



Current trends in urban development with focus on chances and challenges in energy transition context





The Havelland-Fläming Region





The Havelland-Fläming Region



Area: 6.800 km²

Inhabitants: 1990 685.200

2008 744.900

2020 749.200

3 Rural districts:

Havelland

Potsdam-Mittelmark

Teltow-Fläming

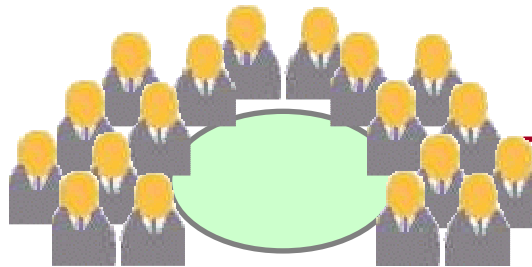
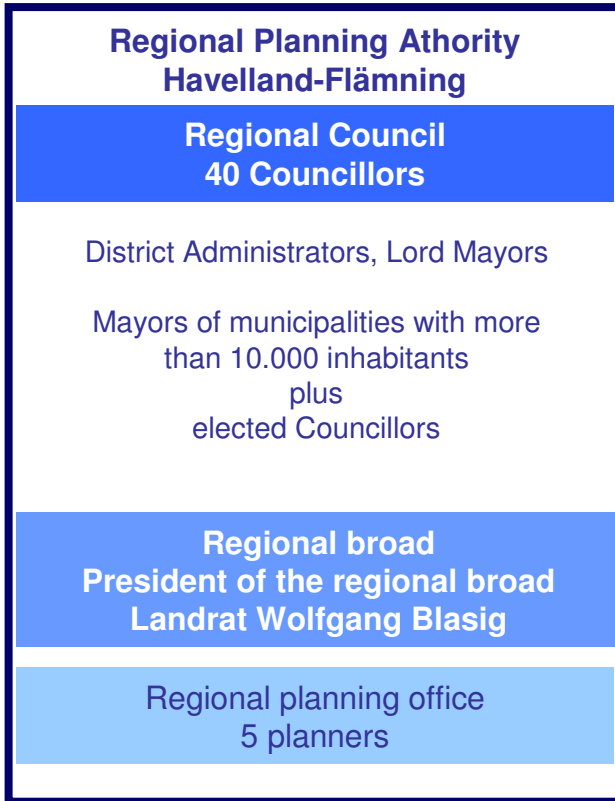
2 Cities:

Potsdam

Brandenburg an der Havel



The Regional Planning Authority





2010





Regionalplan Havelland-Fläming 2020

Fassung vom 16.12.2014

Festlegungskarte

Festlegungen

New regional plan will enter into force

2. Siedlung

on 30th of October 2015

2.1 Allgemeine Siedlungsflächen

 **2.1.1 (G) Vorzugsräume Siedlung**

2.2 Daseinsvorsorge

 **2.2.1 (G) Funktionsschwerpunkte der Ober- und Mittelzentren**

 **2.2.2 (G) Funktionsschwerpunkte der Grundversorgung**



Settlement Areas



Services of general interest



Prior commercial areas



Protected open space



Wind energy



Raw material winning area



Energy transition: ambitious objectives

Federal Government:

- According to the objectives of the German federal Government at least 40 percent of Germany's electricity consumption in 2025 is to be covered by renewable energy sources. The share of renewables is to be increased up to 60 percent till 2035.

