



Bundesministerium
für Verkehr, Bau
und Stadtentwicklung

Energie
für Deutschland

Renewable energy resources: a future regional planning task (summary)



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The long version is only published in German:
"Erneuerbare Energien: Zukunftsaufgabe der Regionalplanung"
Download: www.bbsr.bund.de/Veroeffentlichungen

Short summary

Energy is the force and backbone of all of a society's development. In the future we must have an affordable and climate-friendly energy supply. At the same time, conventional energy sources must gradually be replaced by renewable sources. Indeed, a further expansion of renewable energy is inevitable. In Germany, in the past few years the growth of renewable energy has been successfully encouraged through legally established promotions, monetary incentives, and investments.

The expansion of renewable energy sources is linked to demands for space. Therefore, planning at the regional level plays a key role. The growth of space-intensive renewable energies, such as wind energy, as well as the cultivation of plants for energy, such as corn and rape, both require the allocation of space at the regional level. Demands of tourism and environmental protection also involve regional planning. To put it simply, strategies must carefully bring into balance conflicting interests for space at the regional level.

For regional planning, these competing interests for space pose new challenges. Practical approaches are needed to better integrate the expansion of renewable energy sources with spatial planning. An important planning instrument can be regional energy concepts. When developing a comprehensive concept, both spatially relevant and non-relevant renewable energies need to be taken into consideration. At the same time, they should be coordinated with formal regional planning, which is responsible for the allocation of the required spaces. In short, regional planning is an important participant in these changes, even if the drawing up of regional energy concepts is not one its actual tasks.

In order to systematize this field of activity for regional planners, with this publication the Federal Ministry of Transport, Building and Urban Development (BMVBS) as well as the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) publish a manual concerning the integration of renewable energy into regional energy concepts. The publication conveys the results of two studies which were drawn up based on the program "Demonstration Projects of Spatial Planning" (MORO). With the study "The Introduction of Regional Energy Concepts and their Integration into Regional

Planning," recommendations for the planning and eventual realization of regional energy concepts were developed and the role of regional planning was analyzed. The second study "Strategic Integration of Renewable Energies into Regional Energy Concepts – Regional Economic Effects" examined the economic potential that can be realized regionally through the expansion of renewable energy sources. For the first time, this study offers concrete data which, for example, show the regional economic return on the operation of renewable energy facilities. Both studies refer to the experiences of four model regions – planning regions Northern Black Forest (Baden-Württemberg), Trier (Rhineland-Palatinate), Friesland (Lower Saxony) and Hannover (Lower Saxony).

The studies demonstrate that for the drawing up of regional energy concepts there cannot be a standardized concept. The structural, spatial and economic conditions that determine the potential for the expansion of renewable energy in the regions vary considerably. Moreover, due to Germany's federalist structure, the process of regional planning is handled differently in each state. Further factors that have a decisive effect on the overall strategy are the number of participants who are involved in these changes and their economic influence.

Thus, the manual concentrates on suggestions as to what the content of regional energy concepts can be and how they can be drawn up. The essential transferable elements are shown, as well as typical processes and milestones. The manual is divided into six sections:

- 🔗 Preparatory phase
- 🔗 Communication
- 🔗 Analysis and goal definition
- 🔗 Funding
- 🔗 Strategies for realization and the planning of measures
- 🔗 Monitoring

In addition, the publication offers profiles of the four model regions mentioned above, discussions of the five renewable energy sources (wind, solar, biomass, water and geothermal), explanations of regional economic effects, as well as introductory texts and a perspective on future development.

The manual is not structured chronologically. The individual elements come together at various places and at different points in time. Thus, it is crucial for a successful energy policy to structure the conceptual preparation and realization as an integrated process from the very beginning. Already in the preparatory phase the building up of a network of active participants is of the highest priority. Finding a consensus on goals and strategies for the joint work is a crucial step.

