The participatory process to a low-carbon economy in the German state of NRW

This article gives a short overview of the specific approach of the participatory development of the climate protection plan in the German state North Rhine-Westphalia. It will start by discussing the motivation for the specific setting; then it will highlight the methodological approach and will briefly show the main results; additionally it will particularly reflect the added value of this complex process. Last but not least, the lessons learned by this process will be specified and discussed on whether and how they can be transferred.

DOI: 10.12910/EAI2015-016

M. Fischedick

Introduction

The implementation of the intended energy transformation pathway in Germany ("Energiewende") is a complex process and consists of various challenges. Achieving the targets requires more or less a complete reorganization of the energy system, which has to be implemented within only a few decades and with a strong focus on deployment of renewable energies and energy efficiency improvements. Thus, the "Energiewende" is not only a technological challenge (particularly with regard to the system integration of renewable energies with a variable supply characteristic), but goes along with infrastructure requirements, a necessary change of investment characteristic, a political challenge (e.g. better integration of different policy levels: European Union, Germany, States, regions and cities), innovation challenge (the need for system innovations linking technological innovations, smart infrastructure solutions with social innovations, e.g. new business ideas, in a proper way), and last but not least a social challenge (e.g. public acceptance).

Contact person: Manfred Fischedick
Manfred.Fischedick@wupperinst.org

Methodology and ongoing activities

With regard to the social challenge, participation plays a key role. It is not only the on-site discussion on the project level, but also the question of how to involve people already in the planning and concept development phase. Against that background, the state of North Rhine-Westphalia (NRW) – the biggest state in Germany, comprising the highest amount on fossil fired power plants and energy-intensive industries in the country – started to develop the so-called "Klimaschutzplan" (climate protection plan) as broad participatory process. With more than 400 different stakeholders (coming from energy utilities and industry as well as from NGOs, labor unions, consumer associations) amongst others, the following was discussed in a very systematic process over a two-year period:

- which technologies are appropriate to contribute

significantly to ambitious GHG mitigation targets (long term perspective 2050);
- how these technologies can be linked in consistent pathways for the energy system;
- what impacts can be expected when realizing the pathway (e. g. economic impacts, employment effects, security of energy supply); and
- what policy instruments are available to support the implementation process and empower the relevant stakeholders.

The process was based and triggered by a climate protection law (Climate Protection Act) of the NRW state, where concrete mitigation goals for greenhouse gas emissions have been fixed for 2020 and 2050 with -25% and -80%, respectively, in comparison to the 1990 level. There have been a number of various reasons why NRW government decided to follow a participatory process. First of all a maximum of transparency should be guaranteed, public acceptance should be achieved and public engagement triggered. Further goals are the creation of an appropriate implementation culture, the stimulation of new cooperation schemes and joint approaches (e.g. between industry and NGO), as well as the integration of the external competence of the stakeholders. Against that background, the stakeholders involved in the process become pro-active members of the process and can help to shape the future energy system of the state.

The tasks for the climate protection plan process can be described as follows:
- specification of central (technological, infrastructure and behavioural) strategies and needs to achieve the "Energiewende" goals at state level;
- identification of relevant system interdependencies and implementation barriers between relevant strategies;
- bundling of strategies and measures in consistent scenarios/pathways showing how the climate protection goals outlined in the Climate Protection Act can be achieved;
- linking of mitigation and adaptation strategies and measures;
- specification of the climate protection contribution: temporally, sectorially and regionally;
- specification of the necessary support for all stakeholders to implement GHG mitigation measures and to adapt to climate change.

The state government, in cooperation with an accompanying scientific institute and a communication agency, conducted a complex process comprising a stakeholder platform organized along six working groups (energy conversion; energy-intensive industry; construction; trade and commerce; transport, agriculture and forests; private households) and a steering committee, dealing with cross-cutting issues and potential conflicts (Fig. 1).

