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The German Turnaround: An Analysis of the Strategic Communication of the Bavarian State towards its Citizens

A Master's Thesis submitted for the degree of
"Master of Science"

supervised by

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Vienna, 28.05.2013

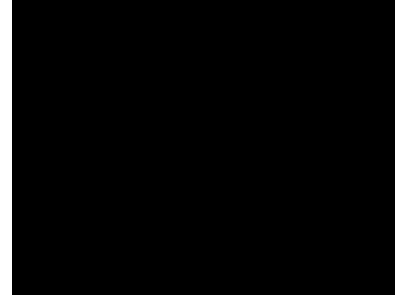
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Affidavit

I, **MIRIAM REGINE JOSEFINE KRINNER**, hereby declare

1. that I am the sole author of the present Master's Thesis, "THE GERMAN TURNAROUND: AN ANALYSIS OF THE STRATEGIC COMMUNICATION OF THE BAVARIAN STATE TOWARDS ITS CITIZENS", 79 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted this Master's Thesis as an examination paper in any form in Austria or abroad.

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Abstract

This paper aims to examine the communication strategy of the Bavarian state towards its citizens. The promotion of the Energiewende is one of the major tasks the German government has faced so far. Bavaria as the largest state in Germany plays a key role in the energy transformation process and has set itself the task to play a pioneering role in the energy turnaround. While the ambitious targets for 2020, 2030 and 2050 are currently set on an European and German level, it is increasingly recognized that social acceptance is slowly decreasing. Addressing the thematic to the citizens, the municipalities and the Bavarian industry sector, requires a lot of engagement as well as clear and transparent information. In the last few years a body of literature has been devoted to the main issues of the Energiewende (technological aspects, infrastructural innovations, grid instability, feed-in tariffs,...). However, it is argued that more research needs to be done in the field of the strategic implementation of communication within the process of the energy transformation. Besides literature research, a qualitative semi-structured interview was conducted with 33 people from policy, municipality, industry and the society. The focus was laid on Bavaria and on two of the most important forms of renewable energies: Solar and wind energy. The survey showed that the inadequacies of the Energiewende are deeply rooted and the trust of society is connected to the quantity and quality of clear and transparent information, offered by the state and its multipliers. It turned out that the strategic concept of the Bavarian government was not familiar to the interviewees, however, the awareness and the will to invest in renewable energies and to save energy was almost entirely given.

Keywords: Energiewende, Turnaround, Transformation Solar Energy, Wind Energy, Communication, Strategy, Germany, Bavaria

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List of Abbreviations/Acronyms

AI	Access to Information
BAU	Business As Usual
BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
EEG	Renewable Energy Sources Act
EU	European Union
EC	European Commission
GHG	Greenhouse Gas
GMT	Global Mean Temperature
IEA	International Energy Agency
IAEA	International Atomic Energy Agency
IFEU	Institute for Energy and Environmental Research
IPCC	Intergovernmental Panel on Climate Change
JRC	Joint Research Centre (EU)
Lat.	Latin
LDC	Least Developed Countries
LfU	Bavarian State Office for the Environment
MEP	Member of the European Parliament
NIMBY	Not In My BackYard
PV	Photovoltaic
RES	Renewable Energy Sources
R&D	Research and Development
SAIDI	System Average Interruption Duration Index

SMEs	Small and Medium Enterprises
StK	Bavarian State Chancellery
StMELF	Bavarian State Ministry for Nutrition, Agriculture, and Forestry
StMF	Bavarian State Ministry of Finance
StMI	Bavarian State Ministry of the Interior
StMWFK	Bavarian State Ministry for Science, Research and the Arts
StMJ	Bavarian State Ministry of Justice and Consumer Protection
StMWIVT	Bavarian State Ministry of Economic Affairs, Infrastructure, Transport and Technology
StMUG	Bavarian State Ministry for the Environment and Public Health (former StMUGV)
StMUGV	Bavarian State Ministry for the Environment, Public Health and Consumer Protection
TFEU	Treaty of the Functioning of the European Union
UNIDO	United Nations Industrial Development Organisation

1. Introduction

Germany is currently walking an “iter non tritum”: a new and never before attempted step to switch within eleven years from a stable nuclear-based energy supply towards a sustainable and green energy market by 2022. The country has to direct its path into the right channels, without any rolemodel to follow and at its own risk. The whole process of Germany’s energy transformation has been often compared to the German reunification in 1990, one of the largest and most important post-war infrastructural projects in Europe.

Florentin Krause of the German Ökoinstitut e.V. was the first author to mention the term “Energiewende” in the 1980s. Thirty years later, on 28th of February 2010, the German government decided to implement the first step towards the Energiewende with the Energy Concept for an environmentally sound, reliable and affordable energy supply 2010. The final and decisive turning point with regard to the German Energiewende, however, happened on the morning of 11 March 2011 with the partial meltdown of the Fukushima Dai-ichi Nuclear Power Station in Japan. The catastrophe of Fukushima caused an outcry within German society to stop atomic energy production and to change to greener and cleaner ways of energy supply. The reaction seemed to be widely emotionally charged with hundreds of thousands citizen protesting in strong terms against nuclear energy. The term “Wutbürger”¹ was consequently nominated the word of the year in 2012.

The German government seeked to pursue a policy that had the full agreement of the German citizens instead of choosing a policy of confrontation or of continuation with nuclear energy. The public opinion could not be ignored. Decisions had to be reached in short notice, although Germany had to implement a long run plan and thus an irrevocable direction for the country’s energy supply. The German Energiewende has become a challenge which can only be enforceable with the support and backup of the German society, municipalities and most important the German companies, with their science and research sectors. The restructuring of the industrial and technological infrastructure needs the trust of the consumers: An harmonous interplay of all actors on the market is needed. Acceptance and acceptability have to be enhanced for the citizen within the complex process of the Energiewende.

¹ The angry, outraged German citizen

² President of the DIHK from 2009 until 2013

Even since the communication problem of “Stuttgart 21”, the importance of sufficient and clear communication towards the public has showed to be more important than ever. German and Bavarian citizens want to see results and progress. The question is: Two years after the Energiewende – can Germany record progress? Has policy which has been decided been put in to effect? Are people informed about the status quo and the consequences? Is the chosen communication method, strategy and channel the right one?

1.1. Problem and Research Question

Germany in the year 2013, is situated in an in-progress switch, where its citizens have decided to ban nuclear energy out of their lives due mainly to ethical reasons. The first consequences in the form of higher energy costs and general uncertainties in this implementation and realization process are already being felt.

Hans Heinrich Driftmann, former president² of the German Chamber of Commerce and Industry (DIHK) complained about the current communication strategy of the German policy with regard to the Energiewende. Driftmann did not hesitate to call the communication abominable³ and absolutely insufficient (DIHK a, 2012).

The actual situation is marked by a strong communication deficiency from the German and Federal Governments towards its industry sector, municipalities and citizens. The same situation can be applied to Bavaria where current surveys indicate that the public’s back up for the Energiewende is slightly decreasing.

All parties concerned within this nuclear phase-out progress need to be informed and cleared up about actual and future changes in issues concerned with energy consumption and economic investment. To get this information across, public interest and motivation for the energy turnaround needs to be kept up. Without clear and broad coordination and communication and an awareness raising strategy towards the Bavarian citizens the whole progress could ultimately fail.

Political decisions are in the end connected to various factors: Public or political pressure, strategy to win election campaigns, ecological and economical

² President of the DIHK from 2009 until 2013

³ Original German expression: „hundsmiserabel“

circumstances or political systems. However, the decision to ban nuclear energy is considered as final and irrevocable with all that this implies to solve the problems we see currently:

The trend and statistics show a decreasing back up and trust in the Energiewende from both citizens and industries. Only one fifth of the German population sees progress in the Energiewende, and around 50% make policy responsible for this negative trend, even though still 73% are in favour of the nuclear phase-out (2012) (Prof. Köcher, 2012). During my previous work in the Bavarian Ministry for the Environment and Public Health I was often confronted with the questions: Why do costs of electricity rise, while more energy than needed was produced? Why do we sell energy so cheaply to neighbouring countries? Who finances the Energiewende?

The thematic is particularly important as the political leaders and policymakers need feedbacks and response to their daily work. An appropriate degree of transparency, corporate governance, proportionality, and sufficient and clear information are the key aspects. The study gives furthermore voice to people who are normally not heard, for instance people working in the ministries and institutions, doing the background work of the Energiewende. Finally, this work may benefit the population itself in understanding the problems and difficulties of the Energiewende in more detail.

The purpose of this Master thesis is to investigate more closely to what extent the selection of the right communication strategy, the choice of communication medium, as well as the choice of the communication channel contributes to a progress and a successful outcome of the German turnaround. The question arises if the Bavarian population would be more likely willing to support the German Energiewende with all its possible side effects, if absolutely clear and understandable information were offered to the public. If the communication strategy and concept of the Bavarian government reached its goal in carrying the citizen in a new era of energy production? Are the main forms of energy, the main steps to reach the goal of a successful Energiewende familiar to the Bavarian society? As well as are citizens familiar with the leading energy agency ENERGIE INNOVATIV and its concept? Could the the government win the trust of the Bavarian citizens?

This thesis will furthermore scrutinize the key aspects and inadequancies of the communication strategy of the Bavarian state government in its energy transformation process.

2. State of the Art

In the field of my research a body of important literature has been published. However, most of the literature covers only the well-known general problems of the Energiewende: Energy security, technical and infrastructural prerequisites, energy policy in general and the future consequences or profits we can expect. Some literature has been devoted to the energy policy after nuclear catastrophies, for instance D. Nohrstedt, who concentrates on disaster and crisis management (2005 and 2008) or M.J. Goodfellow, H.R. Willams & Azapagic (2011) with their book "Nuclear Renaissance, Public Perception and Design Criteria: An Exploratory Review".

The work of Dobuzinskis, Howlett and Laycock helped me in understanding better the model of the policy cycle and the various insitutional constraints in public policy in general (Dobuzinskis, Howlett, & Laycock, 2007). More can be done in the area of examing the best method to communicate when it comes to public resistances.

Good studies and surveys have been emerging examing the current trend and antmosphere within the German population in relation to the energy turnaround. For instance the Study of the Allensbach Institute or the surveys and statistics conducted by Statista were of great relevance for this work. As the communication and public relation of the ministries is mainly related to public events, as well as the release of broshures and flyers, less information is known about their acceptance and awareness rising effect within society.

Good studies, however, have been emerging that treat the role of the media in policy making and agenda setting. Jo Bryson, for instance, has especially made an effort into examining the best ways of communicating in the political arena. Furthermore, Timothy E. Cook, with his book "Governing with the news: The news media as a political institution", grasped the basic of how the media act as a political institution and which role they play in governing with the news.

In general, greater research effort needs to be done in the field of analysing the communication strategies in a first step and in a second step evaluating performance and feedback of the strategies chosen by the policy.

3. Methodology and Procedure

This Master thesis has the specificity to illustrate the communication strategy the Bavarian Government applied to address the important topic of the Energiewende to its citizens. In this sense, the work gives a new perspective as it sheds light on the background work and flags the problems of information flow and difficulties in raising public awareness for the Energiewende.

This work contains both primary and secondary data. The secondary data used, is on literature research, collected from specialist literature, and internet resources. Additionally, relevant polls and statistics carried out in the last two years were included to compare the results. Further published brochures, internet sites and information material were analysed and used as a reference source in the interviews.

Primary data was collected through semistructured interviews and questionnaires. From mid April until the end of May 2013 stakeholders were consulted in a number of ways. The interviews were conducted among selected citizens, municipalities and industries situated in Bavaria.

Among others, the Bavarian Minister for the Environment Dr. Marcel Huber, or the Managing Director Peter Driessen of the IHK⁴ for Upper Bavaria and Munich were asked about the current position of Bavaria in the Energiewende. As this thesis concentrates on wind and solar energy, interview questions were set in relation to those two important forms of renewable energy. Lastly, the results were compared with already existing surveys to obtain a current trend towards the Energiewende in the Bavarian region.

In addition different events were attended, which were related to the topic of the Master thesis and enhanced understanding the state of the art thinking in environmental policy:

- The opening ceremony of the Bavarian Climate Week in April 2013 in Pfaffenhofen an der Ilm
- The final event of the two-week Energiewende congress of the wind and solar association in Pfaffenhofen an der Ilm
- Environmental fair in Bad Tölz on 4/5th May 2013

⁴ IHK stands for the Chamber of Industry and Commerce

- The Discussions of Benediktbeuren conducted and organised by the environmental foundation of Allianz (insurance company) in May 2013. During this two day event, entitled “Wenn mein starker Arm es (nicht) will – Bürgerwille versus Großprojekte”⁵ top class German and European speakers of leading roles in industry and policy passed on their knowledge and insight experiences in large projects concerning the German Energiewende.

The paper is structured as followed:

The first section provides the methodological consideration as regards how this thesis will go about conducting the analysis that will lead to answering the research question: To what extent the selection of the right communication strategy, the selection of the right content, the choice of communication medium, as well as the choice of the communication channel contributes to progress and a successful outcome of the German turnaround.

The second part of this master thesis is devoted to give an overview to the developments and the current framework of the European and German energy policy. Further a definition of the term Energiewende is presented.

Chapter five sets the scene for the Federal Land of Bavaria. The section examines key historical energy policy steps and specifically focuses on the phasing-out of nuclear energy, the key points of the energy policy until 2022, as well as the technical and infrastructural prerequisites.

Chapter 6 presents the landscape of renewable energies in Bavaria focusing on wind and solar energy.

The next section includes the theoretical part, presenting the theories of agenda setting and the two step flow of communication. Both will form the basis to analyse and examine in the next chapter the process of communication strategies as well as the lacks of information.

Chapter 8 summarises again the most important problems which the Energiewende faces. Especially insufficient or inconsistent the lacks of information will be more precisely examined.

⁵ Translated term: „When my mighty hand does (not) want – The will of the people versus large projects“

The following section sets the scene for the communication strategy of the Bavarian ministries and the government of Bavaria. The different tools and platforms are presented which were created to inform the public, municipalities and industries about the Energiewende.

An analysis of the interviews which were conducted will be given in Chapter 9. The results of the semi-standardised interviews and questionnaires are set into relation to current results of polls. Moreover this section puts into perspective where the current inconsistencies can be found.

Chapter 10 will provide results and discusses the solutions and findings which were elaborated in section nine.

The last chapter provides the conclusion and gives an outlook on future potential areas of improvement. Moreover it puts into perspective where both the German government's and especially the Bavarian government's policies have to be addressed first in order to identify where action is needed. The section is concluded with personal summary remarks.

4. Energiewende

4.1. The Term “Energiewende”

The term “Energiewende” became widely used as a result of the nuclear phase-out in Germany after the nuclear catastrophe in Japan 2011. The expression can be translated into English terminology as “energy transformation” or “energy turnaround” (Baake, 2013).

It was, however, in the 1980s, when the term “Energiewende” was mentioned for the first time. Florentin Krause⁶ of the German Ökoinstitut e.V. and his co-authors Hartmut Bossel and Friedrich Müller-Reissmann published: „Energiewende – Wachstum und Wohlstand ohne Erdöl und Uran“⁷ the term *Energiewende* for the first time (Krause, Bossel, & Müller-Reissman, 1980) thereby provoking an unprecedented discussion about the decoupling of the general interconnection between economic growth and electricity production (Öko-Institut e.V., 2005). The authors managed at an early stage to put the thematic of increasing renewable energy sources and the potential end of nuclear energy at the centre of public interest (Morris, 2013).

4.2. European and German Energy Policy

Energy security, efficiency and saving are hot topics on the political agenda of the European Union (EU) today. Europe faces nowadays the problem of rising energy demand, especially due to an increase in primary energy consumption. Together with population growth and economic prosperity, the goal of achieving the “EU climate protection target – the 2°C limit”, is highly endangered (European Commission h, 2008).

In the last ten years Europe could witness a considerable success in energy-efficient solutions and an increase in the awareness of necessary changes in the energy sector. Europe needs a uniform voice in negotiations, which are conducted on an

⁶ Florentin Krause, cofounder of the German Öko-Institut in Freiburg, holds a PhD in chemistry from the University of Berkeley in California

⁷ translation: Energy transformation – growth and economic prosperity without crude oil and Uranium (translated by MK)

international platform and a common European position when it comes to climate protection and reducing worldwide CO₂ levels.

