

# CEP-REC Introduction of Regional Energy Concepts

Vienna, 2015  
Csaba Vaszkó, WWF



# Central Europe Programme Introduction of Regional Energy Concepts



Central Europe Programme  
2007-2013 invested €231  
million to provide funding to  
transnational cooperation  
projects involving public and  
private organizations from  
Austria, the Czech Republic,  
Germany, Hungary, Italy,  
Poland, the Slovak Republic,  
Slovenia and Ukraine.

Timeframe: March 2012 –  
November 2014

Budget: 2.164.900€

Lead partner: Energie- &  
Umweltzentrum Allgäu (eza!)



EUROPEAN UNION  
EUROPEAN REGIONAL  
DEVELOPMENT FUND



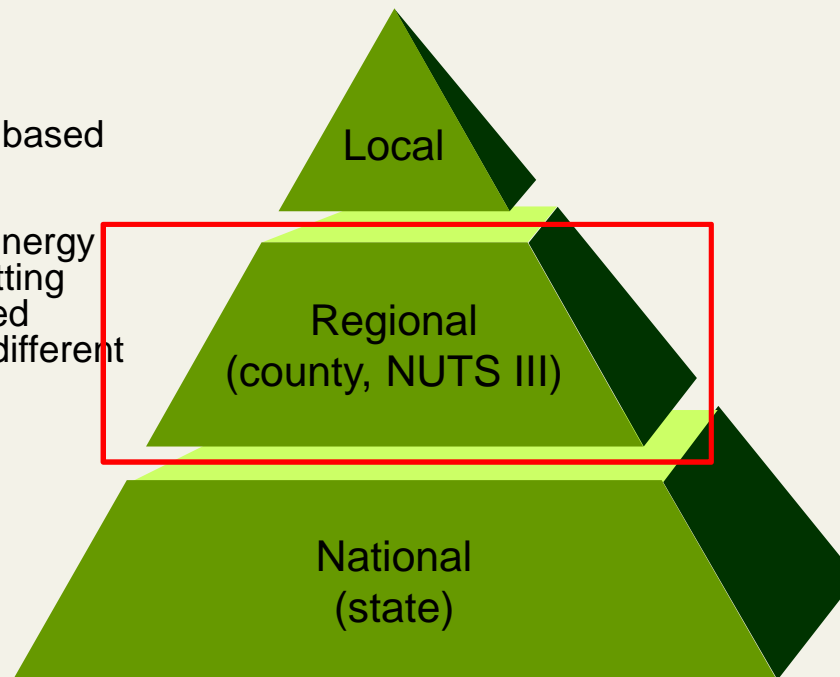
## Challenges

### To address the lacking regional level in energy planning

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Energy policy and planning is mostly based on national level in the EU.

Due to the penetration of renewable energy utilization the role of the regions is getting more important as RES should be used locally and their real potential is very different (spatial distribution).

