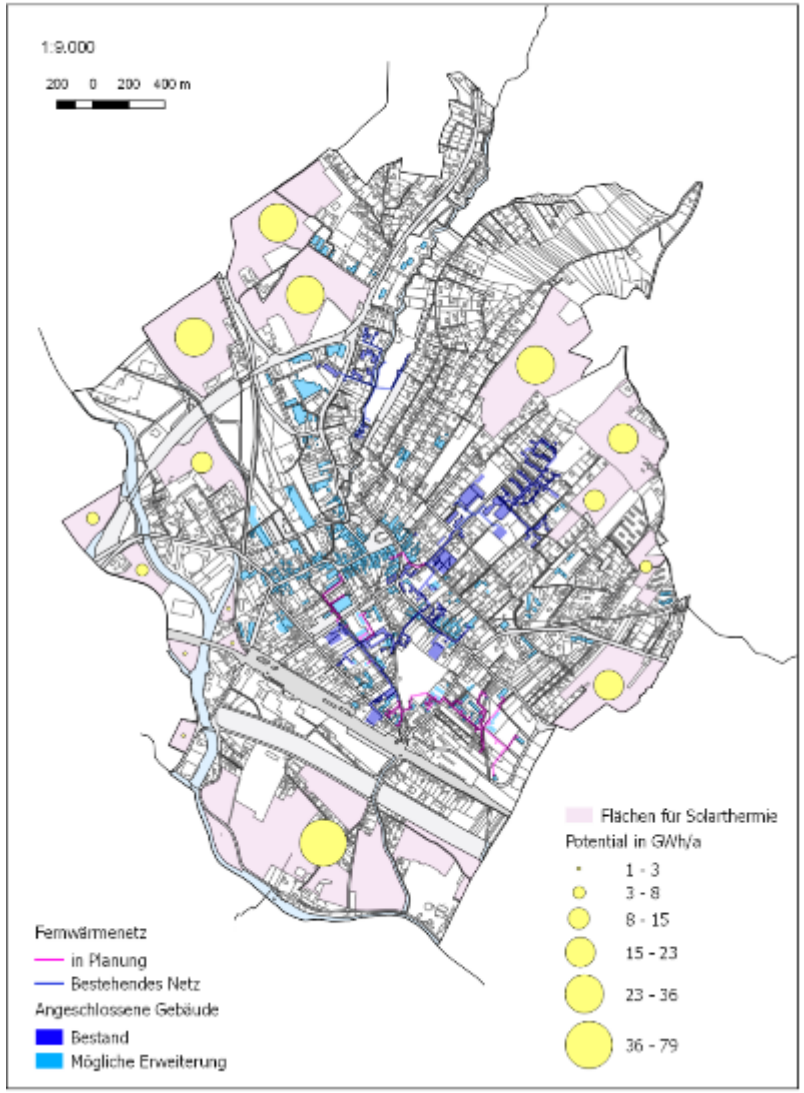
Partners: Industry/ technology providers, research, regional und local organisations (26 partners)

Land use and energy production

Major challenges especially in densly populated areas!

Strategy

- Spatial Energy Planning as a safeguarding instrument for cities and regions!
- Securing available and affordable space for energy generation
- Consideration of competition for space:
  low-quality space → no competition with building land
- Consideration of the distance to existing grid infrastructure
  → Balance between grid costs and land costs



Example of spatial energy planning in the city of Gleisdorf, Styria: Secured space for thermal solar, tailored to the district heating system.

Quelle: AEE INTEC

WITH CUSTOMER-ORIENTED SOLUTIONS, WE CREATE AN INTEGRATED ENERGY SYSTEM FOR A SUSTAINABLE FUTURE.

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