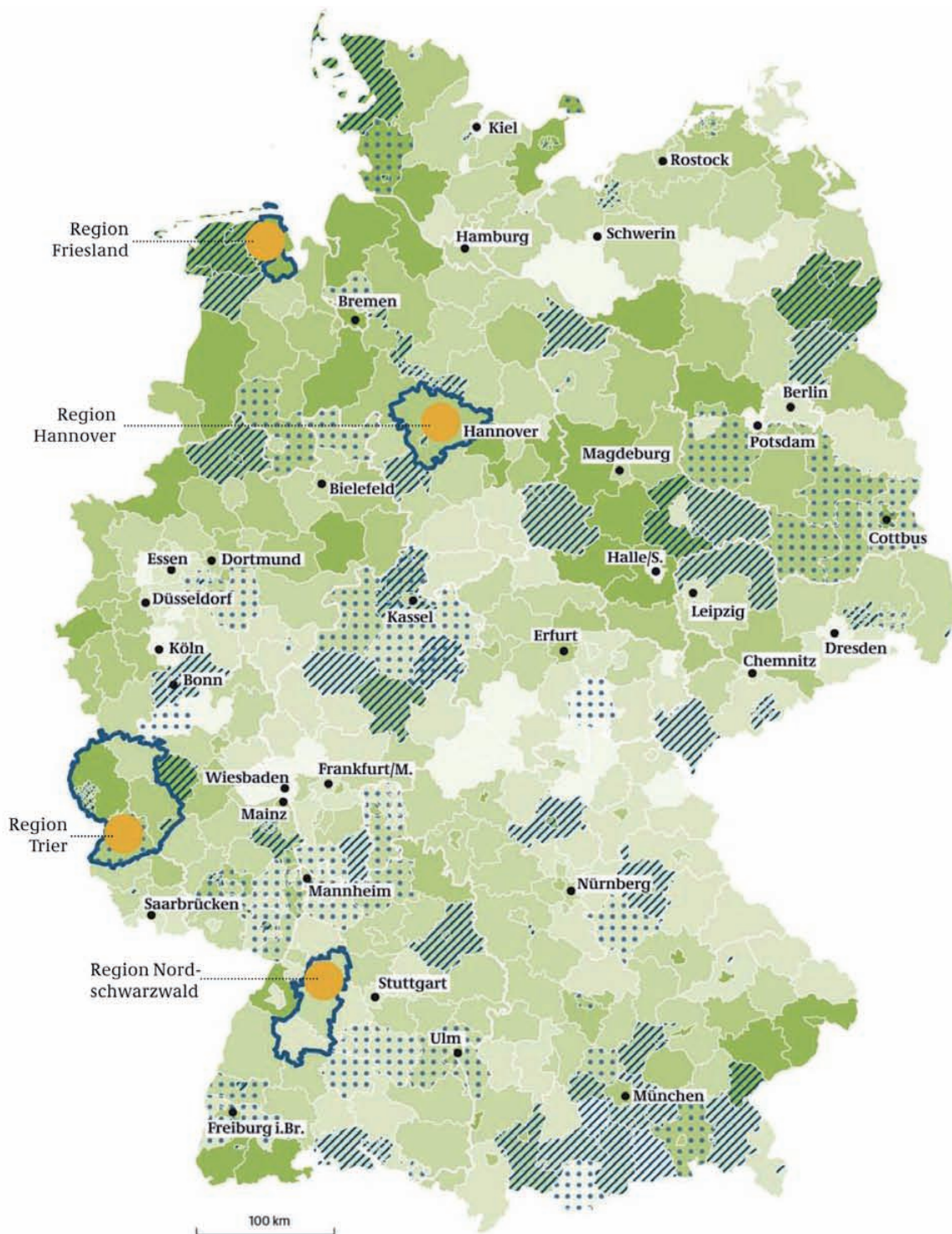
Active communication is an important prerequisite for the continuous involvement of all participants and decision makers. Moreover, since renewable energy sources are space-intensive and spatially perceptible, it is necessary to both inform and actively involve the public. Transparent actions heighten acceptance and support. This principle is confirmed by experiences from many other areas of integrated planning. Therefore, constant internal and external communication is an important component of a regional energy concept. Seeking professional support from a communication agency can increase the rate of success.

In order to properly determine the goals of the energy concept, an analysis should assess the potentials and limitations of the regional expansion of renewable energy. At this point, regional planning plays an important role. Thanks to its precise knowledge of spatially-relevant aspects of the region, it achieves an important integrating task for the regional energy concept. Hence, the jointly agreed-upon goals will be integrated into the progress of the concept and will be refined, if necessary. Questions of funding need to be addressed throughout the process, from the drawing up of the concept to its realization as a concrete project. The relevance of this topic has prompted public support for defining the concept in some federal states.

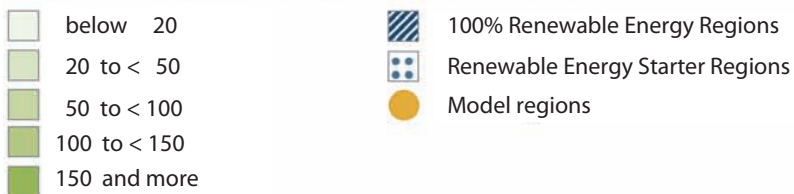
With the realization strategy for the regional energy concept, an agreed-upon set of measures is identified with which the regional expansion of renewable energy can be mandated and also steered. Within the framework of an active monitoring procedure, measurable interim goals and milestones give assurances to the participants when the development proceeds as agreed upon. Thus, measures to monitor the progress are present throughout the process as well.

The heavily informal approach of a regional energy concept hinges on the active involvement of relevant participants. This involvement requires voluntarism, enthusiasm and motivation – as well as a high degree of openness, transparency and communication. Participants should be conscious of the strategic function of a regional energy concept as an informal (or a formal) instrument: The concept aims to promote the expansion of renewable energy sources and to steer it toward a regional perspective in which the benefits are as great as possible and conflicts are as limited as possible – not least of all in the form of positive regional economic effects.

Regional distribution of electricity generation from renewable energy sources in 2009



Installed total electrical capacity of renewable energy sources in kilowatt (kW) per cadastral area of a county in km² in 2009



Database: BBSR Spatial Monitoring System,
 "100%-Erneuerbare-Energien-Regionen" (100% Renewable Energy Regions) project, RWE, Vattenfall, E.ON, EnBW
 Geometrical basis: Federal Agency for Cartography and Geodesy, municipalities, 31 Dec 2009
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