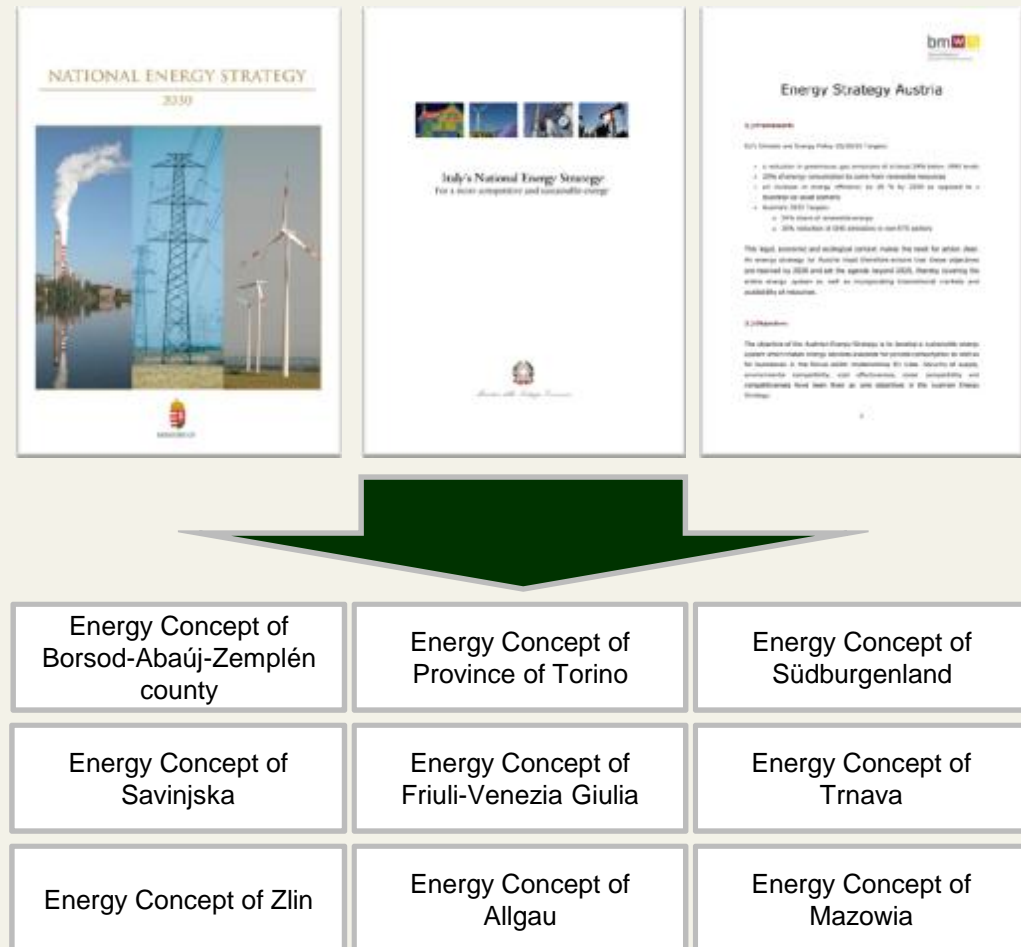


# Challenges

## The lacking regional level in energy planning

The goal was to identify, develop and test regional energy concepts through:

- establish **standards** for these regional energy concepts
- **help** individual **regions** create their own concepts
- **quantifying energy demand** and supply at the regional level
- support of pilot regions by exchanging **good practices**
- Making tools and standards available **online** for interested regions
- **promotion** of RES at the regional level





CEP-REC 9 pilot regions

Diverse consortium (capacities, experience, staff)

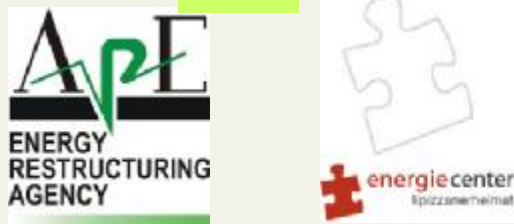
Local, regional and national authorities



Local/Regional energy agencies



WP5



Research institutes, private companies, associations and international organizations



WP4



WP3



# Introduction of Regional Energy Concepts

## Diverse partnership

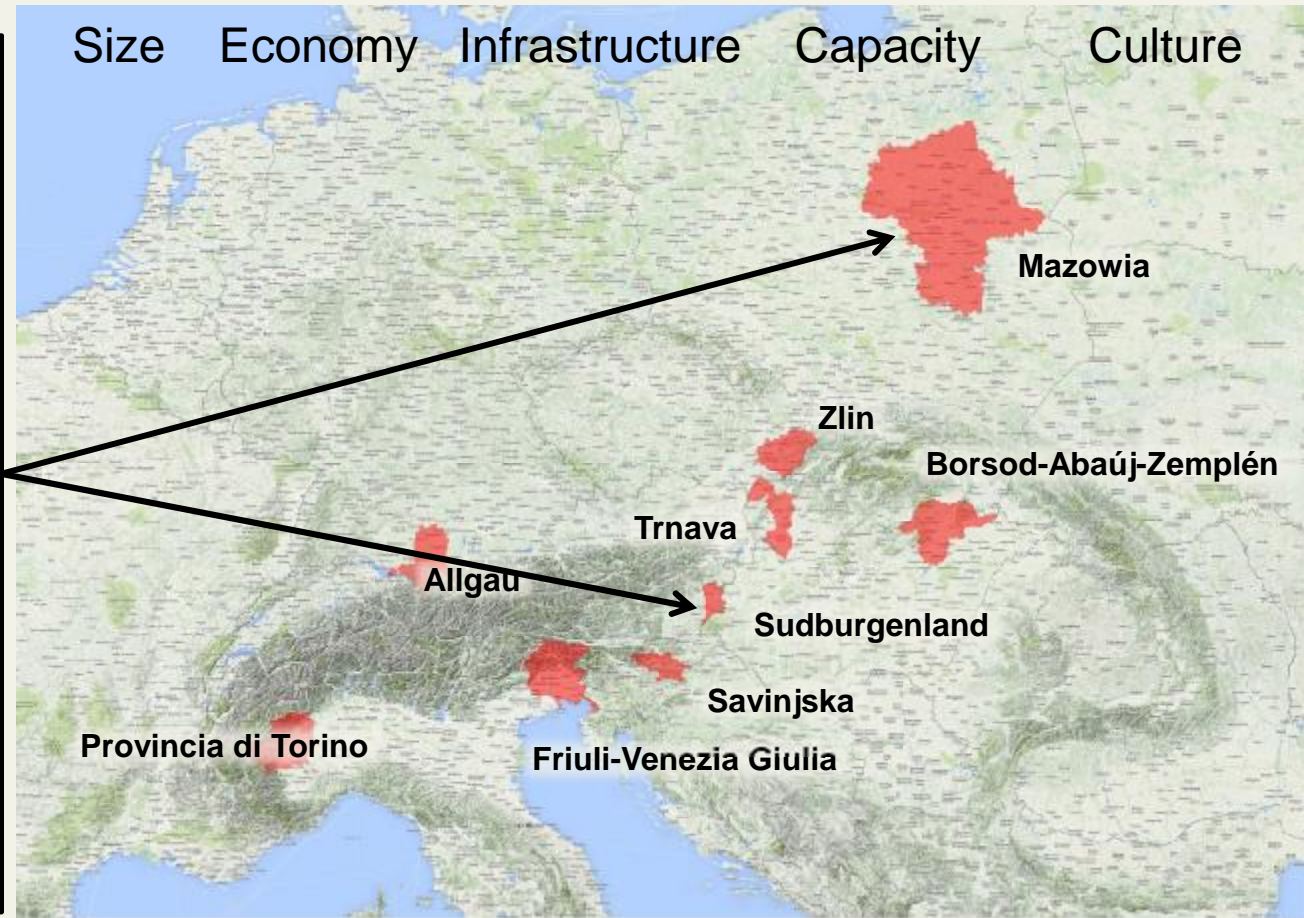
Different regions with different characteristics:

