Challenges to local innovation and implementation of low-carbon energy-transition measures: A tale of two Austrian regions

Jenan Irshaid, Junko Mochizuki, Thomas Schinko
Assessing multi-level energy transitions

- Implementation of transformative measures takes place on the local level vs. decisions are made on national policy levels
- Currently no ideal conceptual or analytical framework
Assessing multi-level energy transitions

- **Multi-level perspective (MLP)** (Roberts & Geels, 2019) → technical innovation vs. social, technical and socio-technical innovation required

- **Regional innovation systems (RIS)** (Mattes et al. 2015) → regional scale socio-technical innovation; focus on regional sub-systems

- **Transition Management** (Smith & Stirling, 2005) → adaptation and learning

- Jessop et al. (2008) critique: “fallacy” of centrism as transition research is often centred on single dimension → Territory, place, scale and network (TPSN) Framework
Analytical framework for assessing barriers and enablers for transition

Irshaid et al., 2021
Methods

- Multi-level stakeholder mapping for case study regions (KEM Freistadt & KEM Baden)
- 19 in-depth stakeholder interviews
- Qualitative data analysis based on a Grounded Theory approach
Case study: KEM Freistadt
Case study: KEM Baden
Results: Challenges and enabling factors on the national and federated state levels

- Accessibility to funding
- Inadequate & inefficient institutional and regulatory conditions
- Interest groups and policy making
- Poor policy integration
Results: Regional innovation and institutional voids

• Example: crowdfunded solar PV installations in KEM Freistadt and KEM Baden

• Challenge: crowdfunding not permitted by non-financial organisations (Finanzmarktaufsicht)

• Institutional void: no specific regulations for crowdfunding initiatives

• Enabler: KEM manager network → cooperation with regional bank

• Policy learning: Alternativfinanzierungsgesetz 2015
Results: lacking policy integration

• Contradictory taxation systems
  – Pendlerpauschal (commuter’s allowance)
  – Property taxes
  – Historical building protection

• Ineffective policy instruments:
  – Biogas subsidies
  – Refurbishment subsidies
  – Short-term KEM funding scheme
Results: Regional challenges and enablers

- Well-connected KEM Manager
- Political support
- Federal level support
  - Local financing
  - Conflicts of interest
  - Long-term planning
  - Rural (Freistadt) → low population density, dispersion of infrastructure
  - Sub-urban (Baden) → commuters; historical buildings protected
Conclusion

- KEM program have potential for innovation and implementation of practical energy-transition measures, if provided with appropriate framework conditions.
- Vertical and horizontal policy implementation needed for policy learning and adaptation
- Innovation managers play crucial role in connected sub-systems
- Importance of understanding geographical, environmental and societal dimensions in analysis and planning
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