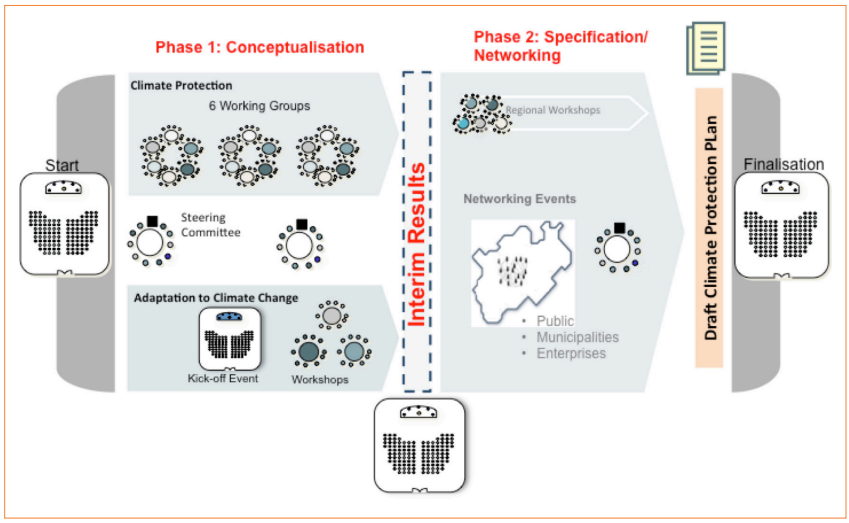

FIGURE 1 Schematic description of the NRW climate protection plan process
Source: IFOK, Wuppertal Institute, Presentation material for the NRW "Klimaschutzplan" Berlin, Wuppertal, 2013

In addition to this stakeholder platform the results of the process have been discussed in various workshops with local authorities, enterprises and in selected citizen dialogues. Furthermore, an online-forum was established to integrate a broader spectrum of stakeholders in the process.

Within the process, the stakeholders developed ten scenarios in total, describing possible pathways being able to significantly reduce

	Mitigation scenarios										Baseline	
Scenarios	A	A1	A2	B	B1	B2	BCCS	C	C1	C2	0,6	0,8
Electricity production												
Development renewables	low		high	high		100%*	low	high	low	100%*	very low	very low
Demand of electricity**	constant			constant				decreasing			constant	slightly decreasing
Industry												
Growth	1,2%			1,2%				0,6%			0,6%	1,2%
Technology	best available technology			low carbon technology				low carbon technology			cost-efficent available technology	
Usage of H2 in PJ 2050	-			140		280	140	200		280	-	-
Buildings												
Reconstruction rate	1,4%	0,7%	1,4%	2,0%	1,4%	2,0%		2,0%			0,7%	
Mitigation of GHG-Emission in NRW* **												
1990-2020 (Target -25%)	-21%	-20%	-25%	-26%	-26%	-27%	-22%	-29%	-24%	-29%	-21%	-16%
1990-2050 (Target -80%)	-57%	-57%	-60%	-65%	-64%	-79%	-67%	-69%	-68%	-82%	-51%	-40%

* 100% of electricity production from renewables
** electricity demand are scenario results
*** domestic mitigation in North Rhine-Westfalia excluding emission trading

TABLE 1 Selected results of the scenario process
Source: Prognos AG, Entwicklung und Durchführung einer Impactanalyse für den Klimaschutzplan Nordrhein-Westfalen Basel, 2014

greenhouse gas emissions in the state. The different scenarios very well reflect the distinguished judgments of the group with regard to the meaning of single strategies, or the availability of specific technologies over time. The following table gives an overview of the most important results.
In addition, during the process appropriate policy instruments have been discussed and assessed by the stakeholders with regard to public acceptance, cost-benefit ratio, employment effect, etc.
Approximately two thirds of the 265 proposed measures have got the full support by the stakeholder community, while one third has been discussed as controversial. For transparency reasons, all pros and cons have been reported and are available online for the public, as is the full set of other relevant material.

Conclusions

With the process of the development of the climate protection plan, the government of North Rhine-Westphalia decided to intensively engage relevant stakeholders already in the development phase. After following and steering the process over two years, several added values could be detected:

- specification of the stakeholder family being relevant for the implementation and monitoring of ambitious climate protection policy in North Rhine-Westphalia;
- significantly improved knowledge base about mitigation potentials and scenarios in North Rhine-Westphalia (scenario corridor as orientation mark for the assessment of options for action);
- sound foundation and stakeholder assessment for the selection and implementation of mitigation measures (policy instruments);
- lighthouse effect beyond North Rhine-Westphalia for similar participatory processes abroad;
- highly productive discussion and culture buildup within the working groups;
- raising awareness on different perspectives by stakeholders;
- confidence building between stakeholders and ministries, especially between industry and ministry for the Environment;
- better chance to implement mitigation measures if jointly developed with the relevant stakeholders;
- starting point for further structures of dialogue with stakeholders (e.g. industry dialogue).

Manfred Fischedick
Wuppertal Institute for Climate, Environment and Energy, Wuppertal, Germany