- Mazowia, PL: 5 million inhabitants, 5000 MW installed capacity
- Südburgenland, AT: 70.000 inhabitants, 25 MW installed capacity

**Population**  
70,000 to 5,000,000

**Area:**  
7,000 to 36,000 km<sup>2</sup>

**GDP:**  
13,000 to 47,000€





# The main phases of the project

## Work Package structure (>150 reports)

<b>1. Work Package Project management</b>						
<b>2. Work Package Communication, dissemination</b>	Media communication / dissemination	Non media communication / dissem. and website				
<b>3. Work Package Assessing the energy demand</b>	Mapping and assessment of the energy demand	Comparison of the baseline situations	Assessment of energy transfer potential	„How-to“ templates and guide		
<b>4. Work Package Assessing energy supply</b>	Assessment of the existing potentials for RES	Mapping of the energy supply	Documentation of intended mid-term investments in energy	Regional Energy Supply Toolkit	How-to templates and guides	
<b>5. Work Package Strategy- planning</b>	Regional Energy Balance Sheets	Publicity and Participation fora	Development path of the region	Agreement on joint strategy and action plan		

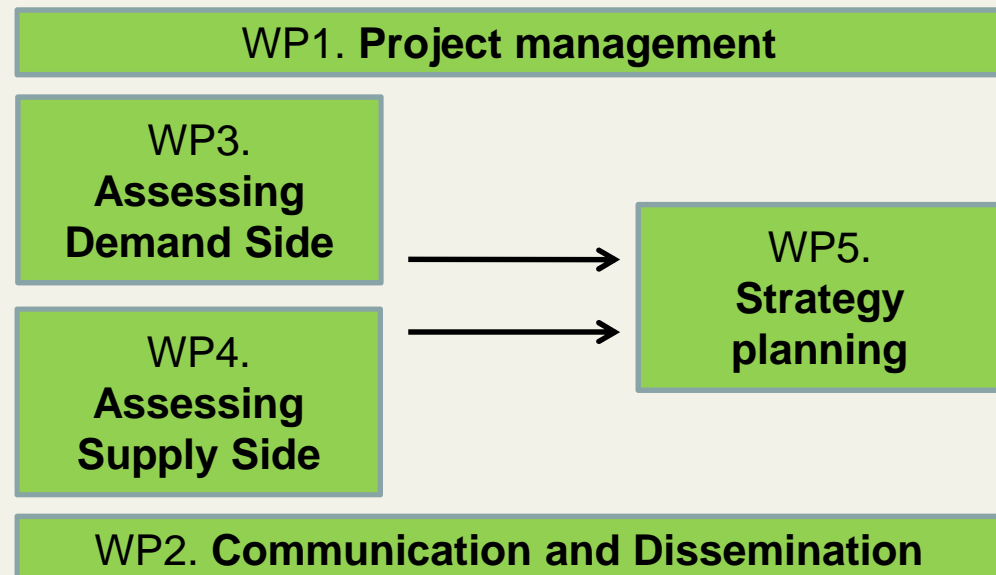


## Regional Energy Concepts Work packages

The goal of the project

- Is it possible to design regional level energy concepts?
- Does it make sense?
- Uniform approach for regions/counties?