Until now, Europe faces the problem of an uneven level of renewable energies in the individual countries. Combined effort of all member states is necessary for the combined vision of a European energy transformation process. The energy policy of the Federal State of Bavaria can only be understood in its entirety when set in relation to the political and technical framework of Germany and the energy policy of the European Union.

4.2.1. From the White Paper 1997 to a 7th Environmental Action Programme

The first “White Paper for a Community Strategy and Action Plan”⁸ of the European Union with the title “Energy for the Future: Renewable Sources of Energy” published shortly before the Kyoto Summit in 1997, set the first targets towards greener forms of energy production as well as a “series of energy actions” in the European Union. The paper stated that renewable energy sources had been at an “unacceptably modest contribution to the Community’s energy balance” as technically already would have been possible in 1997 (European Commission f, 1997). Technical advances in renewable energies and a general increase in awareness of climate protection resulted finally in the integration of the term energy in the Lisbon Treaty.

With the Treaty of the Functioning of the European Union (TFEU) the importance of energy has been included in Title XXI, Article 194.1, stating that:

The functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:

- (a) ensure the functioning of the energy market;*
- (b) ensure security of energy supply in the Union;*
- (c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and*
- (d) promote the interconnection of energy networks. (TFEU, 2008).*

⁸ COM(97) 599 final (26/11/1997)

One year after entering into force of the Lisbon Treaty, Günther Oettinger, European Commissioner for Energy, declared that the field of energy finally got a “selfstanding article” and thereby “a solid legal foundation” in the European Treaty. Energy policy on an European level “must ensure effective solidarity, responsibility and transparency among all Member States” not only in the field of common economic interests but also in the field of “the security of the EU’s internal energy market” (Öttinger, 2011).

The Renewable Energy Directive 2009/28/EC⁹ of the European Commission (EC) and the Council, has finally set obligatory targets to the member states in the field of renewable energies. For the first time European member states are committed to reduce their greenhouse gas (GHG) emission, increase the part of renewable energies and enhance energy efficiency “to enable the European Union” as a whole to improve each sector by 20% by 2020¹⁰ (European Commission e, 2012) (European Commission b, 2010). Those three points together with the 20% saving target are defined as the “energy and climate headline targets” of the European Union (Eichhammer, Wesselink, & Harmsen, 2010).

Within the framework of the Roadmap 2050¹¹ of the European Union a “practical, independent and objective analysis of pathways to achieve a low-carbon economy” has been given, which is coherent with the targets of the European Union and its directives for 2020 and 2030 (Eichhammer, Wesselink, & Harmsen, 2010). EU member states were committed to send National Action Plans to the European Commission by December 2010. Each country elaborated plans presenting concrete numbers and percentages of renewable energy sources (RES) that could be included into the country’s energy mixture, used and “consumed in transport, as well as in the production of electricity and heating, for 2020.” (European Union, 2010).

The current German EU Commissioner for Energy, Günther Oettinger stated in March 2013, that a new European climate and energy policy framework for 2030 needs to be defined and developed to “ensure proper investment” that ensures the European Union and its member states “sustainable growth, affordable competitive energy prices and greater energy security“ (European Commission c, 2013). The

⁹ 23 April 2009

¹⁰ Also known as the 20-20-20 goal of the European Union

¹¹ webpage: <http://www.roadmap2050.eu/>

Green Paper consultation will last until the second of July in 2013 and will concern the climate and energy targets for 2030, the coherences between policy instruments, the enhancement of the European economic competitiveness, as well as the individual limitations and capacities of the different European countries (European Commission a, 2013). The Green Paper will represent a framework for the ambitious 2030 goals in the field of climate and energy policy, and stays in strong relation to the resolutions written down in the “Roadmap for moving to a competitive low carbon economy in 2050, the Energy Roadmap 2050, and the Transport White Paper” of the European Union (European Commission d, 2013).

Additionally, within the next years a “Seventh Environment Action Programme” should be adopted. Before putting forward proposals for a new Action Programme, examination is made how it “could best provide added value in the rapidly evolving context for environment policy” (European Commission g, 2011).

4.2.2. Renewable Energy Sources Act: 2000 - EEG 2012

“We want to increase the renewable energies' share in our power supply to at least 80% by 2050. We are aware that this is not an easy task” (Altmaier, 2013).

Baltic Sea Forum 2013

Germany was the only country which decided to phase-out of nuclear energy shortly after the catastrophe of the Fukushima Dai-ichi reactor on 11th March 2011. Three days later, on the 14th/15th of March 2011, Germany decreed the moratorium and the final withdrawal of nuclear energy. The country reoriented its political framework and national action plan “compared to the legal and regulatory situation at the time of submission of the progress report (2011)”. The decision to phase-out of nuclear energy resulted in a faster change towards greener forms of energy production (Bolintineanu, 2011).

In 2000, the Act on the Sale of Electricity to the Grid (StrEG)¹² was finally substituted by the Renewable Energy Sources Act (EEG)¹³ (Agency for Renewable Energies, 2011).

The Renewable Energy Sources Act of 2000, was introduced to...

- “facilitate a sustainable development of energy supply (...),
- reduce the costs of energy supply to the national economy (...),
- conserve fossil fuels (...), and to
- promote the further development of technologies for the generation of electricity from renewable energy sources” (BMU e, 2012).

Since its introduction net operators are obliged to feed-in electricity produced by renewable energies as well as to pay feed-in tariffs to a fixed rate (Agency for Renewable Energies, 2011). The EEG Act tries to give priority to “electricity from renewable energies and from mine gas to the general electricity supply grids”. Second, the “purchase and transmission” of green energy is favoured. Third, the electricity price should be paid by the “grid operators” at a “consistent fee” lasting at least for two-decades (BMU d, 2004).¹⁴

The EEG gave great incentives to the German civilization and industry sectors to invest in solar energy. The chart below shows clearly the increase in investments in the field of photovoltaic (PV) installations in Germany in 2011. With more than 65 % and expenditures of 15.000 Million Euro, photovoltaic remained the largest part of the 87% of renewable energies which were still supported under the EEG¹⁵ (BMU a, 2012).

¹² StrEG stands for German „Stromeinspeisungsgesetz“

¹³ EEG stands for „Erneuerbare Energien Gesetz“ (EEG)

¹⁴ The following link shows the new tariffs and degression rates of the EEG 2012:
[Vergütungsdegression](#)

¹⁵ Feed-in tariffs are granted for hydropower, landfill/sewage treatment plant/mine gas, biomass, geothermal energy, wind power and solar radiation.

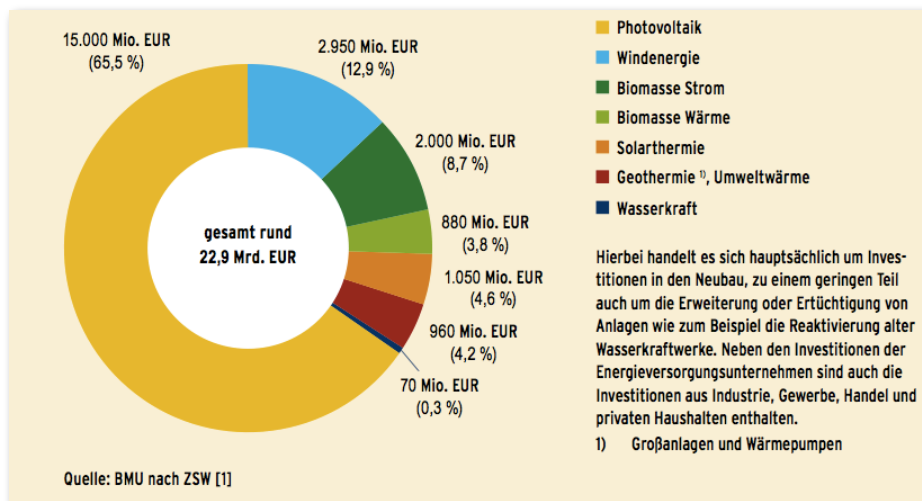


Figure 1: Investments according to renewable energies 2012, Source: BMU/ ZSW (BMU a, 2012)

The dramatic increase in especially PV power can be seen in the graphic released by the BMU showing the new mixture of renewable energies for the generation of electricity in Germany since 1990.

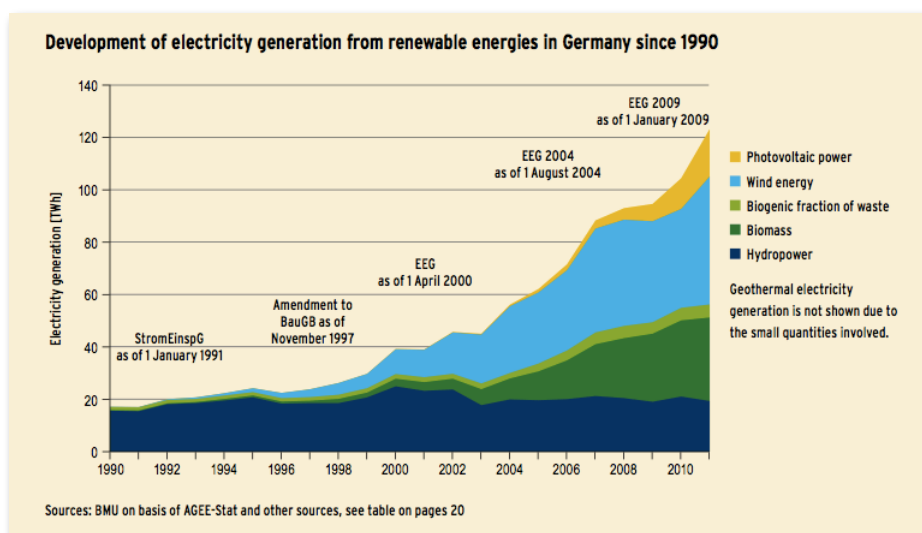


Figure 2 1: German electricity generation from renewable energies since 1990 Source: BMU

Further amendments¹⁶ of the EEG happened in the years 2004, 2009, and 2011 “mostly due to a record rise in photovoltaic installations in 2010 and 2011 (7,4 GW;

¹⁶ Amendments have been made in the field of :

Technical requirements (2/1), Feed-in tariffs (3), Direct selling (3a/1 and 2), Equalisation scheme (4/1), transparency (5/2), Legal protection and official procedure (6), Authorisation to issue ordinances, progress report, transitional provisions (7), the Annexes

7,5 GW)¹⁷ (Bolinteanu, 2011). With the last amendment, the German government set the ambitious goal to further increase the share of “renewable energy sources in electricity consumption”, to at least 35% by 2020, 50% by 2030, to more than two third in 2040 and 80% in 2050.

Year	2020	2030	2040	2050
EC	35%	50%	65%	80%
GFCE	18%	30%	45%	60%
EC = Electricity Consumption GFCE = Gross Final Consumption of Energy				

Figure 2: Percentage of RES in electricity supply from 2020 - 2050, Source: Data from EEG (BMU e, 2012)

According to the European Renewable Energy Council, Germany has already been “well on track towards its 2020 targets by 2010”. Moreover, by that time the country had “attained its RES goals” and was “slightly above the indicative trajectory” (Bolinteanu, 2011). The goal of a 12,5% “share of renewable energy” in energy production was already reached in 2007 (BMU, 2008). Nevertheless, Germany set itself new ambitious targets.

This years country review of the International Energy Agency (IEA) gave positive feedback for the German Energiewende. The German magazine “der Spiegel” states that the IEA advocates the implementation of the differentiated charging of green electricity, as it represents an equal distribution and contribution of all German citizens to support renewable energies in Germany. The EEG, which was introduced in 2000, is now considered as a “very effective” measurement by the IEA (Schultz, 2013). The IEA also notes, that the EEG was very effective in promoting renewable energies, in enhancing the production of wind energy, photovoltaic and biomass as well as in reducing costs through decreasing feed-in-tariffs (International Energy Agency, 2013). Further improvements are needed in the area of time “development of the transmission and distribution networks”, as well as “stable regulatory systems” which have to be implemented to guarantee investors long-term cost- and planning security. Last but not least, elaboration in the middle term is needed in the

¹⁷ Data according to the BNetzA

management of electricity monitoring especially for peak time scenarios
(International Energy Agency a, 2013).

5. Bavaria

In the previous sections, insight was given to the history of the European and German energy policy. The next part will deal in detail with the Federal State of Bavaria.

Bavaria is in terms of its size (70,548 square kilometers) and with over 12 million¹⁸ inhabitants the “largest state in the Federal Republic of Germany” (Bavaria, 2013). Bavaria's field of research and science, together with its political sector is thought of as the leader in the field of renewable energies in Germany (State of Bavaria a, 2013). However, very significant efforts have been required in energy politics to reach a stable and sustainable energy system. Since the paper concentrates on the communication and energy policy of Bavaria, the following part, will have a short introduction to the Bavarian history of energy politics.

5.1. Bavarian History of Energy Politics

The Bavarian Program of Rational Energy Production and Usage¹⁹ was already implemented in the early 1978s. Bavaria was the first German Bundesland which supported the development of new environmental technologies as well as the introduction of important measures to reduce energy consumption (Bavarian Center for Political Education, 2002) (Bavarian U.S. Offices For Economic Development, LLC, 2011).

In 1995, the Bavarian industry sector concluded together with the Bavarian State Government the “Bavarian Environmental Pact”²⁰ to strengthen cooperative measures in regard to environmental protection and sustainable economic development. The Pact represents for the Bavarian Ministry for the Environment and Public Health (StMUG) a great platform to promote and support projects in the field of Renewable Energies (StMUG d, 2013). Today, more than 3.400 companies are members of the Bavarian Environmental Pact and improve voluntarily their

¹⁸ Latest number: 30.06.2012: 12627.352 million inhabitants

¹⁹ German Titel: Bayerisches Programm zur rationelleren Energiegewinnung und –verwendung, 1978

²⁰ German Titel: Umweltpakt Bayern

cooperate environmental performance for an “environmentally compatible economic growth” (StMUG f, 2005) (StMUG e, 2012).

Two years later, on 19th of June 1997, the Bavarian State Government adopted the overall concept “With new forms of energy into the future”²¹ and thus focused on the reduction of energy consumption, promotion of renewable energies and energy efficiency, as well as on the conservation of resources and creation of new jobs. To intensify the information and communication flow with the population, one year later in 1998, the Bavarian Energy Forum was initiated. It aims at improving the efficiency of consultation and the exchange of information, especially in regard to public funding (Bavarian Center for Political Education, 2002).

With the Enquete Commission “With new forms of energies into the millenium” of 1999, the Bavarian Parliament initiated a think tank for research, energy potentials and of possible implementations in the field of renewable technologies (Bavarian Center for Political Education, 2002).

The “Bavarian Climate Protection Concept” (amended in 2003 and 2007) followed one year later. The Programme was initiated to combat climate change on a national level with international cooperations. In section II.3 the focus was set on the promotion of renewable energies. The aim was to double the share of renewable energies in energy production by 2020 to 16%. Priority was laid on biomas, hydropower and geothermal energy.²² In addition, information and consultancy should be intensified and implemented (StMUGV, 2007). In 2007 the Programme was amended and renamed “Bavarian Climate Programme 2020”. Among other important steps, the Bavarian Climate Week came into being, which will be further discussed in Chapter 9.4.5. (StMUGV a, 2007).

In the Energy Policy Concept of 2004, energy policy was seen as a servant of the Bavarian economy and the basis for economic prosperity. In the years of economic crisis, Bavaria based its energy policy on atomic energy. Dr. Otto Wiesheu, former minister of the StMWIVT, stated that Bavaria cannot afford any form of ideological energy policy, especially in times of increasing energy costs. Atomic energy was still the main form of energy supply due to increasing cost on the fossil energy market.

²¹ German Titel of the overall concept: Mit neuer Energie in die Zukunft, 1997

²² Name of the Programme: BioEnergy for Bavaria;
Further programmes (Biomass Concept) to support biomass were already implemented in 2003 and 2005.

