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Intangible benefits of energy efficiency in Energy Regions in Austria

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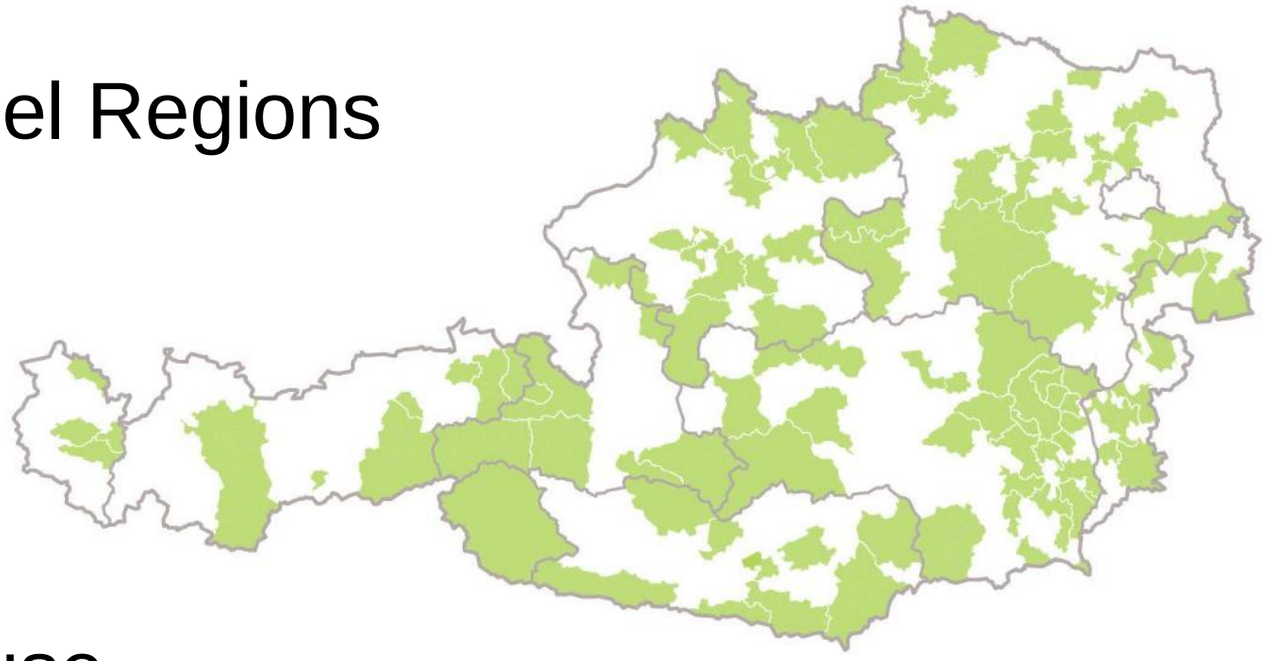
AU case-study

Characteristics:

- 99 Climate and Energy Model Regions
- 899 communities
- 2.5 million citizens



Source: Klima- und Energie-Modellregionen (2016)

Activities and goals:

- Increase renewable energy use
- Regional energy
- Energy autonomy

➔ e-mobility, PV, hydropower, renovation

➔ Multi-level case-study

Benefits and assessment

AU case-study: EE activities in (99) Energy Regions in the country		
Level	**Benefits**	**Impacts/Assessment**
Environmental	• Energy savings	• Increased energy efficiency standards • Trade-off: barrier for increasing renovation rates
	• Energy delivery	• Investment in more efficient technologies and grids
	• Resources management	• Better knowledge of regional resources
	• Local air pollution	• Linked to energy delivery

Benefits and assessment

AU case-study: EE activities in (99) Energy Regions in the country (continued)		
Level	**Benefits**	**Impacts/Assessment**
Social	• Health and well-being	• Benefits of renovating a school on the grades of pupils • Contributing to a better environment
	• Employment	• Job creation/increased activity in various sectors, e.g., construction, consulting, awareness raising
Political	• Energy security	• Becoming self-sufficient = one of the main goals
	• Macro-economic impact	• Related to employment and public budget
	• Public budget	• Subsidies schemes

Other benefits

Higher acceptance for technological changes

- Awareness raised on energy savings & EE (Hecher et al., 2016)

Development of sustainable business models

- Financial incentives to decrease energy demand
- Decentralization (Binder et al., 2016)

Increased social value of the region (Hecher et al., 2016)

- Stronger identification to city/region
- Networking energy experts, public administration, researchers, households
- Mutual learning, cooperation, awareness raising

Success motivate non ER to become one

(Workshop, 2015)

Conclusions

- EIA benefits + additional ones
- Importance of stakeholder engagement
- Importance of local regulations/standards
- ESCOs = 1 stakeholder that can also influence the transition towards EE
- Choosing the **right arguments** for the **right audience**

References

Binder, C.R., Knoeri, C., Hecher, M., 2016. Modeling transition paths towards decentralized regional energy autonomy: the role of legislation, technology adoption, and resource availability. Raumforschung und Raumordnung. DOI 10.1007/s13147-016-0396-5

Hecher, M., Vilsmaier, U., Akhavan, R., Binder, C.R., 2016. An integrative analysis of energy transitions in energy regions: A case study of ökoEnergieland in Austria. Ecological Economics, 121, 40-53.

Knoeri, C., Goetz, A., Binder, C.r., 2014. Generic bottom-up building-energy models for developing regional energy transition scenarios.

Klima- und Energie-Modellregionen, 2016. Climate and Energy Model Regions
An Austrian blueprint for a successful bottom-up approach in the field of climate change and energy. Retrieved from: http://www.klimaundenergiemodellregionen.at/images/doku/2016factsheet_climateandenergymodelregions2016_en.pdf (accessed 2 July 2016).

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