**Promoting renewable energies and integrating them into regional energy concepts.**

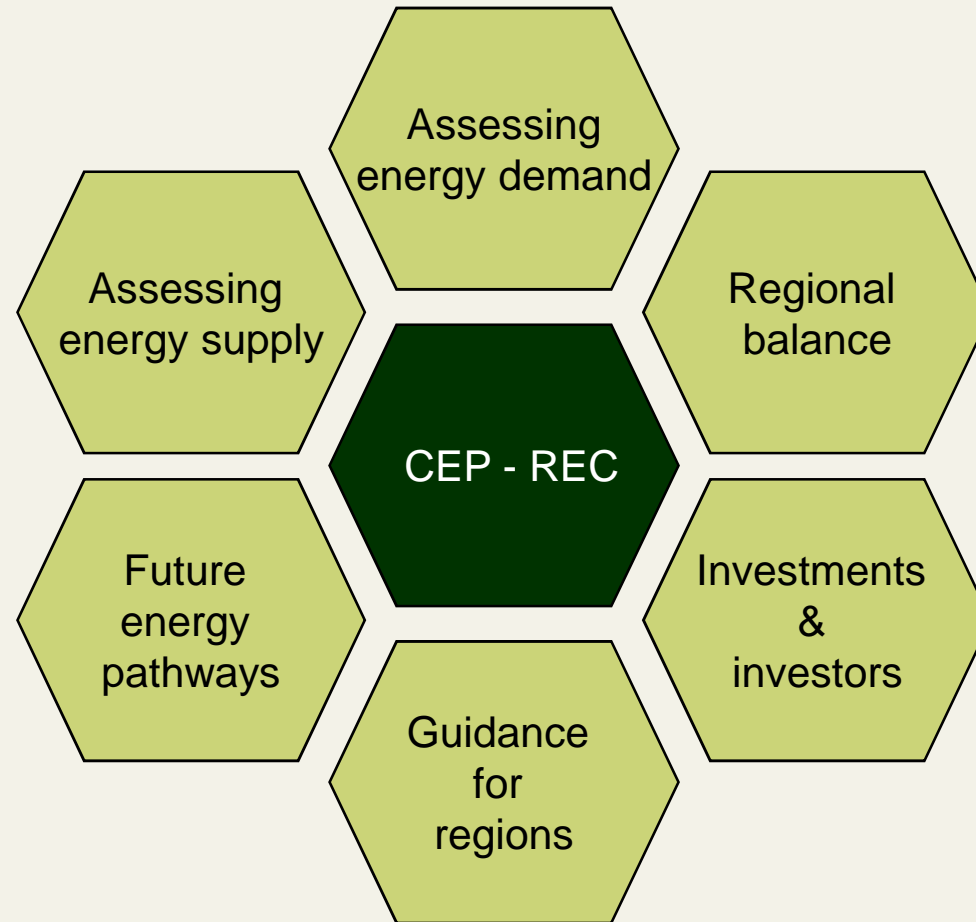






## The project was focussing on.....

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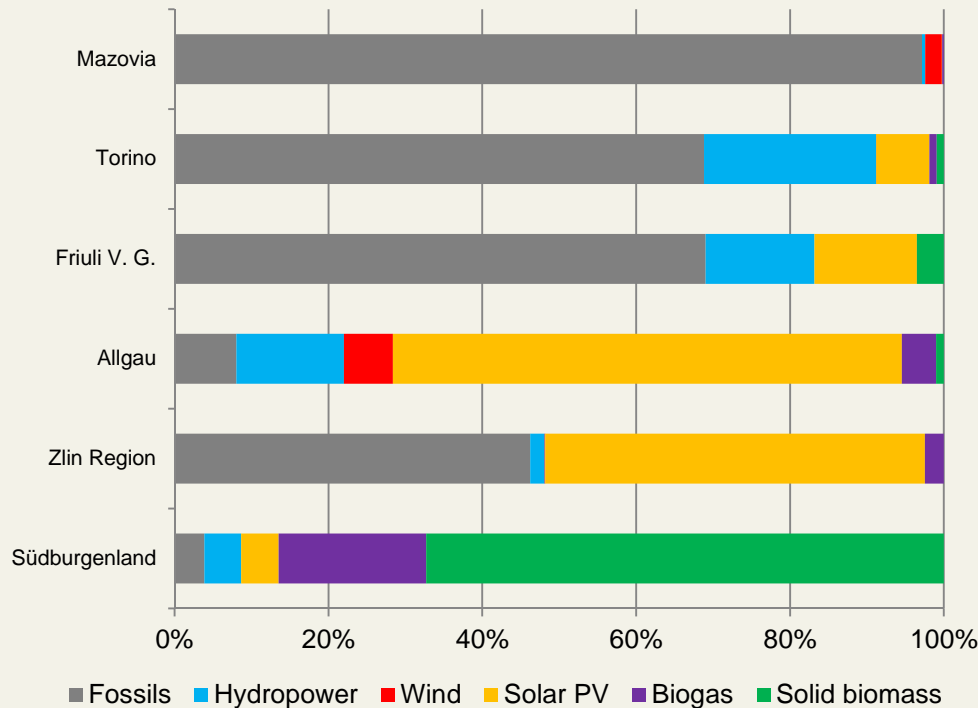