Ten key points were stipulated in the Energy Policy Concept of Bavaria 2004: First, energy policy takes place in the conflict area of a global energy problem and increasing costs for electricity. Second, sustainability demands sustainable goals. Third, energy policy needs to be seen as an integral part of economic policy. Fourth, global energy problems cannot be solved on a national platform. Fifth, the principles of social market economy will remain valid. Sixth, Bavaria needs more money, transparency, and efficiency for its research and development sector, as well as more (7) efficient support for energy saving potentials and renewable energies. Beyond this, all forms of fossil fuels and renewable energies should be promoted. Last but not least, (9) atomic energy should not generally be excluded as long as a overall and solid concept (10) is still to be found (Wiesheu, 2004).

In 2011, finally, the Energy Concept “ENERGIE INNOVATIV” has been amended. The Act lays down the procedures and plans to switch within eleven years from a fossil fuel based energy production to a doubling of renewable energies by 2022.

The most important steps in the last 13 years have been the Climate Protection Concept (2000), its update in 2003, the Climate Programme of 2009 as well as the current Bavarian Energy Concept of 2011, which will be analysed in section 5.3..

5.2. The Phase-out of Nuclear Energy 2011

“Our government rests in public opinion. Whoever can change public opinion, can change the government, practically just so much.” (The Lincoln Institute, 2013)

Abraham Lincoln

Shortly after the partial meltdown of Fukushima Dai-ichi in 2011, the Bavarian Minister-President Dr. Horst Seehofer, declared in his government statement of 28 June 2011 in front of the Bavarian state parliament the phasing-out of nuclear energy until the year 2022. Minister-President Dr. Seehofer admitted the remaining residual risk of nuclear energy, even in a technologically high-developed country like Germany. He referred in his opening speech to the decision²³ of the German Ethic Commission that an expedited phase-out of atomic energy has been considered as realizable, economically feasible, and as an ethical imperative.

²³ Over 500 MEPs voted in favor at the German Bundestag on the 30th of June 2011.

The resolution has led to the immediate disconnection of the atomic reactor ISAR I from the grid and to a step by step shut down of Grafenrheinfeld by 2015, followed by Grundremmingen B in 2017, Grundremmingen C in 2021, and ISAR II in 2022 (Seehofer, 2011). Within these ten years of transition, natural gas stations should provide the additionally needed energy demand (ENERGIE INNOVATIV, 2013).

Furthermore, it has been decided that, the Bavarian Energiewende should be based on three pillars: Security of energy supply, financeability, and climate compatibility (ENERGIE INNOVATIV, 2013). At the convened Bavarian Energy Summit in 2011 all members agreed to launch the Bavarian energy agency, called "ENERGIE INNOVATIV". The agency has been incorporated into the Bavarian Ministry of the Economy, Infrastructure, Transport and Technology (StMWIVT) as a point of intersection for consultancy and cooperation (Seehofer, 2011).

In the end, if the Energiewende turns out to be successful, the process will have lasted more than thirty years to come from a fossil fuel based electricity production to a energy production focused on renewable energies (Dr. Töpfer, 2012).

5.3. The Energy Concept until 2022

The Bavarian Energy Concept of 24 March 2011 was the final and decisive step towards the implementation of a new energy era. The first progress report was released in November 2012. During the last Session of the Council of Ministers on 4th December 2012 in the Bavarian State Chancellery, six out of nine ministries (StMUG, StMELF, StMI, StMF, StMJ, StMWIVT) had an intensive look on how to proceed and implement the Energiewende within the next years. The meeting was again led by the Bavarian Ministry for Economy, Infrastructure, Traffic and Technology (StMWIVT, 2012).

It has been decided that:

- Within the next 10 years approximately 50% of electricity consumption should be covered by renewable energies
- the proportion of renewable energies of gross domestic consumption should increase to 35% by 2020.

- The European goal for the share of renewable energies in final energy consumption should be exceeded by 10%
- Buildings should be carbon neutral by 2050 with an increase in energy efficiency
- Further promotion of extensive research in the field of energy and storage technologies together with the extension of grid lines and natural gas power plants is needed
- CO2 emissions should be reduced to below 6 tons per person by 2020
- The use of renewable energies in total power consumption should increase to 32-33% by 2022.

On the 9th of November 2012 it was unanimously approved that the transposition guidelines and the structure of the Energiewende will continue to be elaborated and focused on the “triangle of energy policy”:

- Security of energy supply
- Financeability
- Climate compatibility (Bayerische Energieagentur , 2012)

5.3.1. Climate Compatibility

Ecofriendliness and sustainability are important terms when it comes to the implementation of renewable energies in Bavaria. As part of the wider effort, CO2 emissions should be reduced to a factor below six tons per capita and per annum.

Further keywords are first of all the enhancement of renewable energies, second, energy saving and energy efficiency, and last but not least an ecofriendly security of energy production.

The enhancement of renewable energies needs the back up of the Bavarian citizens. New power plants and projects are preferably integrated in environmentally compatible areas with least influence on nature and population with an overall low land consumption (Bavarian Energy Agency ENERGIE INNOVATIV, 2012).

Second, energy saving and the increase of energy efficiency are an essential factor if not even the basis for the German Energiewende. The renovation of building blocks could lead to an approximate saving potential of heat by 80%. Financial support and fundings are needed to provide incentives for energy-oriented renovations (StMWIVT, 2012).

5.3.2. Financeability

Affordability of electricity is one of the most discussed points in 2013. Energy prices tripled in the last 15 years, not just due to the EEG – apportionment. The phase-out of renewable energies will lead to further rises of energy costs. One of the most important points will be to reform the EEG law in order to prevent a further increase in energy costs above 28 Cent/kWh. If no system inherent reform of the EEG is implemented in the next year, new decisions have to be made in regard to electricity tax reductions. Currently high energy intensive industry sectors do not have to pay the full levy of energy costs. The costs are being met by the German and Bavarian citizens (StMWIVT, 2012).

5.3.3. Energy Security

Bavaria and its economic prosperity are dependent on a secure, consistent and affordable energy supply. Five important points secure the supply in the future: First an harmonous mixture of renewable energies feed into the grid. According to the ministries forecasts, the plan to implement 50% renewables untill 2021 is still valid and realisable in 2013 (Bavarian Energy Agency ENERGIE INNOVATIV, 2012). Second, the increase in storage capacities which depends highly on the research and development sector. Third, maintenance and construction of new gas power plants, since the nuclear power plant in Grafenrheinfeld will be shut down in 2015. Fourth, biogas power plants contribute in interval modus to a secure energy supply. Fifth, the current power lines connecting northern and southern Germany as well as the existing grid network needs to be improved (StMWIVT, 2012).

One of the main factors in security of supply is the direct promotion of science and basic research. For the coming two years (2012-2014) 250 Million Euro (€) are mobilised to invest in the research and development sector (R&D) for energy storage technologies (StMWIVT, 2012).

5.4. Technological and Scientific Prerequisite

After the fast-tracked decision to promote the expansion of renewable energies certain infrastructural measurements are required. The disaster of Fukushima did not change the overall goal of energy politics but it did change the time span needed to reach the infrastructural and technical facilities.

The switch to renewables by 2022 is only possible if higher energy efficiency, improved marketability, and cost reduction can be achieved as soon as possible. Within 10 years (2012-2021) a framework of short-, middle- and longranging procedures has to be implemented. For a successful outcome of the Energiewende the whole value chain of energy needs to be considered: namely energy supply, usage, storage, and distribution of energy, which is interconnected in a complex social, technological, political, and cultural interrelationship (ENERGIE INNOVATIV, 2013).

The plan of the German government is to reduce electricity consumption by 45% from 640 to 350 Terrawatt hours by 2050. An ambitious target considering the introduction of electric cars and an increased technologisation of society (Prof. Dr. Vahrenholt, 2012). What is more, around 1500 hectare new land for solar energy, 1500 hectare new land for biomass, around 1000 wind wheels and five pump storage stations, and five new gas power plants are needed to reach a secure energy supply. In addition, especially wind and solar power plants have to be coordinated and synchronised with the current and future energy demand requiring technological leaps and high investments (ENERGIE INNOVATIV, 2013).

Furthermore, “the process control of the energy flows in the buildings in relation to the outside environment” is still lacking behind and needs also “to become smart, intelligent, and capable” to be able to adapt to the new era of energy supply (Zeiler, van Houten, Boxem, & van der Velden, 2013). Given that the provision of renewable energies proceeds decentralised and inconstantly, new forms of technologies are required, merging the Bavarian electrical power supply²⁴ and demand (ENERGIE INNOVATIV, 2013).

²⁴ German wide only 7000 MW pump storage capacity is available (2012)

According to the “Fahrplan Energiewende”²⁵, published by the IFEU, Fraunhofer IBP, and the University of Regensburg, further storage technologies need to be developed, existing power grids expanded, and power plant complexes flexibilized (Burghardt , Gerhardt, Lambrecht, & Sager, 2012).

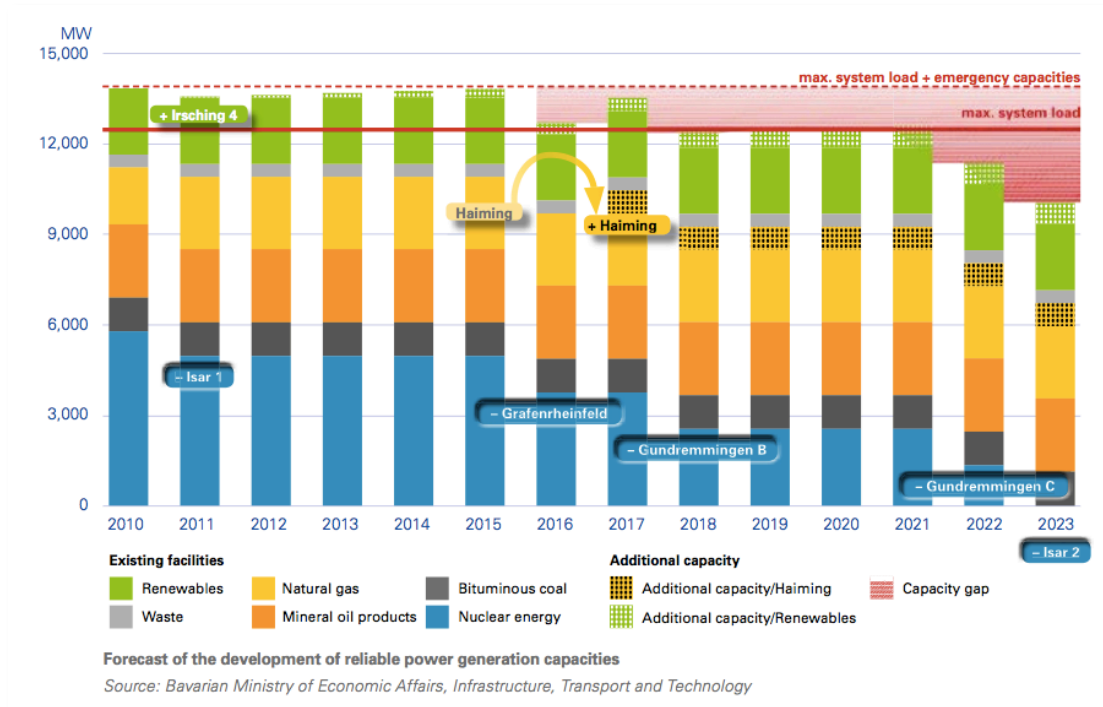


Figure 4: Forecast of the development of reliable power generation capacities, Source StMWIVT 2012

Pumped storage plants play an important role to overcome the instabilities of volatile forms of energy production. However, due to the “Base Peak Spread”, the difference in energy costs between peak shaving and low load times, fewer investors and companies are willing to invest in pump storage plants (Prof. Dr. Vahrenholt, 2012).

The process of energy transformation needs to be set up like a “Business Case”, presenting the Energiewende and its realisation in an economically realisable way, so Dr. Klaus Töpfer, Head of the German Ethic Commission (Dr. Töpfer, 2012).

However, in the wake of an infrastructural realignment, the most important and absolutely indispensable step, is the expansion of the Thuringian high-voltage grid²⁶, which will connect northern and southern Germany. Germany needs more than 720

²⁵ The German expression “Fahrplan Energiewende” can be translated into „roadmap to energy transformation“.

²⁶ The German map of net distribution and high voltage grid expansion can be found in the Annex

kilometers of high-voltage lines per year until 2020. Until 2012, however, only 36 kilometers could be realised per annum (Prof. Dr. Vahrenholt, 2012).

One of the major future inventions went into being in 2006: The use of district cooling from groundwater passages. The first district cooling system was installed for the car manufacturer BMW AG in Munich. The groundwater which is collected in cuverts of the underground system, is used to generate cold, without any form of electric conversion. The only form of electric energy used is “for the tapping and transports of the refrigerant groundwater”. The backflow of water outlet temperature is kept at a “environmentally compatible extent” of around one to two degree Celsius. Through this new invention more than 10 Million kWh of electric energy can be saved, avoiding “up to 6.300 tons of CO₂” per annum with an amortisation time of around 12 years (Arnold, 2006).

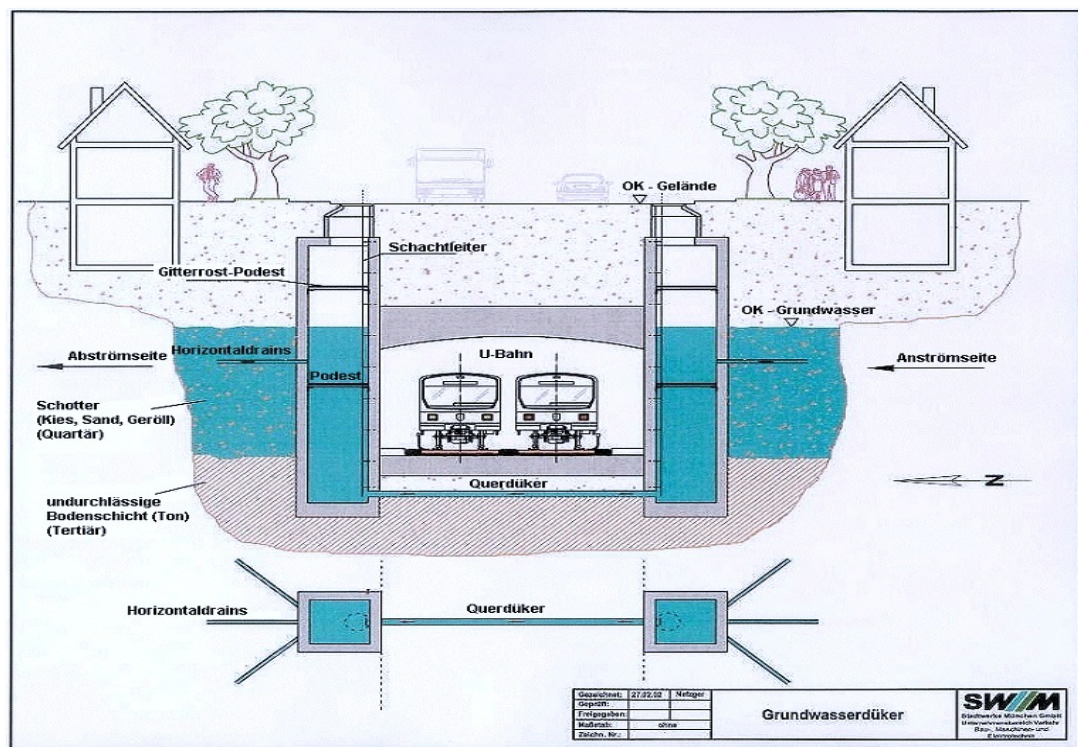


Figure 5: District cooling from groundwater passages, Source: Stadtwerke München

New companies and industries are already in the planning phase to obtain cold from groundwater by 2014, for instance the Chamber of Commerce and Industry (IHK) of Upper Bavaria and Munich (Driessen, 2013). This kind of technology is possible for all “buildings that retain water”, for instance “pump-and-treat systems” or “funnel-and gate-systems”. According to the Municipal Utility of Munich (Stadtwerke München)

the new technology is “very sensible under ecological and economic aspects” and is especially suited for inner cities and large companies (Arnold, 2006).

This section does not call for completion as the thematic of future scenarios (from power-to-gas, gas power stations, ..) and the need for technological requirements are too complex and would be subject to a second work.

