



The German Energy Transition: Lessons from the Helmholtz Alliance ENERGY-TRANS

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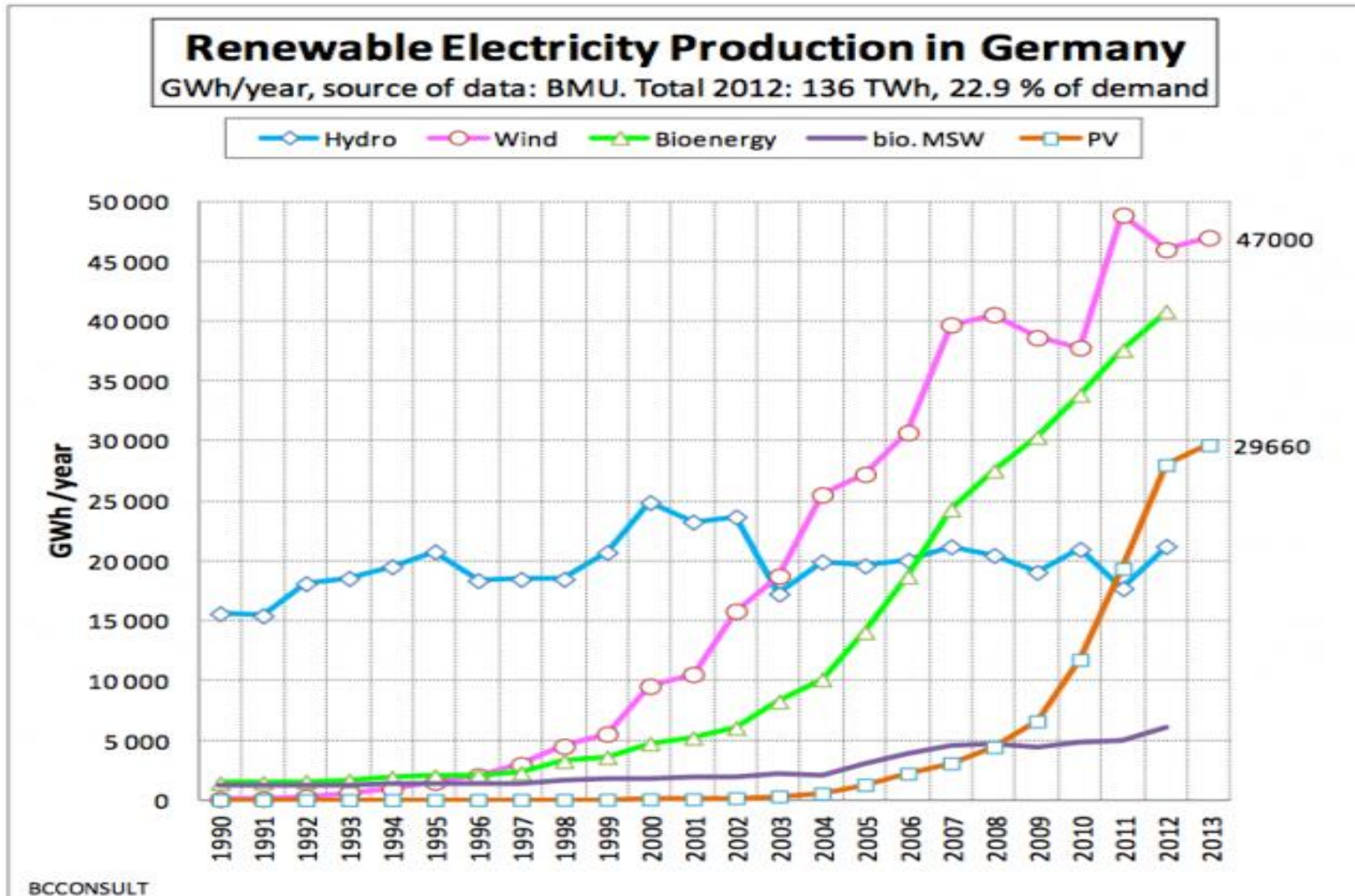
Germany