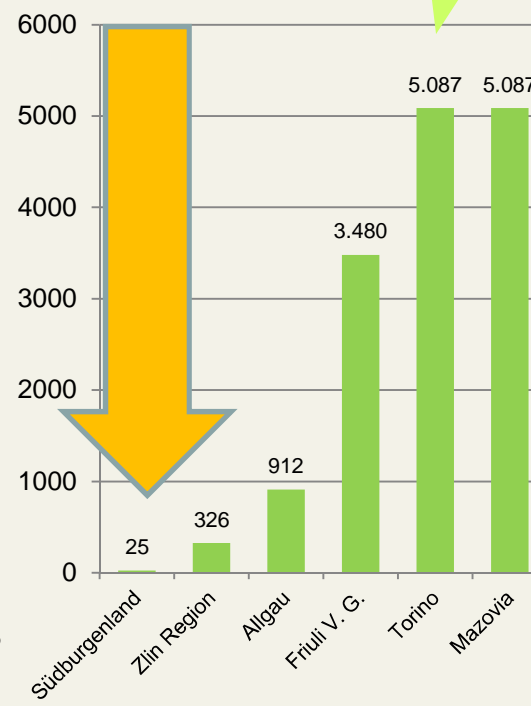
# How transnational collaboration is possible?

The role of regions in the national energy systems differ significantly.

Share of different energy sources in the concept regions' installed capacity mix



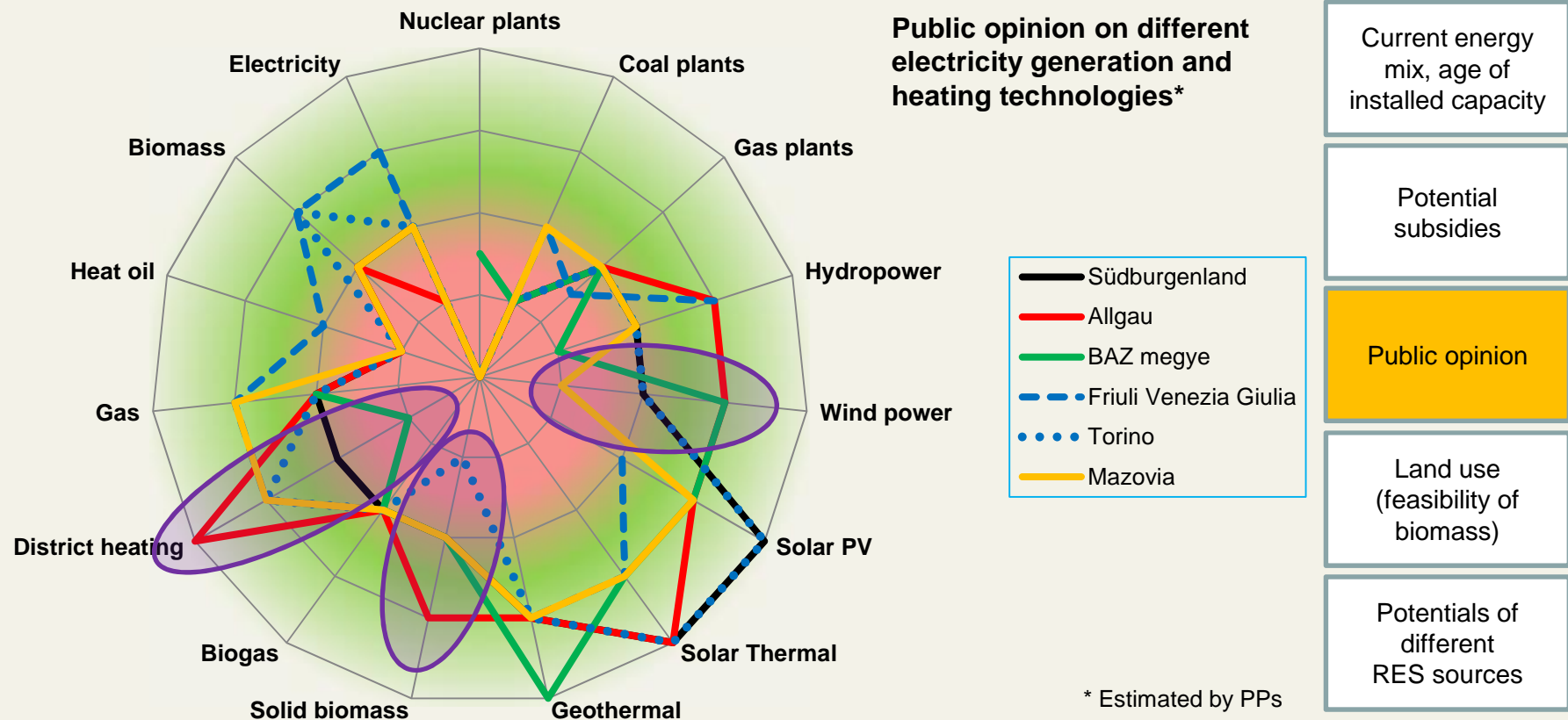
Total installed electrical capacity (MW)



- Current energy mix, age of installed capacity
- Potential subsidies
- Public opinion
- Land use (feasibility of biomass)
- Potentials of different RES sources

