

# Local Energy Communities

Innovation, Demonstration and Local Benefit

International Seminar “Challenges for Energy  
Communities in Aysén. Clean, fair and affordable”

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## Local Energy Communities

1. Sources for innovation
2. Means of demonstration
3. Basis for (local) development



Austria

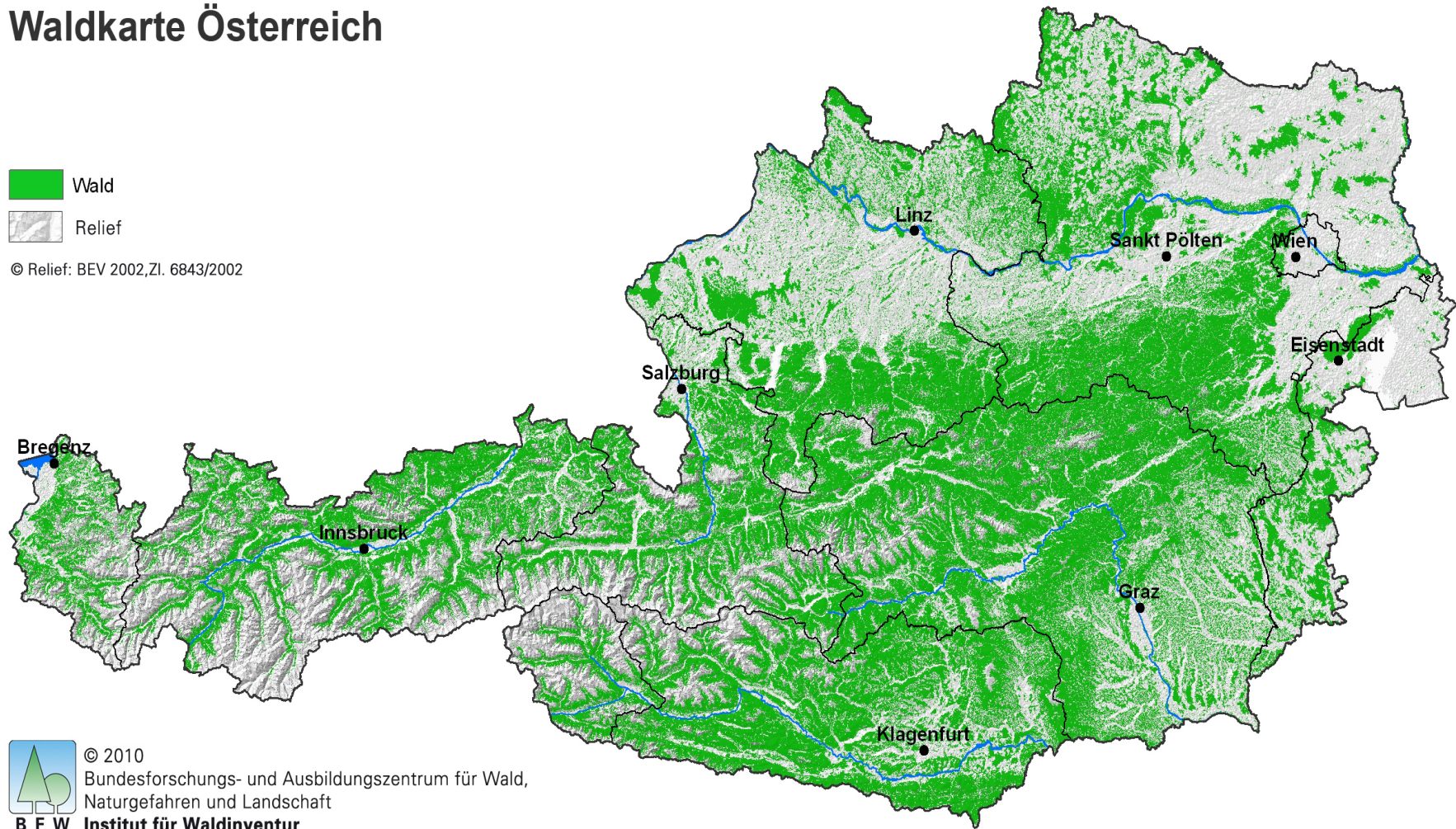


# Waldkarte Österreich

 Wald

 Relief

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Bundesforschungs- und Ausbildungszentrum für Wald,  
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**B F W Institut für Waldinventur**

## Innovation: Renewable Energy in Güssing

- Güssing is a small rural town in the southern part of Austria
- Population: approx. 4000 (town), 27.000 (region)
- From 1945 to 1989 Güssing was at the so-called 'iron curtain'
- High unemployment rate, no industry, 70% commuters
- Energy activities started in the early 1990 as a local development initiative
- External study revealed high costs for fossil fuels (6,3 Mio Euro) and at the same time huge, but widely unused biomass resources