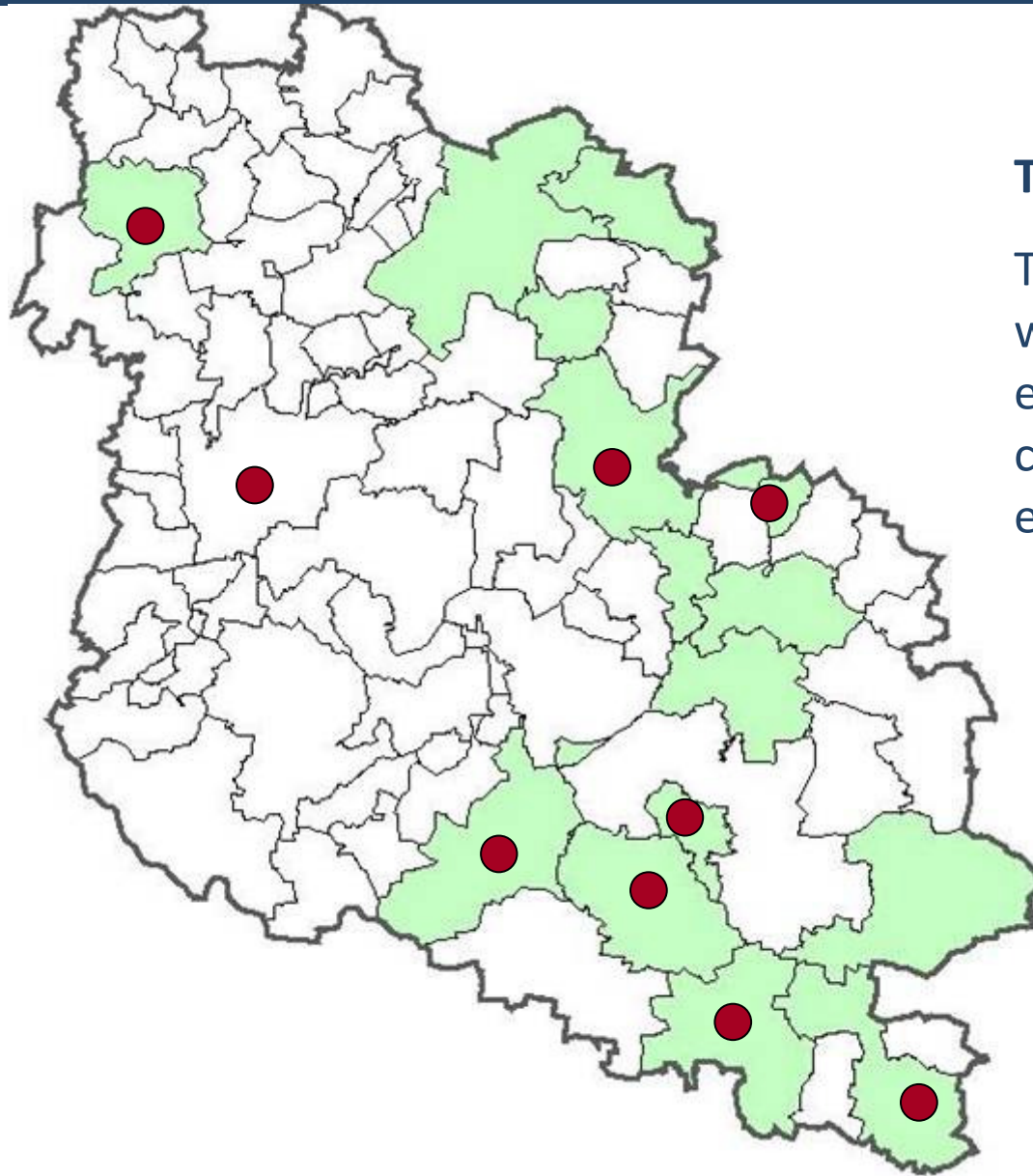
Brandenburg State Government:

- The final energy consumption is to be reduced about 23 percent till 2030 (in average about 1,1 percent per year).
- 40 % percent of final energy consumption is to be covered by renewables in 2030
 - 100 % of electricity consumption
 - 39 % of heat consumption
 - 8 % of transport



A hard piece of work: Targets for the Havelland-Fläming Region

	Wind	Biomass	Solar thermal	PV	Others	Total
Target 2030 (GWh)	5.239	3.706	937	639	575	11.095
State 2010 (GWh)	1.268	1.982 *	25	31	204	3.510
Percentage state 2010/target 2030	24%	53%	3%	5%	35%	32%



The work has to be done locally!

The targets only can be reached when the development is encouraged and steered by the communities together with local entrepreneurs and the residents.