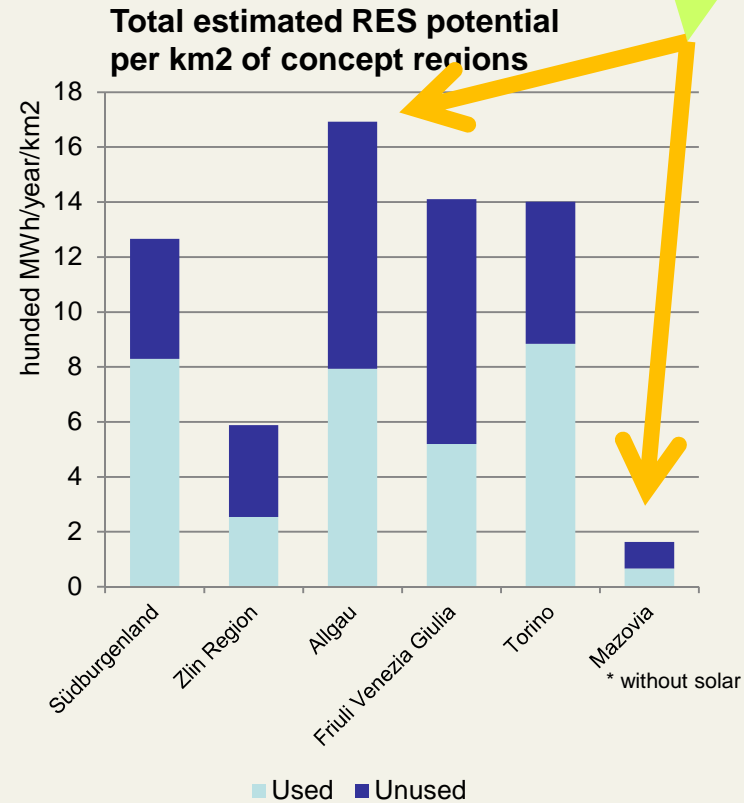
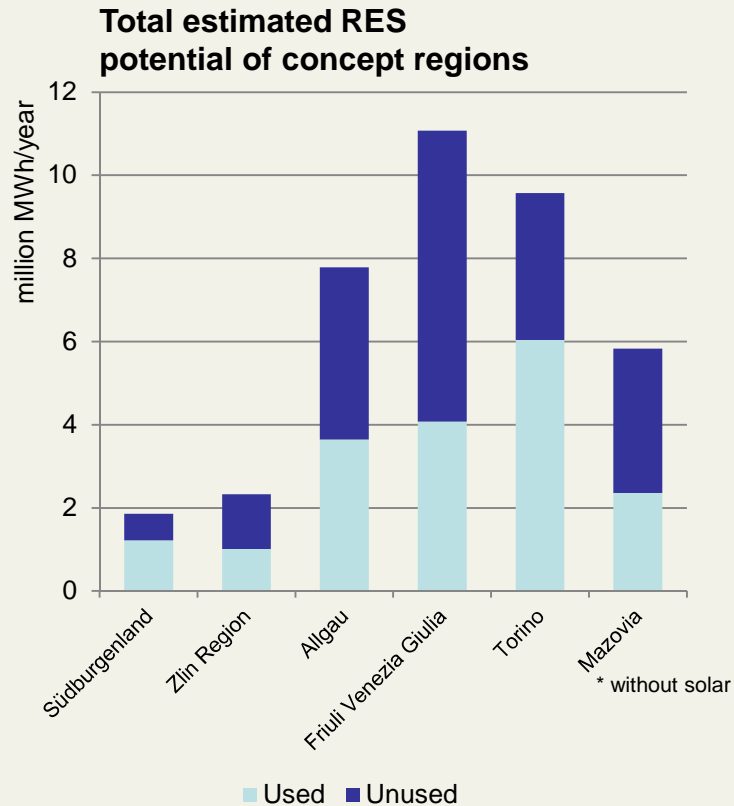


# How transnational collaboration is possible?





# How transnational collaboration is possible?



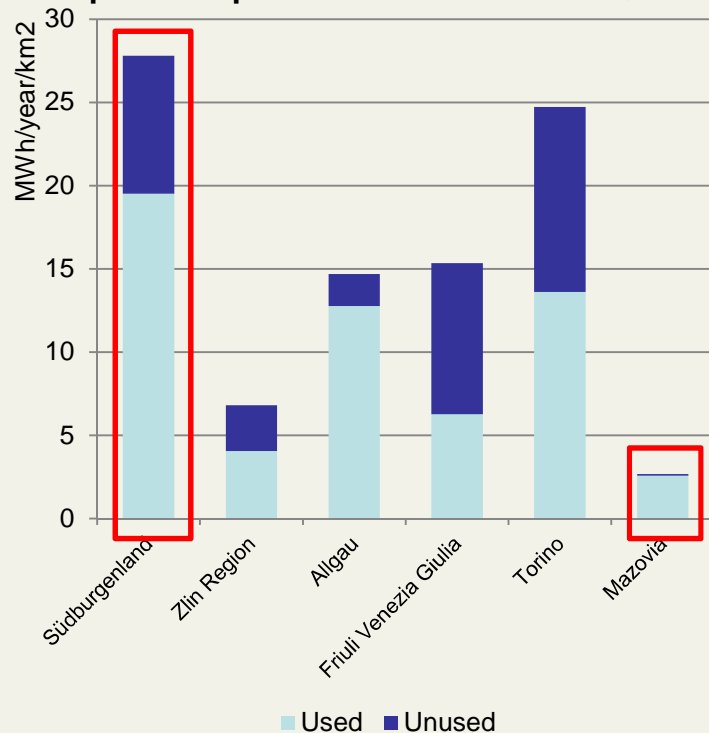
Is this difference credible?