6. Renewable Energy Sector in Bavaria

6.1. Definition of Renewable Energy

According to the International Energy Agency (IAE) renewable energy is understood as any form of energy that is

derived from natural processes (e.g. sunlight and wind) that are replenished at a faster rate than they are consumed. Solar, wind, geothermal, hydro, and some forms of biomass are common sources of renewable energy (International Energy Agency, 2013).

The German BMU refers to the definition of the IEA with the slight difference of calling the “forms of biomass” in their publications “bioenergy”. Renewable energies are characterised by an “almost limitless supply”, which at the same time protect the “climate and environment” with “macroeconomic benefits” in the long run (BMU, 2012).

Three types of natural energy sources exist on earth:

- the sun
- planetary gravitation
- geothermal heat (Kaltschmitt, Streicher, & Wiese, 2007)

Most of the renewable energy sources harness either directly or indirectly the energy from the sun. The sun’s energy is used for instance in solar panels, photovoltaic panels, wind turbines, or tidal power to produce energy (Crump, 1993).

6.2. Facts and Figures

Bavaria was the first German Bundesland which supported the development of new environmental technologies (Bavarian Center for Political Education, 2002). In 2011 the Bavarian gross electricity production was 89,2 Mill MWh with a share of 25,4 Mill MWh produced by renewable energies (Bavarian State Office for Statistic and Data Processing, 2011). The latest figures (2011) from Bavaria, report a share of 29,2% in renewable energies of net electricity production. This is an increase of 7% since 2008. The forecasts for 2013 expect a share of approximately 33%.

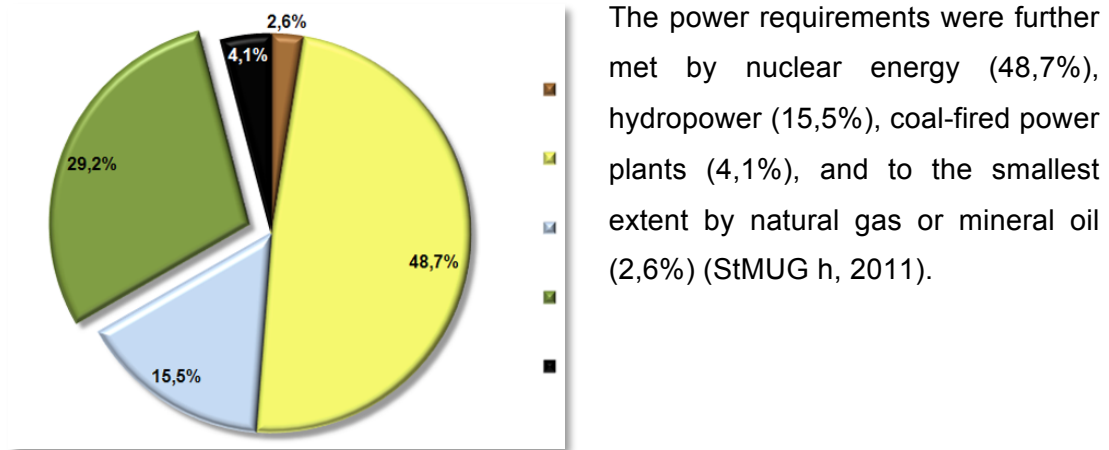


Figure 4: Sahre of renewable energies on net electricity production. Source: LfU (2011)

Bavaria has set itself the objective of raising the share of renewable energies to 33%. The current situation indicates that there is a good chance of reaching the 16% target in solar energy by 2022.

However, it is vital to control the number of new installations which are “added to the grid in order to prevent system stability from being compromised”. The stated goal of 17% in hydro power is doubtful²⁷ but the technological realization is still feasible. Hydroelectric power remains one of the main contributors to energy production due to the Bavarian characteristic alpine landscape. Great potential can be seen in wind energy, which in long-term should account for 6-10% of energy supply. However, currently, less than 100 wind power installations have been erected²⁸per year, which presents an absolute minimum number for the 1000 – 1500 planned wind wheels, which are planned until 2022. Biomass power plants are well on target with a share of 7,4% in primary energy consumption. The same applies to geothermal power where the agreed on target of 0,6 % seems realisable until 2022 (StMWIVT, 2012) (Bavarian Energy Agency ENERGIE INNOVATIV, 2012).

²⁷ Resistance from nature conservation associations and fisher associations

²⁸ 100 wind wheels per year until 2022

The graphic below depicts the development and distribution of renewable energies expected in 2022.

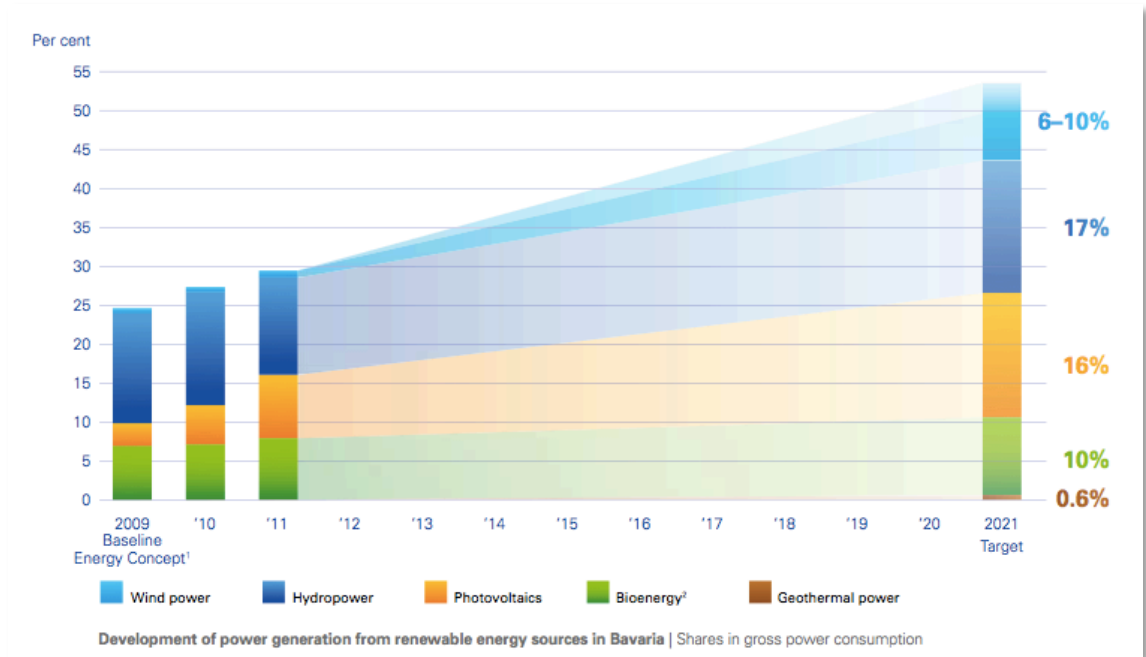


Figure 3: Development of power generation from renewable energy sources in Bavaria; Source: (Bavarian Energy Agency ENERGIE INNOVATIV, 2012)

According to Professor Brauner, expert in the field of research and development of renewable energies at the Technical University of Vienna²⁹, solar and wind energy are one of the most promising energy forms for Germany and Bavaria in the future (Prof. Brauner, 2012). Even though the country needs a well balanced composition of all forms of renewable energies, this thesis will concentrate on these two forms of energy with the most extensive potential: Solar energy and wind energy in Bavaria.

²⁹ Lecture of Prof. Brauner from September until December 2012 at ETIA 5.

6.3. Solar Energy

Solar and Photovoltaik installations are already well-established and frequently seen on Bavarian roof tops. Germany has already today a greater energy production of solar power³⁰ than the United States in total (Driessen, 2013). In 2021, 16 % of the total energy should be produced by solar energy (ENERGIE INNOVATIV, 2013). Now it is vital to control the number of new installations to ease the stress on electrical grids and “to prevent system stability from being compromised” (Bavarian Energy Agency ENERGIE INNOVATIV, 2012).

Solar energy has several advantages. First of all, energy from the sun does not carry primary costs and is during sunshine hours limitless available. Solar energy has a good CO₂ balance and is technologically well developed in both sectors, in electricity (photovoltaic) and heat (solar panels) production. Normally, no additional land use is needed (roof top installation) with small environmental impacts due to manufacturing (StMUG g, 2013) .

Nevertheless, some disadvantages have to be mentioned: Energy from the sun is volatile. Fortunately, Bavaria is well situated with an average annual sunshine index of 642 hours in 2012 (Statista, 2012). However, the highest heat production in summer does not contribute to the times of the highest energy and heat needs in the winter season. Furthermore, the installations on open space are seen ambiguous. They are characterised by an still improvable efficiency rate, high installation costs and the need of extended grid connection lines (StMUG g, 2013).

Despite reduced feed-in tariffs, the prognosis for 2012 to reach 9.300 MW and around 14.000 MW in 2012 is positive. The chart, published by the Bavarian State Office for the Environment, shows the available opportunities for new installations in this sector (StMUG h, 2011).

³⁰ More than 378.695 installations are already installed, producing electricity for over 1.7 Million inhabitants (StMUG h, 2011).

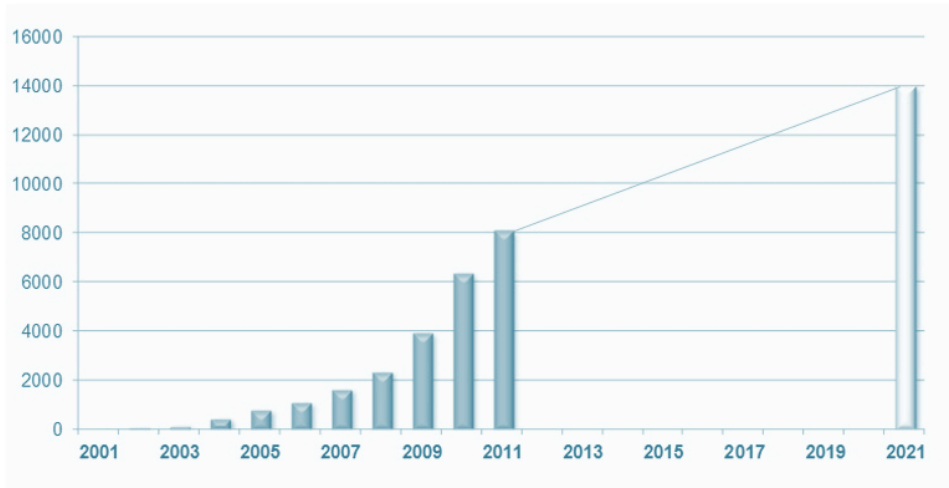


Figure 5: Prognosis of installed capacity of photovoltaic in Bavaria , Source: Energie Atlas Bayern (StMUG h, 2011)

6.4. Wind Energy

The origin of windmills and wind plants dates back to the first and the twelfth century. The Near East and Central Asia “are considered to be birthplace of the windmill”³¹. Ali al-Tabari (A.D. 834-927) was the first person to mention the windmill. The first “accepted establishment” of a vertical axis windmill, however, was “in the tenth century in Persia” (Shepherd, 1990).

Around 521 wind wheels are erected by 2013, producing 759 Million kWh electricity for more than 200.000 households in Bavaria (StMUG i, 2012). Compared to photovoltaic with 1.7 Million households, wind energy is still lacking behind in Bavaria. Until 2021, about one tenth of the total energy production should derive from wind energy. Nevertheless, its number is continuously increasing with the target number of 1000 – 1500 installed wind wheels by 2022 (Bavarian Energy Agency ENERGIE INNOVATIV, 2012).

³¹ In the Annex one of the first reconstructions of Persian mindmills is provided

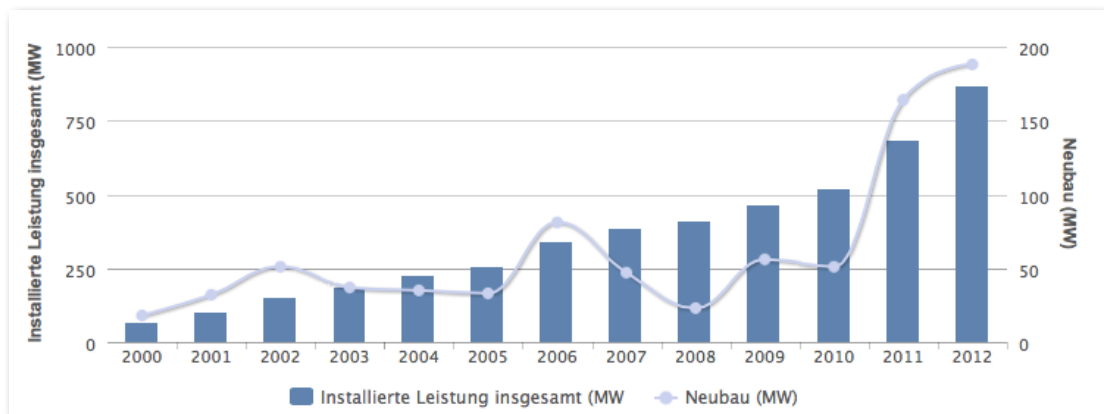
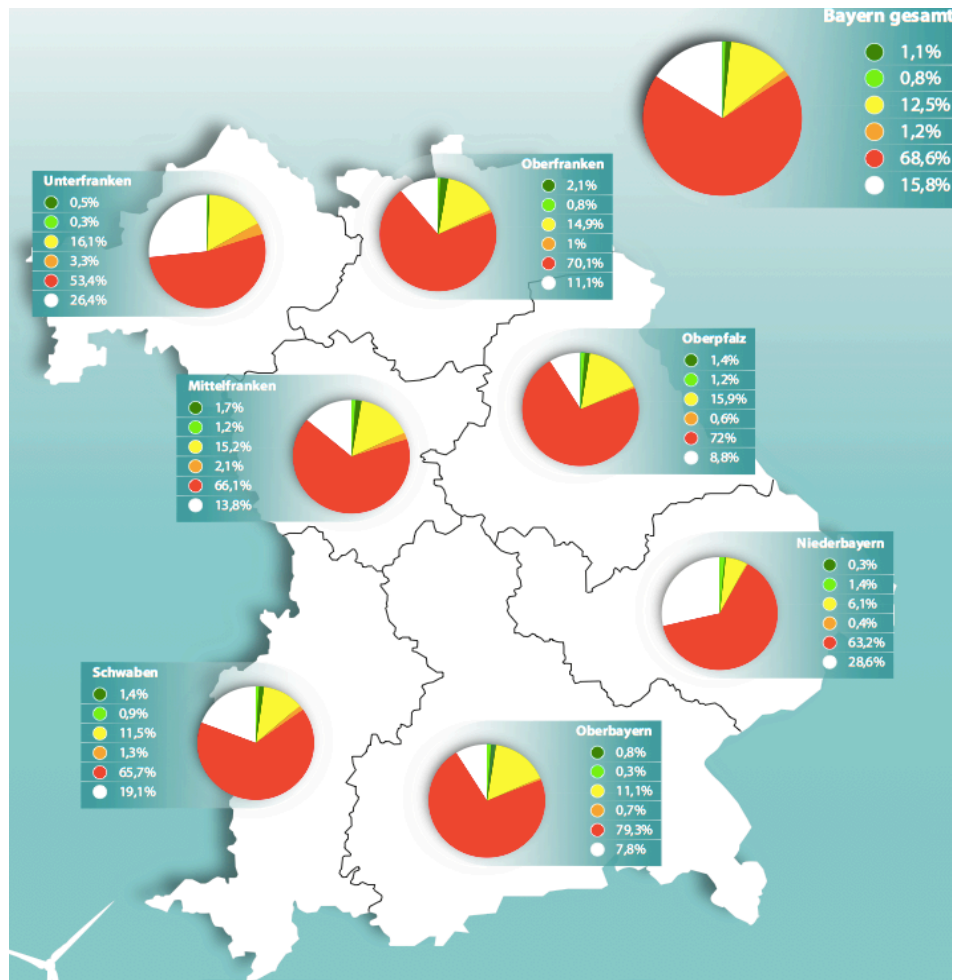


Figure 4: Wind Energy in Bavaria from 2000 – 2012;

Source: German Institute for Wind Energy (DEWI) and German WindGuard GmbH

The Bavarian State Office for the Environment, responsible for the Energie Atlas Bayern 2.0., elaborated a map³² with regional development areas for wind parks. The map indicates in red, orange, yellow, light green and dark green the areas which are probably excluded (red), affected by bird sanctuary, according to European Standards (orange), and areas to decide in individual cases as they show ecologically sensitive characteristics (yellow). Potential areas for wind energy are highlighted in dark and light green color. Perfect conditions show an average wind speed of 5 m/s at 140 meter height (dark green) or good conditions with an average wind speed of 4.5 – 4.9 m/s at the same height.

