

**BEA APP – Supporting the
implementation of the
Regional Energy Concept
Vorpommern
(brief summary)**

**Ministry of Energy Infrastructure
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Brief summary of the Regional Energy Concept Vorpommern

The Regional Energy Concept of the planning region Vorpommern was commissioned by the regional Planning Association Vorpommern. One aim of the concept is to cover 100% of all energy needs in the region by renewable energies in 2030 and to export renewable energies to other regions. The Regional Energy Concept comprise priorities and methods to achieve this goal.

The primary energy consumption in the region Vorpommern in the Year 2012 was around 37 PJ. Households represent the largest consumption sector. In the region a total potential of renewable energy of about 60 PJ was determined. Currently, less than 20% of this potential is used.

Potential analysis of the region, conducted in previous studies, revealed that:

- The regional potential for renewables energies clearly exceeds the current one as well as the expected future energy demand
- With an appropriate use of the existing renewable energy potential a complete (at least mathematically) self-supply with (renewable) energy is possible
- It is expected, that the self-supply with energy firstly in the electricity sector will be achieved
- For heat a self-supply of energy from the region is much more challenging - heat self-supply of the region could be achieved by an improvement of energy efficiency

The Regional Energy Concept includes also different strategies how to achieve the goal of 100% renewable energy in the planning region Vorpommern. The regional energy production strategy relies on a replacement of fossil fuels through renewable energies, on the use of technical innovation, on the expansion of the grid, on intelligent grid control as well as energy storage.

In addition, a biomass strategy is part of the concept, which suggests that the biomass, produced in the region, should be processed to higher value products for export.

A second strategy is the biofuel concept. It builds on the biomass strategy and suggests that biofuel production should be used in the regions to gain added value.

Implementation of the concept, supported by the BEA-APP project

By the end of 2015, the development of the Regional Energy Concept of Vorpommern was accomplished. Since then, implementation of the concept is being forced to change from fossil to renewable energy sources, to implement energy storage concepts, and to develop e-mobility as well as financial participation of the inhabitants in renewable energy projects in the region Vorpommern.

During the implementation phase of the Regional Energy Concept several studies and measures were carried out. In one study, the spatial structure of energy distribution, the settlement structure and the conditions of digital and legal steering were evaluated with the aim to build a regional system of storages fitting to the area.

Another study had the aim to establish and develop district heating in the planning region. For this reason, economic conditions and the potentials of the use of renewable energies were assessed.

The project **BEA-APP** brings the implementation to a new stage by conducting an analysis of the possibilities to link the requirements of the energy transition with the spatial planning of settlement development. This is of central importance because in the planning region, single-family homes are high on resource, space and energy consumption compared to other types of housing. In addition, in the planning region of Vorpommern, the private sector plays a decisive role in energy consumption. To pave the way for the implementation of the Regional Energy Concept, an analysis of the development of the residential building structure in the municipalities and a typing of settlements in terms of their energy environment and comparison of municipalities is conducted. In addition, an analysis of the interactions between settlement structure development, energy consumption and energy supply against the background of the energy transition is carried out. Requirement for the development of future settlement areas, particularly with regard to the heat supply with open-space solar thermal energy, geothermal energy and bioenergy will also be tackled.

General planning criteria used in the implementation process

The analysis of interactions between settlement structure development, energy consumption and energy supply will cover a selection of general planning criteria. The selection comprises the criteria *planning*, *society*, *conflict potential* and *grid capacity*.

The criteria *planning* will refer to designated areas for residential areas in cities and villages. Concerning *planning*, the spatial development, especially detached houses, will be analyzed on municipal level by a typing of settlements regarding the energy consumption and supply. The criteria *society* will be tackled with regard to participation and cooperation. Here, a special focus will be set on awareness raising and support of municipalities (to establish concepts). The criteria *grid capacity* is reflected by energetic challenges in the future (electricity and heat supply) which will be part of the study. The general criteria *conflicts* is part of the study because the study will reflect conflicts and solutions regarding spatial development of residential areas concerning to electricity and heat supply.