# Isolated by the ,Iron Curtain‘ (1945–1989)

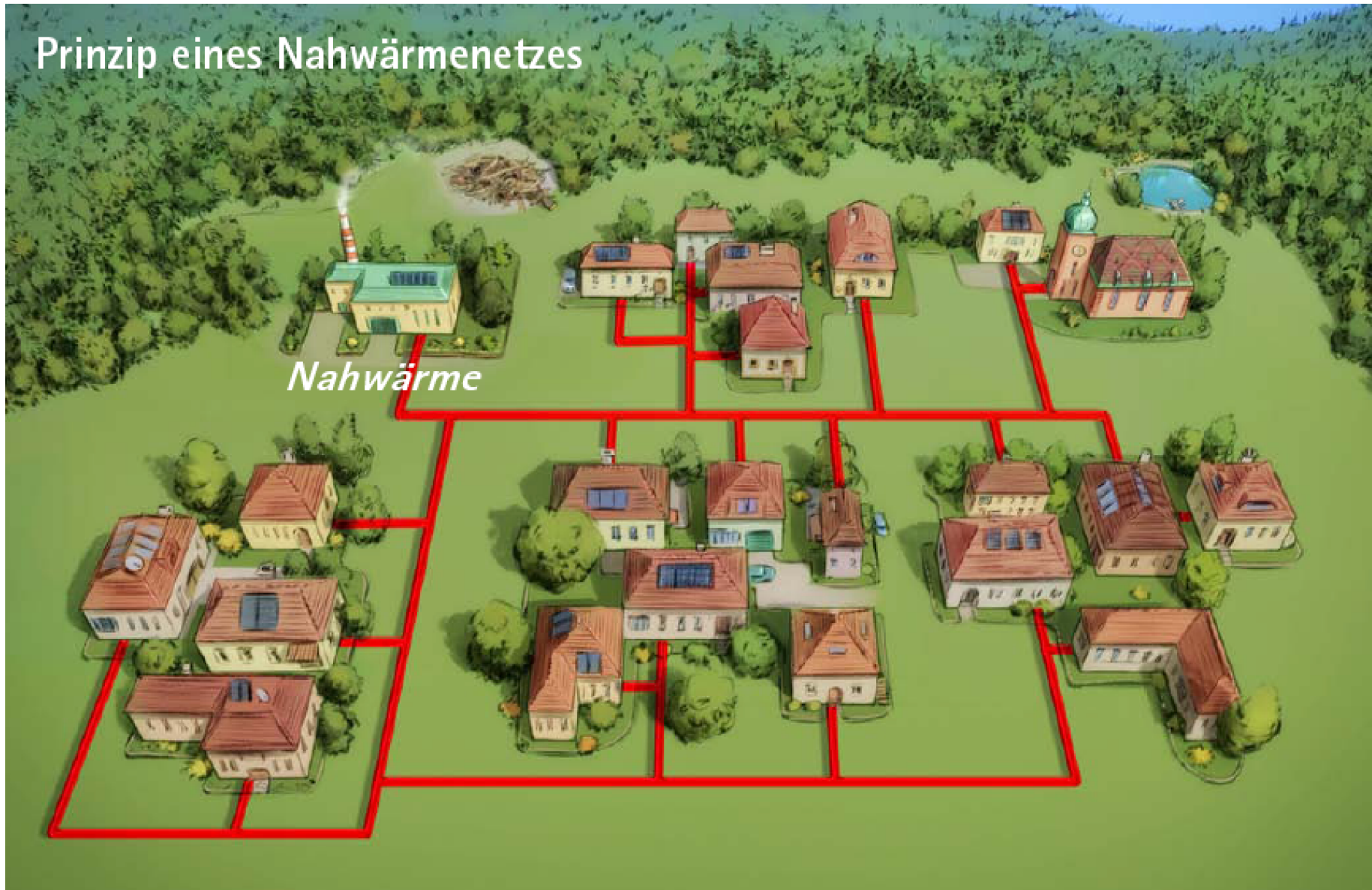


## Energy Projects in Güssing (city and region)

- 1996: Biomass district heating system (wood-chips from regional forests), current grid: 35 km
- 2001: Photovoltaic plant, First wood gasification plant (CHP)
- 2004: Two biogas facilities (CHP)
- 2008: New research and demonstration projects together with national and international partners
  - Methanisation plant
  - Fischer Tropsch plant (second generation BioSyn-fuels)



# Prinzip eines Nahwärmenetzes



## Biomass District Heating with PV (Urbersdorf)



## Wood gasification plant – Heat and power



## Fischer Tropsch research facility – 2<sup>nd</sup> gen. Biofuels



## Innovation in Güssing

- Extraordinary case (but not the only one)
- Local community/municipality as protected space for innovation
  - Experimentation and learning
  - Scientific and social learning
  - First and second order learning
- Policy makers, entrepreneurs and end-users, natural resources, technology in close connection – supply and demand
- Growing actor networks over time
- Güssing became a 'hub' of a Technological Innovation System (TIS)