³² The map is available in the Annex or can be downloaded from:
http://www.energieatlas.bayern.de/file/pdf/940/Karte_Gebietskulisse_A4.pdf



If all areas with a very good and good potential are added and accounted, Bavaria is left with only 1,9% of its potential areas for wind power stations. Even though the regional authorities designate environmentally friendly and sustainable areas to minimize the impact on landscape and population, wind wheels still attract many opponents for various reasons (StMUG i, 2012). Resistance within the Bavarian population is one of the major points which will be further discussed in Chapter 9, when it comes to the conducted interviews and communication problems. The next chapter sets the scene for the theoretical part of this work and gives the basis for the research questions.

7. Theoretical Part

The game of science is, in principle, without end. He who decides one day that scientific statements do not call for any further test, and that they can be regarded as finally verified, retires from the game.” (EGS, 2013)

Karl Popper³³, 1934

Numerous communication-, media- and recipient theories were published in the last years. All of them include, exclude, or exchange certain variables and try to achieve the status of a theory. Harold D. Lasswell (1902 – 1978), was one of the first scientists who presented the origin of policy science with his seven stages³⁴ of communication. His linear communication process: Who says what in which channel to whom with what effect, brought him huge success in the science of communication (Steinberg, 2007): His process describes the pathway of a message from a communicator to the recipient(s) through a certain communication medium (or channel) with a final “desired effect” (du Plooy, 1997).

In the case of the German Energiewende, we can transfer the model to a concrete example: The government and the media informed the public in Germany about the Japanese nuclear catastrophe through various channels (television, newspaper,..). The German reaction towards the catastrophe manifested itself in rejecting nuclear energy. Certainly, the response and following consequences for the German energy landscape was initially not the intended and desired effect of politics.

Nevertheless, the consequences and future steps of the German Energiewende need to be transported to the German citizen. Therefore, this work, will now concentrate on two important models in the field of policy communication: The Agenda-Setting Approach and the Two-Step Flow of Communication.

7.1. Agenda Setting

The Agenda Setting Approach is in comparison to other fields of research a very young one. Over four decades of research can be applied to the Agenda Setting Approach right now. With McCombs and Shaw’s Seminar Article (1972) and “the

³³ Quote from *The Logic of Scientific Discovery*

³⁴ The stages include: Intelligence, promotion, Prescription, Invocation, Application, Termination, Appraisal. In the context of this work, however, the theory is not applied.

fruitfulness of the agenda setting idea and the laissez-faire nature of the communication research marketplace” the whole agenda setting research started to flourish in the 1970s. (McCombs, & Shaw, 1993).

Among scientists there is common view that Bernhard Cohens definition of agenda setting is the most suitable and even most cited one: “The media may not tell us what to think, but they may tell us what to think about” (McCombs, Einsiedel, & Weaver, 1991). It may seem obvious that the more the media presents a topic on the daily agenda, the more “likely” people “are to consider that issue important”. People will recognise which topics ought to be published and that are “most deserving of governmental time, attention and resources”. All the same that does not necessarily and implicitly tell us how people think about the presented topic, nor what attitude they have towards the agenda (Stuckey, 2008).

After it has become increasingly apparent which powerful role the media play, “(...)..government officials have increasingly turned to newsmaking as a central part of their task of governance, and have incorporated the needs of the news in their priorities, options, and decisions.” Within this powerful interplay of media and policy, “politicians help to create the news”, and “journalists act as political actors” (Cook, 1998).

7.1.1. The Agenda Setting of the Energiewende

Since the mid 1990s, the awareness of a drastic change in energy production, the need for new energy forms, the risk of an ongoing climate change and the need to raise awareness and enhance efforts in energy saving has been drawing more and more attention on the political scene.

In the year of the first European Action Plan 2007, the topic of the “Energiewende” appeared for the first time also visible and in statistical terms provable on the public agenda. Google Trends offers a free programm to view trends in the internet. The search request for the term “Energiewende” offers important information about the term’s growing popularity.

The charts shows that the interest for the Energiewende has grown since the year 2007. Before 2007 there was no significant search trend visible for the term “Energiewende”, afterwards the trend levelled off until 2011. Since 2011, and the realisation of the Energiewende, the general trend clearly indicates that the term has been gaining relevance and importance on the international agenda, even though

with some fluctuations. The overall peak (100) was reached at the end of 2012. At the beginning of the year 2013, a slight downward trend can be noticed (Google Inc., 2013).

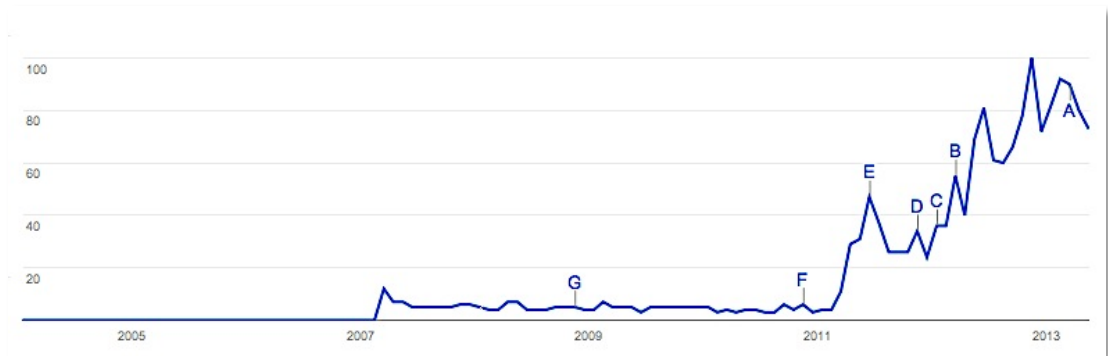


Figure 5: Search request for the term *Energiewende* 2005 - 2013, google Trends, 21.05.2013 ³⁵

Comparing, however, the search requests of the terms *Energiewende* (blue line), *renewable energies* (red line), *wind energy* (yellow) and *photovoltaik* (green line), the trend is very clear. Photovoltaik is absolutely dominating the search request and had reached its highest level by 2010. The chart depicts the underlying public interest in Photovoltaic, followed by the topic of wind energy, renewable energies and the *Energiewende*. There seems to be an overall correlation between the search request for wind energy and renewable energies, especially since 2010 and the amendment of the German EEG Act reducing feed-in tariffs. However, all four charts show significantly fewer search requests in 2013 (Google Inc. a, 2013).

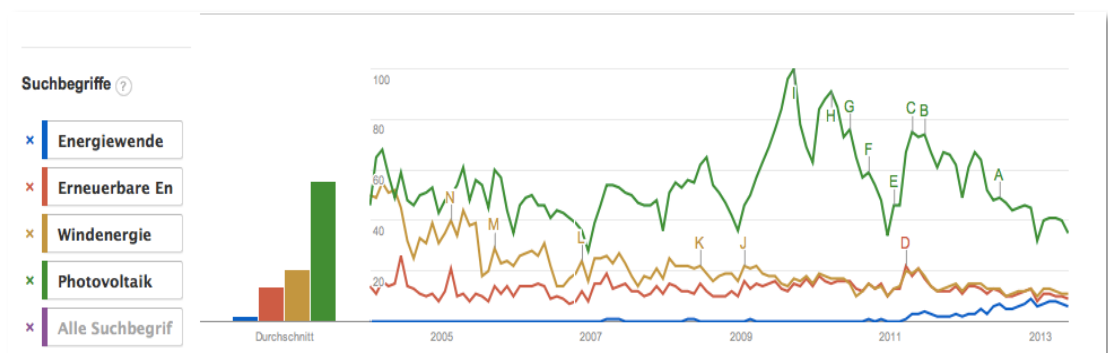


Figure 6: Search request for the terms: *Energiewende*, *Renewable Energy*, *Wind Energy* and *Photovoltaic* 2005 – 2013, 21.05.2013 ³⁶

³⁵ Source from google trends on:
<http://www.google.de/trends/explore#q=energiewende&cmpt=geo>

The Energiewende with all its forms of energies has become part of the public's awareness and political agenda. The graphics shows how the media merges the thematic into "a coherent view of the world outside" (McCombs, Einsiedel, & Weaver, 1991)

7.2. Two-Step Flow of Communication

The Two-Step Flow of Communication³⁷ has its origin in the election campaign of the United States in the 1940s. The theory was developed by Paul F. Lazarsfeld and Elihu Katz, and published in their book "The People's Choice. How the Voter Makes up his Mind in a Presidential Campaign" in 1944.

Their findings changed the perception and role of the media and mass media. Voters who were asked what made them change their vote intention during the course of the election campaign gave "personal influence" as the answer. The response of the question indicated that there are "people who exerted a disproportionately great influence on the vote intentions of their fellows". Lazarsfeld and Katz, called this group of people, which could be found on all levels of society, the "opinion leaders"³⁸. This resulted in the assumption that information flows from the media to "opinion leaders and from them to the less active sections of the population", the "opinion followers". The "opinion leadership", so the authors, "is an integral part of the give-and-take of everyday personal relationships", with the opinion leader becoming a key figure in communication roles (Katz & Lazarsfeld, 2009).

³⁶ Source from google trends on:

<http://www.google.de/trends/explore#q=Energiewende%2C%20Erneuerbare%20Energien%2C%20Windenergie%2C%20Photovoltaik%2C%20&cmpt=q>

³⁷ Often also called the Erie-County Study

³⁸ In a second step the question was asked to opinion leaders: "Have you recently tried to convince anyone of your political ideas? Has anyone recently asked you for your advice on a political question? (Katz & Lazarsfeld, 2009).

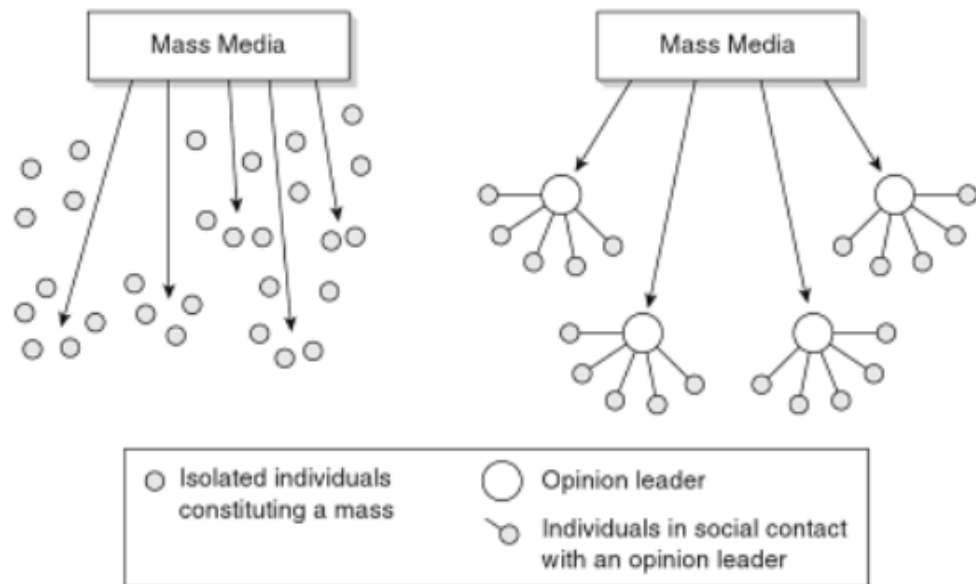


Figure 7: Graphical presentation of the Hypodermic effects approach and two step flow approach to mass communication, Source: (Windahl, Signitzer, & Olson, 2009)

Three major points emerged: First of all, personal influence has a great impact in the communication and information flow. Second, the aspect of “whom one knows” was important and new. It appeared that men were “more likely than women to be opinion leaders in the realm of public affairs” due to more contacts and policy talks. And third, opinion leaders “are more exposed to mass media”, meaning they receive more information due to a higher media consumption (Katz E. , 1957).

The book became a very important source of information for the policy, marketing, advertising and public relation sector. The question which aroused was, how could politics profit from the theory of the Two-Step Flow? Undoubtly, the theory can be discriminating, if a certain group of people is not directly adressed with information or labeled as not worth being informed in a first step.

In the interviews which where conducted in this master thesis, the question was asked: Are your friends, family members and colleagues informed about the Energiewende? Are they interested in it? Are there preferred persons in your personal environment with whom you talk about politics and the Energiewende? If yes who is it and which position does he/she held?

The attempt was made to relate the communication theories treated above to the actual communication inconsistencies of the Bavarian government. In the field of

communication everyone can consider himself as an expert. However, as recent polls and the results of my interviews showed, there are lacks of information which in a first step need to be defined and secondly analysed to give in a thirs step recommendations for improvement.

8. The General Inadequacies of Communication

The decision to phase-out of nuclear energy was taken. Even though the decision was supported by all members, the exit from nuclear energy is generally considered as too hasty, so Peter Driessen, Managing Director from the IHK of Upper Bavaria and Munich. (Driessen, 2013).

Now it comes to the restructuring of energy supply in Bavaria by 2021. However, the Energiewende will not be realisable without an active external communication with all stakeholders and additionally, an internal homogenous plan with transparent and clear steps to follow. To put it short: A clear and concise concept for the Energiewende is needed which is transported to the public in a united voice from all ministries. Prof. Dr. Utz Claassen, Chairman of the Syntellix AG goes that far by saying that until today, no real implementation of the energy transformation process started, rather a simple notification of it (Prof. Dr. Claassen, 2012).

Already in 2004, Dr. Otto Wiesheu, former Minister in the StMWIVT, declared in his speech in front of the general meeting of the Forum for "Future Forms of Energies", that the main problem is the lost of orientation what the main tasks of energy policy basically are. Second, an overall concept is missing, including the consequences for the future. This leads to the third problem, that policy concentrates on specific tasks, without including the overall view of the thematic, which leads to uncoordinated and controversial standpoints of ministries (Wiesheu, 2004).

The theory of the Two-Step Flow of Communication offers a tentative explanation to the problem. During consultations, meetings and press conferences with internal and external stakeholders, not everyone concerned with the topic can also attend. Selected people, experts and heads of department are normally invited. However, each of the participants is characterised by different curricula, knowledge background, and professional experiences which leads to heterogenous selective perceptions. This results in the difficulty for governments to control the second step of information. How much of the information offered was understood? And how will the information which was carried out be processed and presented on a medial platform? "The mass media undoubtedly produces effects. Effectiveness however, is a product of goalfulfillment" (Windahl, Signitzer, & Olson, 2009).

Even though on the medial platform numerous documentations and reports of the Energiewende can be recognised, consultation and educational programmes are still missing which enhance the energy saving potential of the citizens, so Prof.

Hubert Weiger, Chairman of the Bund für Umwelt und Naturschutz (BUND)³⁹. He further states that citizens call for information and participation, and are keen on transparent and clear steps to follow. What is needed, is the critical engagement with various and even controverse standpoints, an intensive analysis of all different scenarios to finally reach fact-based and long-term political decisions (Prof. Dr. Weiger, 2012).

Clearly, we are only beginning to understand the ways in which the news media act as a political institution, in which often misleading information is published from both sides, the political and the medial side (Cook, 1998). Gunter Ortlieb, expert in the field of media, states that currently communication does not contribute to the acceptance of the Energiewende. The results of a recent study, conducted by his agency K1, are not surprising. The resulting keywords were: Missing quality, poorly informed citizens, and not sufficiently qualified actors on the political platform. Ortlieb concludes that the thematic is too complex, the overall coherence is missing and, too many foreign expressions (smart meter, high-voltage grid,...) do not lead to the assumption that the overall topic "Energiewende" is standing as a junktim behind all. This lead Ortlieb drawing the conclusion that more quality than quantity is needed in the German renewable energy sector (Ortlieb, 2013).

The inconsistencies within the political and medial platform can be seen in recent polls. Just under half of the German population says, that unclear and unreliable information is one of the major obstacles for the realisation of the energy transformation. Followed by a lacking acceptance of citizens⁴⁰ (2), missing high-voltage grids (3) and investments (4).