- Current energy mix, age of installed capacity
- Potential subsidies
- Public opinion
- Land use (feasibility of biomass)
- Potentials of different RES sources

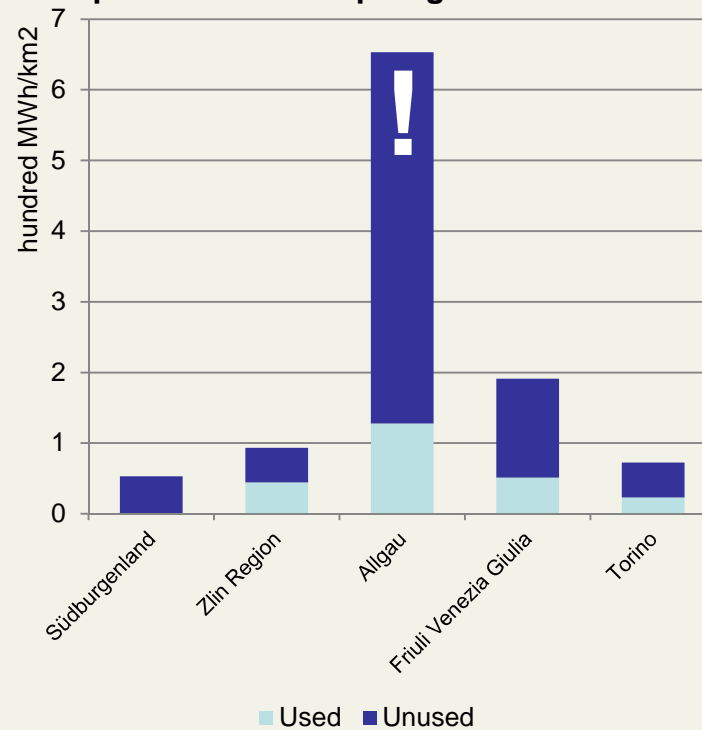
# How transnational collaboration is possible?

Südburgenland found the silver bullet. But what about Mazovia or FVG?

Total estimated solid biomass potential per hectare of forest area



Total estimated solar PV potential per km2 of concept regions



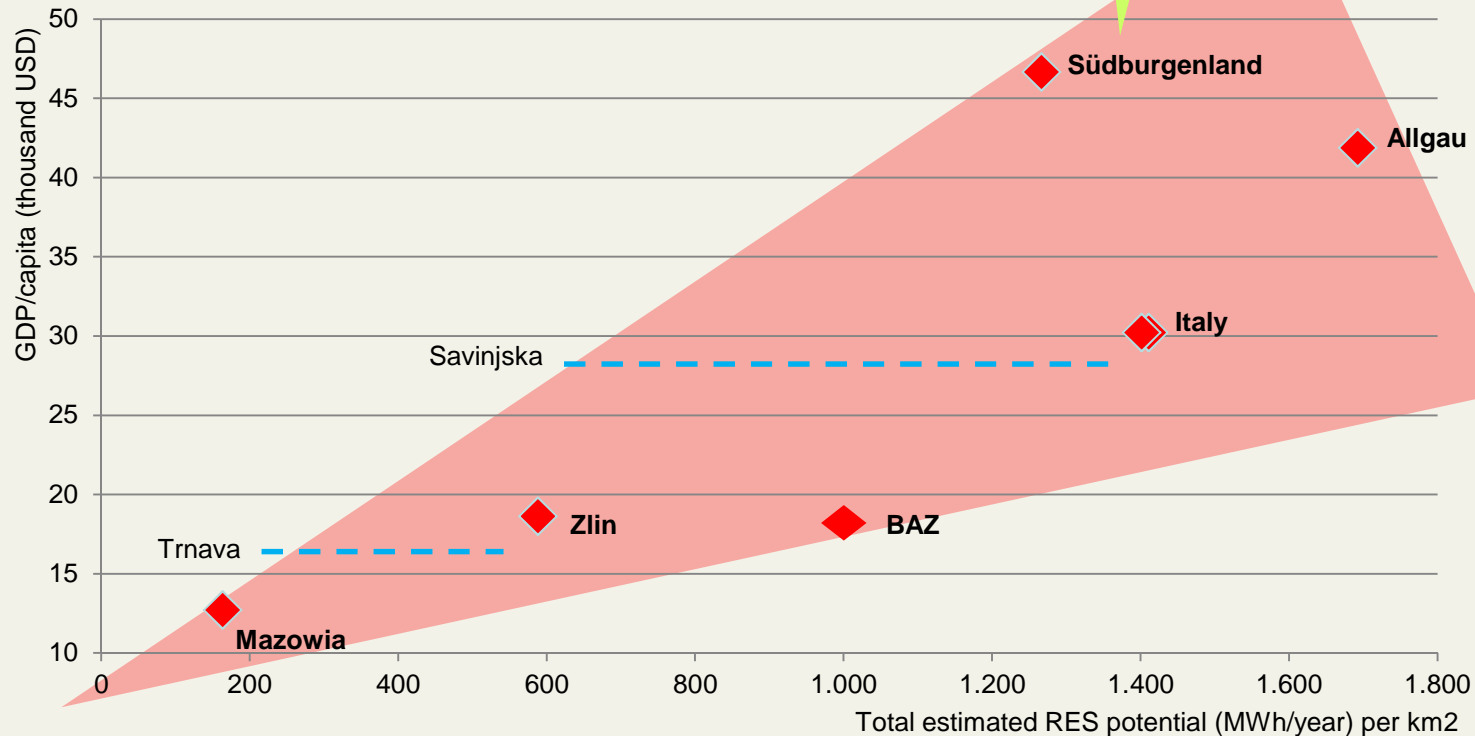
- Current energy mix, age of installed capacity
- Potential subsidies
- Public opinion
- Land use (feasibility of biomass)
- Potentials of different RES sources