18 local Energy and Climate Protection Concept

11 local Energy and Climate Protection Manager



Local heat grid in the village Baitz operated by a local Cooperative Society “Baitzer Heizer e.G.”

- The cooperative was established by the local people and erected a boiler house that is operated by wood chips from local sources and supplies the homes of the members with heat and hot water by a local grid.
- The boiler house is equipped with a solar thermal panel that reduces the wood chip consumption in the summer time.
- All connected homes are supplied with heat and hot water to reliable conditions and independent from oil and gas prices.
- The cooperative is non-profit oriented and the members have influence on all economical decisions.





Powerful Cooperative

- Foundation of the Registered Cooperative Society for Renewable Energy Development „Westhavelland e.G.“
- The Cooperative was established by the initiative two local administrations Rhinow and Nennhausen with the help of a local operating bank in 2012.
- Further Members are e. g. the municipality Seeblick, one public utility housing enterprise (Wohnungsbaugesellschaft Westhavelland) and approx. 40 citizens.
- The cooperative offers the citizens the opportunity to invest in local renewable energy projects in order to benefit financially from the projects.
- The objective is to strengthen the local added value and to avoid the money runs off.



Projects by the Cooperative Society for Renewable Energy Development „Westhavelland e.G.“

- 100 kWp installed solar photovoltaic capacity on the roofs of public owned buildings
- 40 kWp installed solar photovoltaic capacity on the roofs of living houses under construction
- Establishment of a short rotation crop plantation to produce fire wood for heating





Nauen: “Old town with new energy”

Restoration plan for the historic town center of Nauen

- Revitalisation of retail trade and structural consolidation
- Low energy refurbishment (e. g. dumping, energy saving windows)
- Consulting for house owners
- Use of renewables (PV)
- refurbishment of the local heat grid
- Low building operating costs is to be to make living and working in old houses more attractive
- Reducing the CO2 emissions about 48%





Energy autonomous village Feldheim

- The homes in Feldheim are individually autonomously supplied with heat, hot water and electricity via a local grid that is owned by a local company. The used energy is generated by wind turbines, solar panels and a biogas fermenter.
- The fluctuation of wind power generation can be cancelled out by a powerful storage battery (10 MW) what is making the village completely independent from outside energy sources (off-grid-village).
- For extra heat demand on particular cold days it is optional possible to run a boiler house with wood chips.
- Guided tours are regularly offered in order to inform visitors about how it can be achieved to supply a whole village by 100 % renewable energy. A visitors and information center was build in 2014 inviting guests from various points of origin.





Chances

Energy transition

- offers the opportunity to generate local added value and income for communities and residents (e. g. and commercial tax, investments)
- strengthens the regional economic cycle
- has (partly) a positive effect on local labour market and generates orders for local businesses
- helps to get more independent from the turbulent and hard-to-predict energy market and the big suppliers and is a possibility to save money due to higher energy efficiency
- encourage the communities to use local resources
- can give a positive green and innovative image of the communities and attracts visitors who are interested in good practice examples



Challenges and uncertainties

- (frequently) high investments needed with long time amortisation and low(er) return on investment
- dependency of public subsidise and (changing) subsidy policy, time and labour consuming applying procedures
- currently (relative) low oil and gas prices
- (in came cases) insufficient availability or quality of renewable sources (in particular biomass)
- the “man (woman) of action” is necessarily needed, projects stand or fall with someone who cares for persistently
- administrations and developers have to cope with (growing) concerns, reservations and scepticism of residents (in particular about wind power and biogas)



Transition only with the citizens

- energy plants are no longer only part of remote industrial site only can be seen be a couple of people
- wind turbines, biogas fermenters and solar panels change the accustomed environment of more and more people
- residents are afraid about noise and air pollution and other negative effects as well as about rising energy prices
- some people experience the development as being too rapidly or doubt that the energy transition is necessary and appropriate to tackle climate change
- in particular more and more people feel that already today too manly wind turbines have been erected and try to avoid that more turbines will be erected



The greatest challenge is to convince the people that energy transition is possible and finally to the benefit of all.



Thank you for your attention.

Lutz Klauber

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