³⁹ German League of the Environment and the Protection of Nature (BUND)

⁴⁰ the Nimby (Not In My BackYard) Problematic

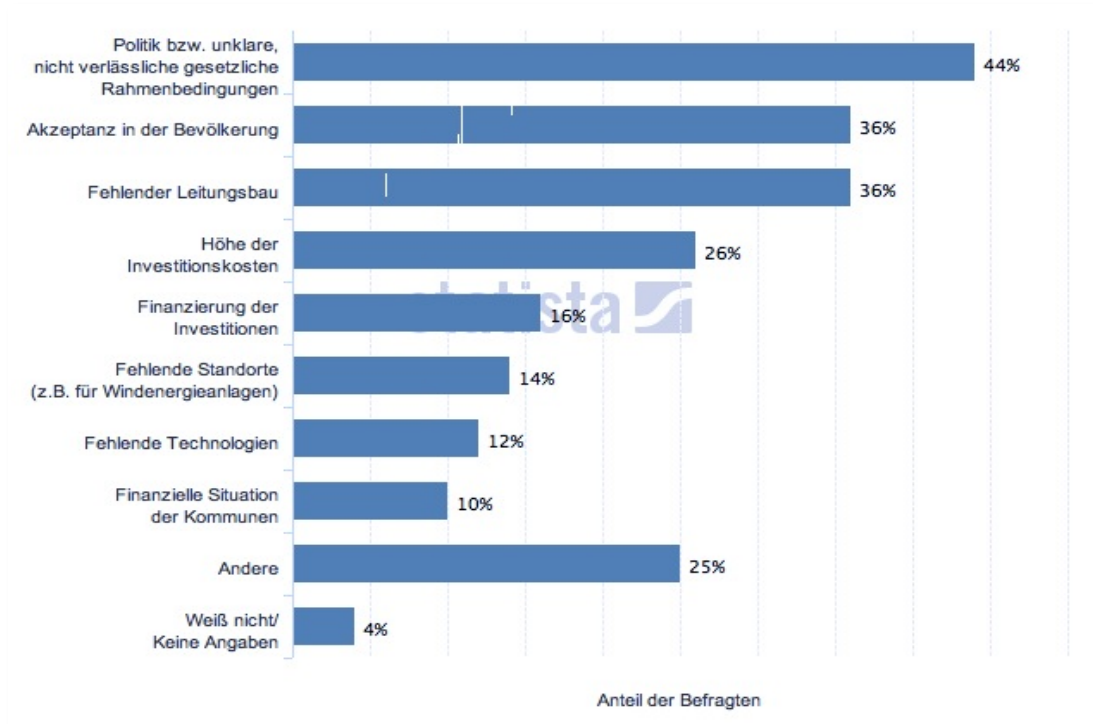


Figure 8: Obstacles within the realisation of the Energiewende according to the German citizens, 2013; Source: statista 2013 (BDEW, Ernst&Young)

Before any political concept is developed by the government, its stakeholders⁴¹, target population and the receiving group of information needs to be identified. In regard to the restructuring of the energy landscape, German and Bavarian citizens are both, target population of the implemented energy policy and receiving group of necessary information (Windahl, Signitzer, & Olson, 2009).

⁴¹ For the analysis and identification of the relevant stakeholders in the Energiewende please refer to Chapter 9.2

9. Communication Concept and Strategy

“Business isn’t complicated. The complications arise when people are cut off from information they need”.

Jack Welch (Clampitt, 2010)

For the Herculean task to achieve within eleven years the energy transformation a common framework and well-structured plan is prerequisites. As already treated in Chapter 5.3., all ministries (StMWIVT, StMUG, StMF, StMELF) approved unanimously that the transposition guidelines and the structure of the Energiewende will continue to be elaborated and focused on the “triangle of energy policy”: Security of energy supply, financeability, and climate compatibility (Bayerische Energieagentur StMWIVT, 2012).

Most important, the Energiewende needs to be understood as a project of the society in its entirety with short-, middle- and long-term objectives. Minister Dr. Zeil from the StMWIVT stated that only with the networking between all actors the whole energy transformation process will work (Zeil, 2012).

The Bavarian State Government started several initiatives to undertake the necessary structural reforms and to implement the energy turnaround in 2011. Besides the departments for climate protection, technical environmental protection, eco-energy, renewable energies, which are integrated within the Ministries of StMUG, StMWIVT, StMELF, four explicitly important initiatives were launched and/or further extended by 2011: The energy agency “ENERGIE INNOVATIV”, the website of the Energie Atlas Bayern (Energy Atlas Bavaria), the Klima Allianz (Climate Alliance), the Bayerische Klimawoche (Bavarian Week of the Climate), and the Ökoenergie-Institut (eco-energy institute).

The following sub-chapters give first a definition of the term communication strategy, and identifies the relevant stakeholders and target groups within this transformation process and sets in a next step the scene for the main key information and communication organs in the Bavarian Energiewende, as well as the most important initiatives, which have been started since 2011.

9.1. The Term “Communication Strategy”

The term “communication” has its origin in the Latin language *lat. communicatio*, which “meant a sharing or imparting”. Further relation exists to the term *lat. munus* (duty, task) and to the term common in the meaning of community. The terminus *communication* can be related to the duty/task of someone to inform/share information with a community (John Durham, 2013). The Oxford Dictionary defines the term *strategy* as a “plan of action designed to achieve a long-term or overall aim” (Oxford University Press, 2013).

Clampitt defines the term *communication strategy* as choices of communication happening on a “macro-level” which are “based on organizational goals and judgements about others’ reactions”. Those reactions lead to further actions and are said to be the origin of every action. The author further states in his book “Communicating for Managerial Effectiveness: Problems, Strategies, Solutions” that any “well-developed communication strategy” will cultivate “the kind of environment that is more accepting for change and innovation” (Clampitt, 2010).

The definitions given above for the term “communication strategy” show the need for a top-down (macro-level) and most important a strategic (well-developed) communication from the government, which will lead to a greater readiness and willingness for any intended “change or innovation” within the population (Clampitt, 2010). The more carefully concepts are designed beforehand, “the less problematic” the situation will be when address to the citizens (Windahl, Signitzer, & Olson, 2009).

To address the necessary information, it is important to apply the fundamental principles of public policy according to the policy model:

First, the “problem definition”, recognising that a problem exists and stating the need of the government for intervention. After defining the problem (reactor catastrophe in Japan) the options need to be identified (continuity or phase-out of nuclear energy), which constitutes the second step. “Once it has been determined that the development of a policy maybe the best solution to the problem, the objective and the desired outcome should be clearly defined” (Bryson, 2011). Putting the topic on the political agenda (“agenda setting”) in form of giving the topic priority status (meeting of the ministers) is a prerequisite to achieve serious treatment of the topic. The fourth point is called “policy selection”. Government needs to decide and elaborate plans and further political steps to be able to give political answers to the problem. In the case of the adoption of new laws, these need to be implemented

and executed (setting the framework, goals and targets for the Energiewende) (Dobuzinskis, Howlett, & Laycock, 2007).

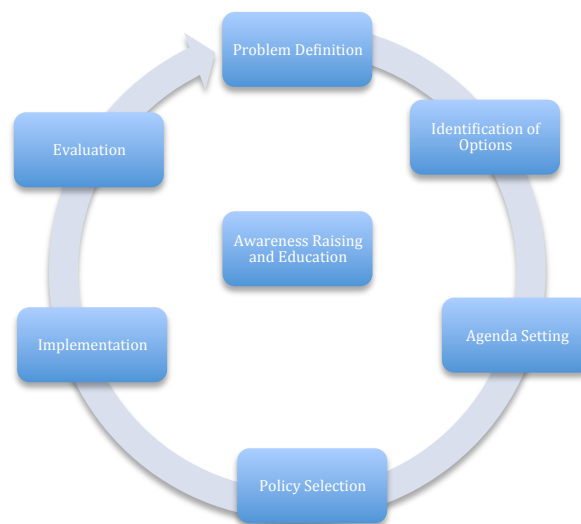


Figure 9: Policy cycle model adapted and modified from Dobuzinskis, Howlett and Laycock
Source: (Dobuzinskis, Howlett, & Laycock, 2007)

The last step is the evaluation of the policy. Policy needs to ask, if the policy measures were appropriate and showed effect? Therefore, the point “Awareness raising and Education” was added to the cycle, as it is one of those measures especially in the field of environmental and energy education which cannot be missed. Bringing clarification and reasons to the need of the Energiewende is an overall task which cannot be excluded but rather has to be extended to further awareness raising campaigns. Furthermore, potential “stakeholders with opposing views should not be ignored. Their view should be canvassed and their view should be involved in the decision making process” (Bryson, 2011). To implement an “active external communication and awareness rising strategy towards key stakeholders such as governments, industry and citizens”, it is important to identify and determine the various key players within these groups (European Commission i, 2012).

The next sub-section, therefore, sets the scene for the selected target groups of the Bavarian government in more detail, focusing on internal and external stakeholders in the energy transformation process.

9.2. Analysis of Stakeholders

R. Edward Freeman, one of the first authors, who did achieve excellent reputation for his extensive scientific research in the field of stakeholders, defined stakeholder as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984). The European Union presents a very similar definition of the term and refers to “any person or organisation with an interest in or affected” by some kind of “legislation and policymaking” (European Union, 2013).

Much of the literature differentiates between internal and external stakeholders. For instance R. Edward Freeman elaborates both sides of stakeholders on an economic level, or for instance Jo Bryson in her book “Managing Information Services: A sustainable Approach” refers to both stakeholders in policy making (Bryson, 2011).

The answer as to why defining the important stakeholders is so important is offered in the introductory statement of J. Bryson, describing the challenging circumstances governments face. Bryson states that living and working “in an era where unpredictable events” could “have an immediate global impact, where corporate reputations can be destroyed through worldwide condemnation about their slowness to react or respond to situations (...)” are situations where it is better for governments to know who their dialogue partners are (Bryson, 2011).

9.2.1. External Stakeholders

In regard to external stakeholders again numerous definitions are given. This work refers to the definition published by Leung & Olomolayie. According to the authors, external stakeholders are influenced or influence any kind of project, for instance “the public community, local residents, local or national authorities,” as well as general interest groups (Leung & Olomolayie, 2010).

In view of the realisation of the Energiewende

- Citizens
- the industry sector (including energy supplier and energy industry)
- municipalities and administrative district offices with energy consultants
- the research and development sector

are mentioned and defined as the key target groups of the external field.

However, several sub-groupings act on behalf of the Energiewende, for instance, citizens initiatives, public utility companies, regional energy agencies, organisations and associations (Bayerische Staatsregierung, 2013).

The selection was based on literature research, especially on information brochures published by the Bavarian ministries. In some publications of the Bavarian government, the research sector (R&D) is not mentioned as stakeholder in the Energiewende or is exchanged with the agricultural and forestry holdings. For completion, however, both sectors are included in the analysis, as the Energiewende encompasses both the agricultural and the R&D sector .

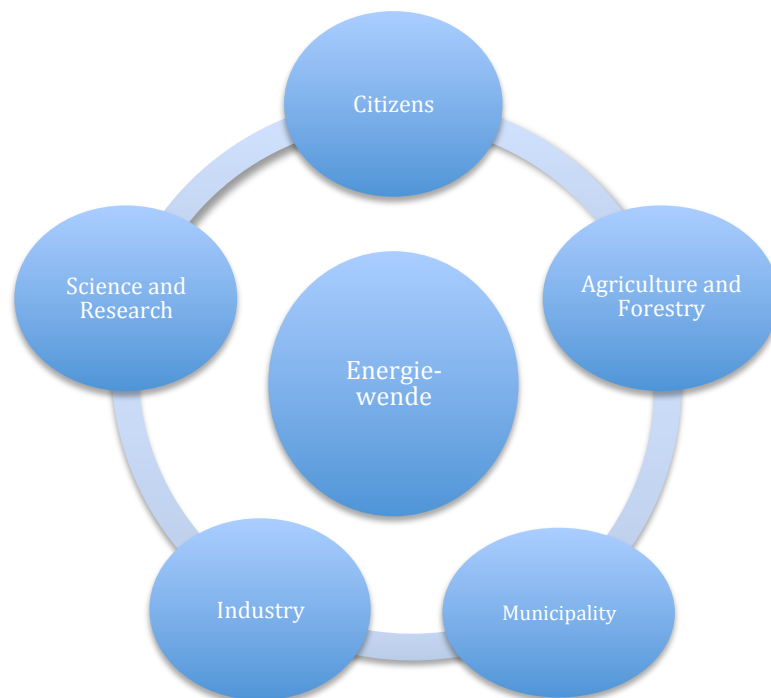


Figure 10: Stakeholder, own representation

9.2.2. Internal Stakeholders

Bryson describes the internal stakeholders as “factors that shape the organization and its operation environment” but stay somewhat also in close relationship to external factors and stakeholders (Bryson, 2011). Internal stakeholders have somewhat a higher influence on the proceeding of projects and can exert significant influence on the outcome as they have insight knowlegde and thematic proximity. Caperchione and Mussari developed an overview of internal stakeholders which can be transferred to the policy situation in the Energiewende process.

Within the internal stakeholders are included:

- Federal Chancellery of Bavaria
- Bavarian Ministries with Ministers and Employees
- Institutes within the Ministries e.g. Ökoenergie Institut
- Agencies within the Ministries e.g. Bavarian Energy Agency
- State Office of the Environment
- Institutional bodies,
- Political groups/parties,
- Public managers, in the sense of bureaucrats
- Authorities (Caperchione & Mussari, 2000)

The responsibilities in the ministerial and governmental work will be discussed in the next chapter. This is of great importance, as the phasing-out of nuclear energy is a joint project of at least four ministries in Bavaria. Competences in the field of eco-energy, nuclear energy, renewable energy and of the sound integration of renewable energies are internally assigned and not centrally distributed. Within the process of the Energiewende different responsibilities can be found and various fields have to be communicated to the public which need a precise distribution of tasks.

9.3. Distribution of Tasks

“Information is not a neutral product of organizational activity, but is a result of an inherently political activity – a political activity often hidden from those engaging in it largely to presumed neutrality”

Stanley Deetz & Dennis Mumby (Clampitt, 2010)

The distribution of roles to address the thematic of the Energiewende is supervised by the Bavarian State Chancellery. The auspices of the Energiewende on a national level was transferred to the StMWIVT, the regional implementation is administered by district governments .

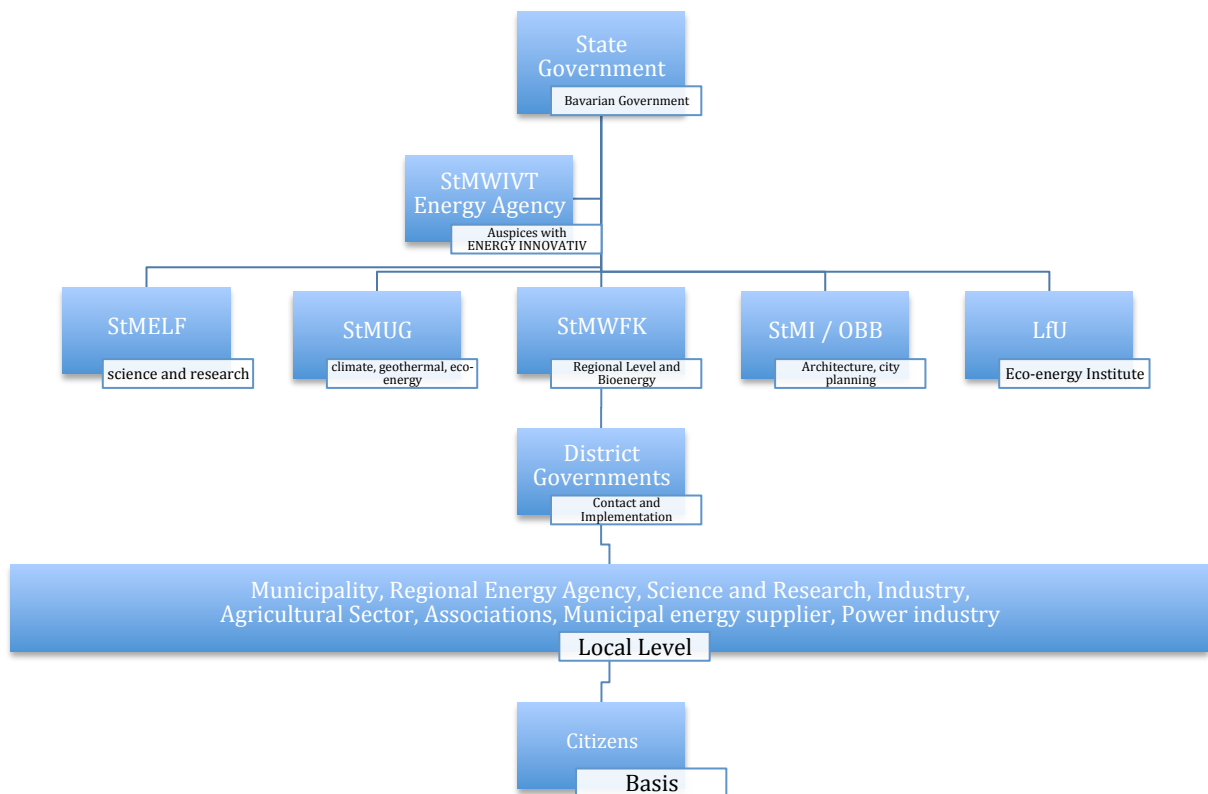


Figure 11 Hierarchical representation, own presentation

The hierarchical graphical representation of the responsibilities is shown above.