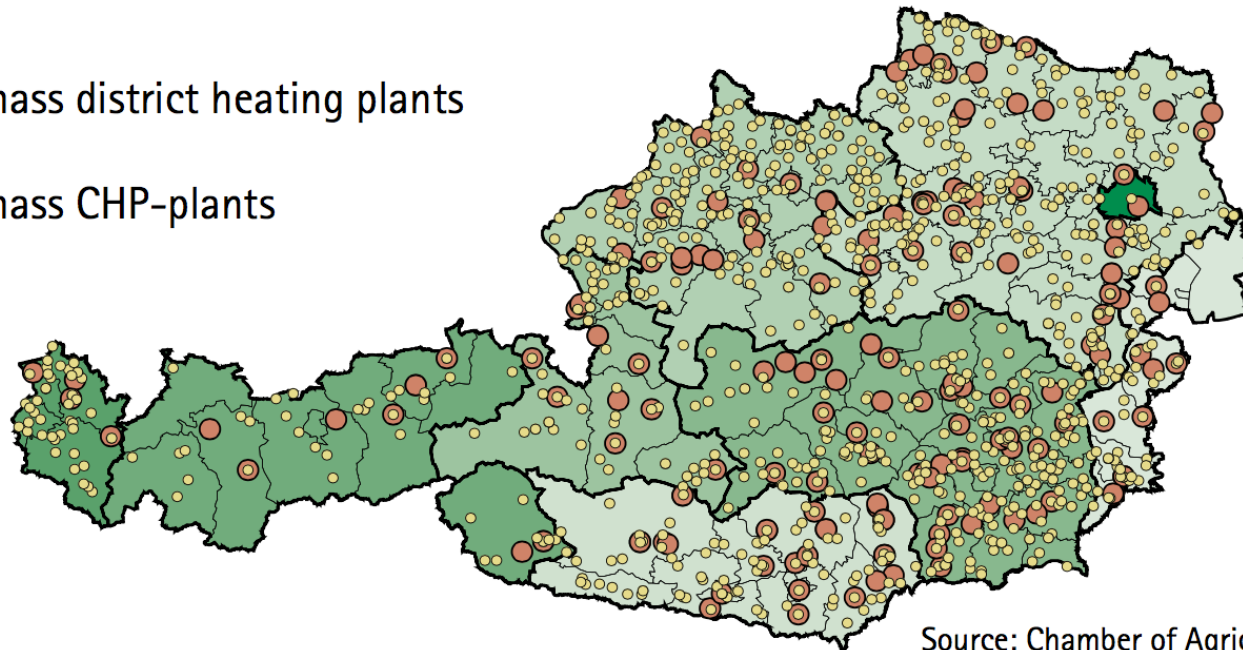
## Demonstration

- Innovation in real-world contexts
- Configurations that work (at least in a local context)
- Showcases, inspiring for others
- From demonstration to replication

## Biomass District Heating Plants and CHP Plants (2010)

1,880 plants with a total power-output of 1,600 MW

- Biomass district heating plants
- Biomass CHP-plants



Source: Chamber of Agriculture, Lower Austria

## Local Demonstration and Global Discourses

(Späth & Rohracher 2012)

- Local experiments demonstrate
  - desirability of alternative socio-technical configurations but also
  - their socio-economic feasibility
- They help to accumulate credibility and legitimization
- Local initiatives may become central arenas in a global discourse
- Strengthen actor networks and institutions globally

## Local Benefits

- Socio-economic development
  - Financial resources remain in the region (*Güssing: 13,6 Mio. EUR*)
  - ‘Eco-Energy tourism’
  - Growing networks and opportunities attract other businesses (*Güssing: more than 50 new companies, more than 1000 jobs*)
  - Research activities as economic activities
- Empowerment – high degree of self-determination
- Energy autonomy  
(*Güssing: Heat 120%, Electricity 200%, Fuels 28%*)



SUCHE

English guided tour

Magyar nyelvű információ



DIE STADT

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# güssing

*meine Stadt*

## ENGLISH INFORMATION

Güssing, the jewel of southern Burgenland ...

lies nestled in the rolling hills, at the foot of the historic Güssing castle. Because of the mild climate and the attractive location, the lovely city of Güssing offers its residents a high standard of living. The small picturesque town with its 4000 inhabitants offers many cultural sites as well as a good infrastructure which includes modern research facilities, the modern hospital and a fantastic sports and leisure centre. A planned extension of the centre will include a top golf course and a 5-star Convention Hotel. Güssing provides an attractive shopping opportunity to all and it is also the school district capital. Güssing is one thing ...

it is known throughout Austria as the Eco-city that covers most of their energy needs with renewable energy.

The landmark of Güssing is without doubt the castle! No matter which direction one approaches the city, the castle proudly welcomes visitors coming into Güssing from afar. The castle was first documented in 1157 and was built on an extinct volcano. The castle in Güssing is the oldest in Burgenland. After several changing hands of ownership, the castle finally came into the possession of the Hungarian magnate Batthyány family, which has shaped the castle and city substantially.

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Espero haber aportado algunas ideas inspiradoras a la discusion aqui en Coyhaique y gracias por su atencion!

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