More advanced countries  
have higher RES potential?

# How transnational collaboration is possible?

Relation of estimated RES potential per km<sup>2</sup> and GDP/capita



- Current energy mix, age of installed capacity
- Potential subsidies
- Public opinion
- Land use (feasibility of biomass)
- Potentials of different RES sources



## CEP-REC Results

- All the concept regions examined their energy supply and demand, and all of them was able to made it's own **regional energy concept**.
- **Renewables are underutilised** everywhere. Although the assessed potential varies in the different regions, there are **significant unused renewable potentials** everywhere, mostly in solar PV and biomass.
- Implementation has started in more advanced regions.
- The state of development of the local energy market and the openness of the market are crucial in future opportunities. Incentive systems are important but not as important that we think.
- A series of renewable energy **promotion events** was organised in the concept regions





## Key findings

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- The **concept regions' role in the energy system** differs very much (e.g.: PL is a hub, HU is dead-end), the historical situation determines the future.
  - **Significant renewable potentials everywhere.**
  - **Public opinion is generally similar**, but there are some important differences.
  - **The available incentives and the openness of the energy market** are crucial.
  - The **more developed countries assess higher RES potentials.**
  - Some concept regions **underestimate RES potentials.**
  - **Lack of (comparable) data** due to the lack of regional level data collection.
  - Most of the **regions have a „favourite” RES** (AT-biomass, DE-solar).
  - Significantly **higher potential (assessed) in old MSs** than in new ones.
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## CEP-REC Obstacles

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- Should more advanced partners wait for others?
- The **data sources** and the **legal background** differ fundamentally in the regions. In more developed regions **the necessary documents/plans/data are „on the shelf”**, from previous works or public databases, less lucky partners have to collect somehow, but...
- Partners (especially public bodies, authorities) might lose their interest in the project due to the changing **political environment**. High risk of losing focus, no capacity to manage 3-4 year long projects.



## CEP-REC FOLLOW UP PROJECT

### Implementation of Regional Energy Concepts (I-REC)

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- Application in Central Europe Programme 2015
- 9 regions in Central Europe, **5 (3 from Danube region) pilot regions from CEP-REC and 4 further regions, take the challenge to implement their energy concepts** and to trigger real actions towards more energy efficiency, renewable energies and reduction of CO<sub>2</sub>-emissions
- As brand new highlight, an innovative tool for controlling of the implementation of regional energy concepts will be developed and tested
- Follower regions from outside will find assistance by the project partners and can use the tools developed in the project



# Thank you!

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[csaba.vaszko@wwf.hu](mailto:csaba.vaszko@wwf.hu)



## CEP-REC

### Overcome the obstacles

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- As the problems with data availability and background differences occurred we changed the approach from a detailed methodology to a flexible framework.

from „**you have to use this and than do that...**”

to „**this way you can start think about the problem**”

- This approach needs a lot more creativity, but the huge differences in region's sizes, economic background, level of self-authority, data availability and needs flexible and adaptive management. There is no best way.



## LESSONS LEARNED

### Data availability

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- There are huge differences in availability of data between the regions.
- In Germany, Austria and Italy almost everything is „on the shelf”, most of the deliverables are (partly) existing from previous works or public databases. (e.g. there is a very accurate public renewable energy potential mapping for Bavaria)
- In Slovakia, Poland, Czech Republic and Slovenia most of the data very hardly available, in some cases does not exist. (e.g. municipality level energy consumption)