The State Government supervises the whole process and delegates the tasks within the ministries. Through political statements, election events, interviews and

speeches the current Minister President Dr Horst Seehofer takes a stand on the topic and transformation process of the Energiewende in Bavaria. His statement reflects the individual standpoints of the five ministries concerned with the Energiewende (StMUG, StMWIVT, StMWFK, StMI and StMELF).

The Bavarian State Ministry of Economic Affairs, Infrastructure, Transport and Technology (StMWIVT) has the auspices over the Energiewende in Bavaria. It supports the development of new technologies (BayINVENT) and the creation of energy agencies on a local level. With the energy agency ENERGIE INNOVATIV, it represents the central point of think tank, and concerns itself with the promotion of energy efficiency and energy saving. The agency was implemented to inform citizens, industry, municipalities (energy consultation) as well as the science and research sector. Furthermore, it publishes the progress report and the concept for the energy transformation (Bayerische Energieagentur StMWIVT a, 2013).

The Bavarian State Ministry for the Interior and Supreme Building (StMI/OBB) authority offers information about energy efficient buildings. Information is mainly addressed to citizens, industry and municipalities in regard to renovations of old buildings and new constructions (StMI, 2013).

More than 47 offices are delegated by the Bavarian State Ministry for Nutrition, Agriculture, and Forestry (StMELF) to consult citizens and farmers about biomass availability, joint marketing and energy production by renewable raw materials (Bayerische Staatsregierung, 2013).

The Bavarian Ministry for the Environment and Public Health (StMUG) together with the LfU administers the Energie Atlas Bayern (Bavarian Energy Atlas). This interactive and very advanced website offers information for citizens, municipalities and industries. It delivers relevant information of practical examples and model applications of all forms of renewable energies in Bavaria. Contact numbers and the interactive atlas complement the website. The Bavarian State Office for the Environment, which is an authority under the auspices of the StMUG, started the Ökoenergie Institut (Eco-energy Institute) as a second tool. It was established as a

think-tank for new steps towards a green and ecologically sound expansion of renewable energies in Bavaria (Bayerische Staatsregierung, 2013).⁴²

The Bavarian State Ministry for Science, Research and the Arts (StMWFK) is responsible for all questions concerning the preservation of cultural heritage. It is of special importance to include the StMWFK since a number of protected buildings are potentially suitable for solar energy or are in need of general refurbishments, which however, are part of preservation orders (StMWFK, 2012).

In collaboration with the StMWIVT and ENERGIE INNOVATIV, the District Governments of Upper Bavaria, Lower Bavaria, Upper Franconia, Middle Franconia, Lower Franconia, Upper Palatinate and Swabia, appoint energy consultants which lead and coordinate the implementation of the Energiewende on a regional level (Bayerische Staatskanzlei, 2013).

9.4. Initiatives for the Energiewende

9.4.1. Energy Innovative (ENERGIE INNOVATIV)

The Bavarian State Ministry of Economic Affairs, Infrastructure, Transport and Technology (StMWIVT) has the auspices over the Energiewende in Bavaria. In August 2011, a new Energy Agency was founded, entitled ENERGIE INNOVATIV⁴³, which has been integrated in the StMWIVT.

The energy agency has set itself the task to “inform private people, municipalities, companies, research institutes and organisations at any time and up-to-date to the restructuring of the energy supply” (StMWIVT b, 2013). The Agency, however, does not only provide information, but is also responsible for coordinating the initiatives and “activities of the Bavarian State Government and district governments”. Energie Innovativ is the central interactive information hub into a “new energy era” (StMWIVT c, 2012).

Beyond this ENERGIE INNOVATIV publishes the annual progress reports and decides together with partners in four working groups about new power plants,

⁴² more details to the Eco-energy institute can be found in the chapter „Initiatives“ or under <http://www.lfu.bayern.de/oeib/index.htm>

⁴³ Translated into English terminology as Energy Innovative (translated by MK)

energy storage facilities and grid infrastructures. The working groups are subdivided into four sectors:

- The power plant and energy storage sector
- the electricity and gas grid sector
- the wind energy sector
- the sector for energy efficiency and energy saving (StMWIVT c, 2012).

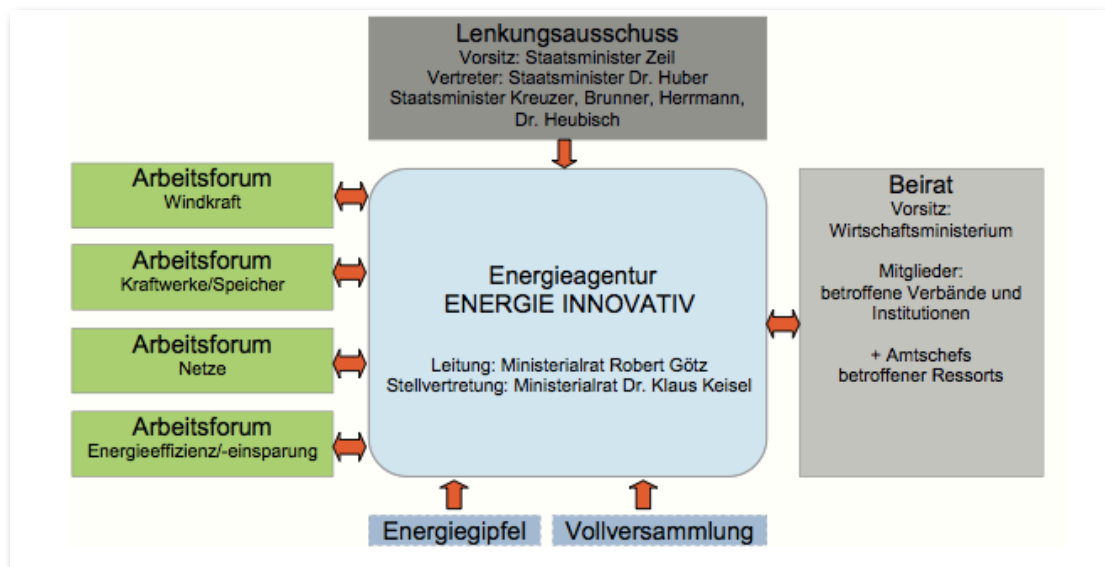


Figure 12: Structure of the Bavarian Energy Agency Energie Innovativ, StMWIVT

- Working groups
- Energy Agency “Energy Innovative” under the auspices of Mr Robert Götz
- Energy Summit and General Assembly
- Advisory Council
- Steering Committee; Presidency: Bavarian State Minister Martin Zeil

9.4.2. Energy Atlas Bayern

The Energy Atlas is a crossdivisional project from the Bavarian State Government, which was developed under the auspices of the Bavarian State Ministry for the Environment and Public Health (StMUG) in cooperation with the Bavarian Ministry of Finance (StMF), Ministry of the Interior (StMI), Ministry of Economic Affairs, Infrastructure, Transport and Technology (StMWIVT), and the Ministry for Nutrition, Agriculture, and Forestry (StMELF). The management and responsibility lies now within the lower authority of the Bavarian State Office of Environment (LfU). The portal was launched shortly after the Nuclear Catastrophe in 2011.

The online portal is divided into two sections: The interactive part, with the Bavarian Atlas and second, the text part, which offers practical examples, step by step instruction guides, advice and assistance on:

1. How to save energy
2. how to improve energy efficiency
3. how to integrate renewable energies in the particular systems.

Furthermore, SMEs and citizens obtain information on terms of financial support, on contact person, and on the guidelines for approval for installations. The information of the so called “energy triple jump” or “Energie Dreisprung” is addressed to citizens, municipalities, and small and medium enterprises (SMEs).

The core of the website is the interactive Bavarian Atlas providing the user data on suitable and potential areas for Photovoltaik (PV) or Solar Thermal technologies, areas of already existing installations and plants of renewable energies, as well as priority areas, zones of nature reserves, and data to grid infrastructures. The map includes all forms of renewable energies ranging from hydropower to geothermal, from solar to biomass and wind power (StMUG, 2011)



Figure 13: Energy – Atlas Bavaria 2.0

9.4.3. Klima Allianz Bavaria

Fortunately the knowledge about climate change and its risks, as well as the importance of renewable energies has increased in the last years. To reach the two degree target (IPCC) and thus reduce the risk of serious harm to the earth due to the gathering pace of global warming is more than necessary.

The partners and members of the Bavarian Climate Alliance together with the Bavarian State Government have committed themselves to stand up for climate protection in Bavaria. This is necessary since an understanding for a changing world and changing forms of energy production need to be created within the German and Bavarian population. Therefore, the partners of the Climate Alliance have set themselves ambitious goals to:

- “further strenghten the public awareness of climate protection,
- offer information,
- show possible courses of action,
- integrate as much social groups as possible, and
- stimulate joint action for a sustainable climate protection” (StMUG, 2013).

The Bavarian Climate Alliance aims at SMEs, leading professional associations in the field of environment, science and economy, as well as social stakeholders.

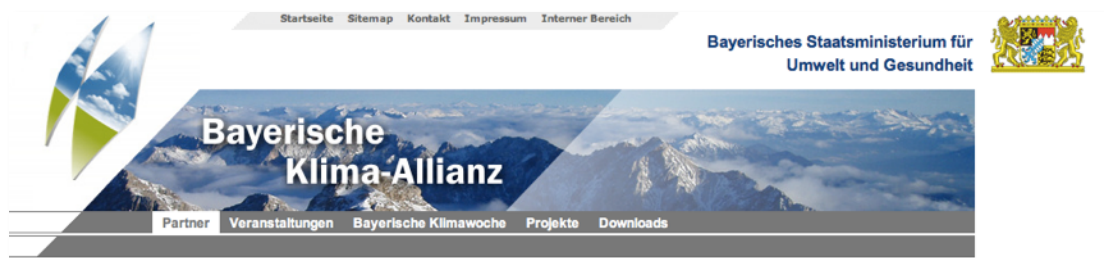


Figure 14: Bavarian Climate Alliance of the StMUG

9.4.4. The Ökoenergie - Institut of Bavaria

The eco-energy institute is within the remit of the Bavarian State Office for the Environment (LfU). It was established as a think-tank for new steps towards a green and ecologically sound expansion of renewable energies in Bavaria. New concepts, strategies and projects are accompanied and supported.

The Institute works in close relationship with scientists, engineers and technicians in the field of technical climate protection. Three important tasks are treated: First, the enhancement of strategies and the support of pilot projects. Second, development and improvement of technology and efficiency. Last, the most intensive and important part when it comes to the communication aspect, the information and dialogue with the main stakeholders of the energy atlas (Energie Atlas), namely citizens, industries and municipalities.

The eco-energy institute works seamlessly together with the Energie Innovativ agency of the StWIVT (LfU, 2013).



Figure 15. Ökoenergie Institute Logo, Source: LfU

9.4.5. The Bavarian Climate Week

One week of the year is especially dedicated to the Earth's climate. This year's climate week started on the 21 of April 2013 entitled: "Klima-Allianz hautnah"⁴⁴. The partners of the Bavarian Climate Alliance organised in 2013 over one hundred information seminars, gave expert advice and carried out environmental exhibitions across Bavaria. The goal is to sensibilise the Bavarian citizen towards a more sustainable and ecological use of energy. State Minister of the Environment Dr Marcel Huber stated that Bavaria "can reach its climate goals and at the same time achieve the Energiewende successfully. To this end, we must proceed in a joint fashion. Everyone can contribute to climate protection: Each contribution counts." (StMUG b, 2013).



Figure 16: Bavarian Climate Week 2013, Part of the Logo

⁴⁴ "Climate Alliance at first hand"

10. Qualitative Semi-structured Interview

10.1. Structure and Methodology

The present thesis contains primary data which has been gained through qualitative semi-structured interviews and questionnaires. The semi-standardised questionnaire was developed and created after an intensive phase of literature research and readings⁴⁵. Additional input was collected through attended events. Furthermore, personal experience and attitudes influenced the choice and selection of questions.

Interviewees and people answering the questionnaire were selected by stakeholder category and international professional experience. The selection of interviewees was chosen in relation to the structure of this master thesis. The focus was set on experts and important stakeholders, namely citizens, industries and political institutions.

If possible persons were selected which have an influence on the European, German and Bavarian level. Despite the initial intention to interview people selected right across Bavaria, it turned out to be more effective to concentrate on important people from executive organs, international cooperating firms and citizen initiatives.

In general, the interview was conducted personally and in German language, otherwise interviews were sent via E-Mail and/or answered on the phone. In exceptional cases, for instance with Dr. Angelika Niebler, Member of the European Parliament (MEP) in Brussels, an initial telephone call was followed by an E-Mail response of the questionnaire. The questionnaire was sent to the interview partner in advance.

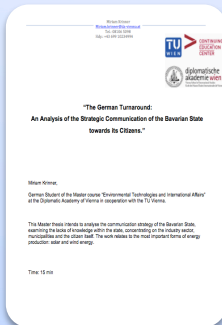
Since most interviews were done in person, room was left for further questions to address the thematic and research question of the thesis in a comprehensive manner. Moreover, the sequence of questions as well as the wording could be changed and adapted to the interview situation. Throughout the interviews audio recording took place. Within the interview, both parties were “implicitly agreeing to abide by certain communicative norms” (Briggs, 1986).

⁴⁵ Following book was of great help in the initial phase:
A.N. Oppenheim: Questionnaire Design, Interviewing and Attitude Measurement,
Continuum, 2005

10.2. Interview Questions and Partners

Three key questionnaires were developed for the categories of citizens, industries and authorities. In some cases exceptional questionnaires had to be developed. This was necessary, for instance in the case of Dr. Marcel Huber, Minister for the Environment or Dr. Angelika Niebler, MEP of the European Parliament. The entry question, however, was the same for all three interview categories. In total a number of 33 people was interviewed.

As already indicated in Chapter 10.1. interviewees were selected stakeholder category and international professional experience. The selection of interviewees was chosen in relation to the structure of this master thesis. The focus was set on experts and important stakeholders, namely citizens, important industries and people of political institutions. If possible, persons were selected which have or had an influence on the European, German and Bavarian level. Within the group of citizens following interviewees could be recruited:



Dr. W. Frisch:

Former employee of the nuclear power plant in Garching and cofounder of the citizen initiative "Energiewende Vaterstetten"

Mrs. L. Huber:

Intern at the Administrative District Office of Ebersberg in the Energy Department

Mrs E. Heinzlmeier:

Press spokesman and employee at Zimmermann Medical- and Orthopaedic House

Mr C. Heinzlmeier:

Employee at Johnson & Johnson Medical GmbH

Mrs E. & Mr U. Haux: Former employee at EADS Germany

Mr A. Baldauf: Employee at Kaufland Stiftung & Co. KG

Mrs J. Clauss: Employee at Horse Feed Company

Mrs B. & Mr R. Schürfeld

Mrs E. Wessel

Mrs P. Wölz

Dr. Willi Frisch, former employee at the Research Center in Garching and is currently involved in the promotion of the Energiewende in Vaterstetten. Furthermore Mrs L.Huber, is intern at the Administrative Office in Ebersberg and will start her university studies within this autumn in the field of renewable energies. Mrs and Mr Heinzlmeier, both employed in the medical sector could give valuable comments representing the new generation of a young and high educated couple.