Energy Transition in Germany: the physics



- Rapid phase-out of nuclear power and reduction of fossil energy production from 80% to under 20%
- Main load: volatile, fluctuant energy sources (solar and wind); base load: geothermal energy and hydro power
- Significant increase in energy efficiency necessary
- 2013: Share of renewables in German energy mix at 25%

Renewable electricity production in Germany



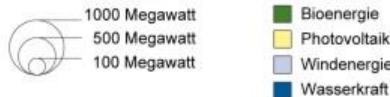


Share of renewables and extension of the power grid

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Installierte elektrische Leistung erneuerbarer Energien je Raumordnungsregion 2010



Datenbasis:
Laufende Raumbeobachtung des BBSR,
EEG-Anlagenregister der Netzbetreiber,
Betreiberdatenbasis
Geometrische Grundlage:
BKG, Gemeinden, 31.12.2010



Energy Transition in Germany: social aspects



- Large-scale financial investments, long time frame of infrastructural planning
- Integration of complex energy infrastructures
- Linkage of vertical and horizontal governance levels requires “smart” control mechanisms (smart meter/grid)
- New forms of cooperation between producers and consumers (innovative business models, e.g. “prosumers”)



Governance challenges I

- Public distrust in science:
 - Perceived gap between those who produce and apply new knowledge and those who will be affected by the positive and negative consequences of these applications
 - Perceived dependency of science on funding agencies, economic actors
 - Contested knowledge claims due to complexity, uncertainty and social ambiguity
 - Conflicting legitimate interpretations of data

Governance challenges II

- Public distrust in politics:
 - Distrust in institutions
 - Low voter turn-out
 - Distrust in representative democracy (lobbying)
 - Frustration with lack of involvement
- Theoretical silos:
 - Disciplinary fragmentation
 - Thinking „inside the box“
 - Little interdisciplinary research, even less trans-disciplinary research
 - Inadequate for dealing with uncertainty and ambiguity in risk governance



Governance challenges III

- Value uncertainty:
 - (Intergenerational) equity
 - Social justice
 - How to deal with conflictual values in plural societies?
 - How to assign trade-offs?
- Efficient and effective risk management, avoiding post-decisional regret
- Inclusion of citizens and stakeholders (“affected parties”) in decision making processes
- Implementation of public and stakeholder participation which is compatible with the legal framework

Public engagement– a panacea to raise acceptability and overcome governance deficits?





Limitations of public participation and stakeholder involvement

- Involvement violates principle of representation and democratic legitimacy
- Limitations to the depth of knowledge citizens can acquire
- Stepping up the quantity of involvement does not enhance its quality
- Limitations of existing regulatory framework
- Frustration because of high expectations
- “Paralysis by analysis”



Potential of public participation and stakeholder involvement

- Improved decision making because of inclusion of public concerns and values; broader knowledge base ('local' knowledge)
- Enhanced acceptability of infrastructural planning and decision making
- Enhanced (social) sustainability of energy infrastructures



Further topics for public engagement research

- Enhanced competence of policy making
 - Improved knowledge base
 - Support for integrative thinking
- Social learning processes
 - Insights in other people's points of view
 - Personal involvement (citizens as co-generators of policy making)
- Transparency of governance process
- Trust in science and governing institutions
- Accessibility of governing institutions
- Responsiveness to people's needs and preferences
- Assignment of trade-offs
- Enhanced adaptive capacity and coping capacity of governance institutions



The German energy transition - Lessons for Asia?

- Differences in modes of governance:
 - Concepts of deliberation:
 1. Functionalist (Malinowski, Parsons, Merton): enhancement of effectiveness and legitimacy of decision-making
 2. Neo-liberal (Scottish moral philosophy; Smith): focus on negotiation, trade-offs, finding win-win situations
 3. Deliberative (Habermas): rational competition of arguments, consensus
 4. Anthropological (pragmatism; Pierce, Dewey): reflection of social values and norms in public policy making
 5. Emancipatory ((Neo)-Marxism): empowerment, transformation of society
 6. Post-modern (Foucault): illustration of the diversity of factual claims, opinions and values in society



The German energy transition - Potential lessons for Asia?

- Aspects of scale
- Socio-demographic issues
- Emerging markets
- Social challenges in newly industrialized countries



Thank you!

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