Family Haux was interesting to gain as a interview partner. Insight was given to the environmental aspects within EADS. Mrs and Mr Schürfeld represent both former employees who have time and interest to dedicate much time to the thematic of the Energiewende and could give important insight from the perspective of a very well-informed couple. Mr Baldauf and Mrs Clauss are both young professionals in the industry sector. Mrs Wessel and Mrs Wölz are both engaged in the sector of art and culture.

The next table presents the interviewees which could be recruited in the field of political institutions, the industry and the medial sector. Within the political interview partners the focus was laying on Dr. Angelika Niebler, MEP of the European Union, Dr. Marcel Huber, Bavarian Minister for the Environment and Public Health as well as on former colleagues working in the field of renewable energies, or in the provincial governments of Bavaria.

In the industry sector, the main interview partners were chosen to be the General Manager of the Maschinenfabrik Rheinhausen, Dr. Maier-Scheubeck, as well as Peter Driessen, Managing Director of the Chamber of Industry and Commerce of Upper Bavaria and Munich (IHK).

In addition, Frank Brodmerkel, public relation specialist in the field of green economy, could give additional inputs to his medial experience with ministries, companies and agencies.



European Parliament (MEPs)
Dr. Angelika Niebler
 Chair Delegation for relations with the Arab Peninsula,
 Member of Committee on Industry, Research and Energy



Bavarian State Ministry for the Environment and Public Health
Dr. Marcel Huber
 Minister



Bavarian Energy Agency - StMWIVT
 ENERGIE INNOVATIV (several anonymous persons)
 Employees



Bavarian State Ministry for the Environment and Public Health
Dr. Mikulla, Michael Möhnle, Dr. Lettenbauer, Mrs Fischer M., Mrs Bauer T., several anonymous persons
 Heads of Division and Employees



Bavarian State Office for the Environment
Dr. Henschel, Fr. Loher-Henschel, Ökoenergie-Institut (anonymous)
 Heads of Division and Employees



District Governments
Mr Schmitzer, and several anonymous persons
 Energy consultancy and Department of Technical Climate Protection



Administrative District Office Ebersberg
Robert Niedergesäß
 Head of the District Authority



Chamber of Industry and Commerce Upper Bavaria and Munich
Peter Driessen
 General Manager



Maschinenfabrik Reinhausen GmbH
Dr. Nicolas Maier-Scheubeck (left); **Dr. Manuel Sojer** (not in the picture)
 General Manager



Bavarian Center for Flowers
Sonja Ziegeltrum
 Company Owner



Public Relation Agency "Grüne Welle"
Frank Brodmerkel
 Chief

10.3. Results and Embedding of the Interview

After the presentation of the theoretical framework of the Agenda-Setting Approach, the Two-Step Flow of Communication and of the concept strategy of the Bavarian government, the following section examines what kind of information⁴⁶ has reached the Bavarian citizens by evaluating the conducted interviews and questionnaires.

The following chapter presents the background situation of the following treatise: Has the communication strategy and concept of the Bavarian government reached its goal in carrying the citizen in a new era of energy production? Are the main forms of energy and the main steps within the Energiewende familiar to the Bavarian society? Are citizens familiar with the leading energy agency ENERGIE INNOVATIV and its concept? Could the the Bavarian government win the trust of the Bavarian citizens?

10.3.1. The First Section

The first section gives answers to questions regarding the political interest and general associations with the Energiewende. More than half of the interviewees affirmed that they are interested in political topics and talk frequently with fellow citizens about current political issues. To the question whether their friends, colleagues and family members are interested in the Energiewende, over 60% affirmed the question. For all 33 interviewees, the Energiewende was seen as an process which includes the whole society.

The question about the first association with the term “Energiewende” intended to obtain the general status quo level of information and knowledge about the energy transformation in Bavaria. The conducted survey came to the conclusion that a large majority of the interviewed people associate with the term the switch from nuclear energy towards renewable energies. A different view was generally given by people working in the sector of renewable energies, or the environment. Dr. Angelika Niebler, MEP of the European Parliament, mentioned secure and affordable energy costs together with energy security and environmental compatibility. For Dr. Marcel Huber, Bavarian State Minister for the Environment and Public Health, the term Energiewende was associated with the need to rise the awareness within the whole society, as the transformation process can only proceed with the engagement of all citizens. Other experts in the field of renewable energies, which preferred to be

⁴⁶ In Chapter 7 the general inadequacies of the Energiewende have been already discussed.

treated anonymously, named as their first association: Professional vocation, the need for clearance and awareness rising in society, or the special role of Germany within the framework of the European Union

The last question in the first section intended to examine if society is familiar with the Bavarian agency for energy “ENERGIE INNOVATIV” of the StMWIVT. Nearly all interviewees (90%) have not heard about the agency before or are informed about its implementation in 2011. In addition, the agency’s communication concept and strategy was not known.

10.3.2. The Second Section

The second section examines the level of awareness of the transposition guidelines of the communication concept and the implementation of the central criterias within the population. The three cornerstones of the general concept of the Bavarian State government have been: Transmission of information about “energy security”, “financeability” of the Energiewende, as well as about “ecofriendliness and sustainability” when it comes to the implementation of renewable energies in Bavaria⁴⁷.

The results in the survey revealed that the majority of the interviewed people sees a negative trend in the future financeability of energy. Half of the interviewees worry about rising costs, and power interruptions in the near future. A more positive trend could be seen in the answers in regard to ecofriendly and sustainable integration of renewable energies in the Bavarian landscape.

The implementation of the three central criterias in the population: “Energy saving”, “Energy Efficiency” and “Renewable Energies” are important steps for a successful outcome of the German and Bavarian Energiewende. The evaluation of the questionnaire and interviews, revealed that more than 90 % of the interviewed people are already trying to save energy in their house, or are currently investing in renewable energies.

More than half of the 33 interviewees are willing to contribute to a successful outcome of the Energiewende and have already attended events of the Energiewende. In connection to the willingness of the citizens to support and back up the Energiewende, the question was asked: Would you be willed to pay more for

⁴⁷ For a detailed analysis of the three points please refer to Chapter 5.3.

green electricity on an annual basis? 13 people affirmed the question. More than one hundred Euro would be paid by 6 people, exactly 100 Euro by 7 people and 50 Euro by 1 person. The rest of the interviewed people denied to pay more for green energy.

The question whether policy changed something in its communication strategy (preparation, transparency, time frame) after the medial experience of “Stuttgart 21” and the well-known opposing citizen initiatives. A majority of responsible people working in the policy sector answered with yes. Dr. Angelika Niebler proposed to further intensify the reporting about planned projects and to include also social media in the communication process, to give the Energiewende an interactive platform for all stakeholders concerned.

To the question whether or not there has been an overall concept implemented beforehand which states how the Energiewende should be addressed towards its citizens, industries and municipalities, half of the responsible people answered with yes and half negated the question. However, all interviewees referred to the Bavarian energy agency ENERGIE INNOVATIV who has the auspices over the Energiewende. The energy agency is responsible for the public relation of the whole Energiewende process in Bavaria. Even though people often confirmed that a concept should exist, no one could report about it or describe it.

10.3.3. The Third Section

The last section examines the information transmission and communication of the Bavarian state government towards its citizens. Unsurprisingly most interviewees (90%) emphasized that they do not feel sufficiently informed in regard to the Energiewende. However, people who are personally interested in the process of the Energiewende search actively for necessary information, so L. Huber from the District Administration Office of Ebersberg.

The general lack of information could be seen in the response to the question, if the Energiewende brings generally more personal disadvantages or advantages. Most interviewees stated that more disadvantages are personally felt, for instance rising energy costs. Dr. Maier-Scheubeck, however, General Manager of the Maschinenfabrik Reinhausen and his employee Dr. Sojer, stated that the advantages are offset by the disadvantages and from a scale from minus three (disadvantage) to plus three (advantage), Dr. Sojer gave the highest point number of

+3. Other industry sectors who were asked about their experience had slightly more negative answers, for instance the Bavarian Center for Flowers.

It was assumed that due to a general lack of information, companies would reduce their investment. It turned out that within the section of politicians, and people working in the ministries, no trend in the either nor other direction could be drawn. The companies which were interviewed did all affirm, that their investment is strongly related to clear information from the policy and currently, further spendings are postponed to the future.

To the question whether companies plan to transfer their place of business and production into a foreign country, Dr. Maier-Scheubeck, Head of Chair of the Maschinenfabrik Reinhausen, stated that his company profits from the Energiewende and does not plan to emigrate. A different view to this topic presented Peter Driessen, Managing Director of the IHK of Upper Bavaria and Munich, who takes the view, that a number of Bavarian companies already have emigrated to foreign countries and will further do if no decisive change within the EEG Act brings clearance about future economical expectations (Driessen, 2013). Dr. Angelika Niebler confirmed the statement of Peter Driessen, by saying that the general risk of company transfers into foreign countries is increasing with steady rising energy costs. However, with more energy efficient measures, the long-term competitiveness and innovation performance of companies can be enhanced and side effects compensated in the long run.

To the question whether more information about the future steps and the process of the energy transformation would lead to more trust in the Energiewende, thirty out of thirty three people affirmed the question. Strongly related to the issue of trust is the question whether or not more information would lead to a decrease of the well-known NIMBY problem. Surprisingly the answers given, turned out to be balanced in both directions, with a slight trend towards its affirmation.

The second last part within the third section is about the need of coherent internal communication in the Bavarian state government. The question was asked, if the Bavarian government could bring clearance internally and externally to the question what kind of renewable energies are the most future-oriented and guiding forms of renewable energies in Bavaria. The answers showed that all interviewees mentioned different forms of renewable energies. Priority was given to solar energy,

followed by wind and hydro power. Besides the three forms, power-to-gas, geothermal energy and biomass was mentioned.

For a uniform voice, a coherent internal communication is needed. The question was asked if frictional losses occur due to the fact that more than five ministries are concerned within the energy transformation process. Two thirds of the interviewees affirmed that problems occur due to diversities of interests.

Thus the question was asked whether a new “ministry for energy” should be established to reduce frictional losses and to dedicate the topic a solid platform, 19 out of 33 people answered with yes. The remaining part of interviewees did not generally negate the proposal, but preferred a complete integration of the ecoenergy into one ministry. Among the most interesting findings was that parallel to the survey, on the 25 of May 2013, the Bavarian State Press, wrote in their daily press release that Minister President Dr. Horst Seehofer is planning to reform the division of labour within the Bavarian ministries and plans to establish a new “Energeministerium” to address the mammoth task in a more efficient manner (Kahl, 2013).

The last part of the third interview section was dedicated to the communication strategy in relation to the Theory of Two-Step Flow and the Agenda Setting Approach.

All people were asked if the Bavarian government should address important information first to disseminators/multipliers who in turn pass on the information to the whole society. One third answered with yes. However, all interviewees stated that in theory it works in exactly that direction and manner. So the information is flowing first to journalists or experts in the field of environmental technologies and in a second step to the whole society. Nevertheless, everyone preferred a less authoritarian and more dialogue oriented communication and information flow. Dr. Angelika Niebler added that the process of information flow through the media is nothing new and nothing bad. Journalists represent important multipliers not only for the sake of awareness rising but they are also necessary to set the Energiewende on the agenda. More focus, however, should be placed on web 2.0 applications, for instance Facebook and Twitter. Her experience with those new forms of media communication, have been more than positive, so Dr. Niebler.

To the question whether generally more information should be publicated (set on the agenda), people were ambivalent. On the one side more than a third of the people

preferred more information about the Energiewende, two thirds, however, wished less quantity but more quality. In general the assumption was that the topic is sufficiently presented on the daily agenda of the media, however, an overall concept is missing in the medial presentation, so Dr. Angelika Niebler.

The last part of the interviews was devoted to the reception of media. To the most frequented received media counted the daily newspaper, television, the internet and radio stations, with a slight preference to local medias, for instance Bayerischer Rundfunk. Additionally, it was asked which medium broadcasts in a transparent, objective and well-founded manner? The answer could not be answered by all participants of the survey. However, a slight trend was towards the Bayerischer Rundfunk with its programme "Quer".

The last question asked to all interviewees was: If you have the chance to ask a question to the responsible politicians in regard to the Energiewende, what would you ask them? Nearly 90 % of all participants wanted to know if there was an overall concept, strategy or master plan for the Energiewende. Additionally the question arose if the future energy prices are secure or not. Some people wanted to know if Germany has to import nuclear energy from other countries and who is going to pay the special treatment for the big companies in Germany.

11. Results and Discussion

The chapter “Results and Discussion” formulates considerations and ideas of implementation, based on the experience and the insights gained of the author of this master thesis. Moreover, conclusions are drawn referring to the conducted interviews and literature research.

At the basis of the results which came into being through the conducted interviews, the intention is now to give 18 points of recommendations to policy, industry as well as to the citizens itself.

To the policy:

- The bundling and concentration of skills within one ministry is recommended, with a preference for the Ministry for the Environment and Public Health
- A clear and transparent concept needs to be developed
- The direct contact towards internal and external stakeholders needs to be enhanced
- More information quality instead of quantity is needed
- Important information needs to be repeated over and over again
- Policy should intensify its relation with the media sector and use them as a information and transportation channel of important facts.
- Policy should concentrate more on the subject and on their duties
- Policy has the challenging task to regain confidence from its citizens. We need to come from the angry citizen to an encouraged society.
(From a “Wutbürger” to a “Mutbürger”)
- Policy needs to enhance its communication to the municipalities and the Administrative District Offices

To the citizens:

- Citizens should show more initiative and proactive response to gain information
- Citizens should move away from an “Energy Egoism” to an “Energy Altruism”

To the media:

- Media should write in an informative and fact oriented manner
- Media information should appeal all senses of the recipients (like a barrage)
- Media should call to mind that they represent and constitute the information channel between policy, citizens and industry and contribute to a successful outcome of the Energiewende

To the industry:

- Industry should be aware of the fact that they represent in the end the Energiewende “Made in Germany”
- Industry should be role model across the German borders
- Industry should consider themselves as an important part of a multifaceted tessera called “Energiewende”

12. Summary and Conclusions

As a general rule, any strategy paper which is conducted for the sake of the Energiewende, is in absolute need of guidance, control and supervision. The feasibility of implementation of the Energiewende requires a permanent and inherent discussion of the strategy with the inclusion of all relevant groups of society.

Even though the target is clearly defined, it is not always possible to obtain predictability in every detail of a strategy or every tiny aspect. However, policy should not succumb the illusion of strategy although important steps could already be achieved and a lot of progresses recorded, for instance in the field of solar energy.

Both the German government and the Bavarian state government need to re-elaborate the previously introduced measures, monitor them closely, and adapt them to the current circumstances. There are still many obstacles and hurdles to overcome in the near future. Questions regarding storage capacities, further development of wind and solar energy as well as questions regarding the installation of high-voltage grids in political sensitive areas are just some examples of questions, policy will meet along the way. Tax reliefs could be one of the strategies if the EEG Act cannot offer any solution in the near future, to motivate society to invest in energy efficient technologies and renewable energies.

In my view, we need not only a change from fossil fuels towards renewable forms of energy, but also a change towards more solidarity, sustainability, respect, personal responsibility, and charity. As the old saw goes: Charity begins at home.

In addition, the daily “Energy Egoism” should move away to an overall “Energy Altruism”. Energy recovery, LED lamps, energy efficient electronic devices should become a general attitude in anyones and everyones life. The results and findings gained within the framework of my professional experience and through the conducted survey, showed that it is ultimately the faith and trust of the German and Bavarian population upon which the success of the Energiewende relies.

There has never been a comparable task. If Bavaria and Germany can promote the energy turnaround effectively, provide clear statement-oriented and transparent information, and convince its citizens to support the Energiewende with all implications, the whole country can become role model and pioneer for many more countries, to follow the transformation process “Made in Germany”.

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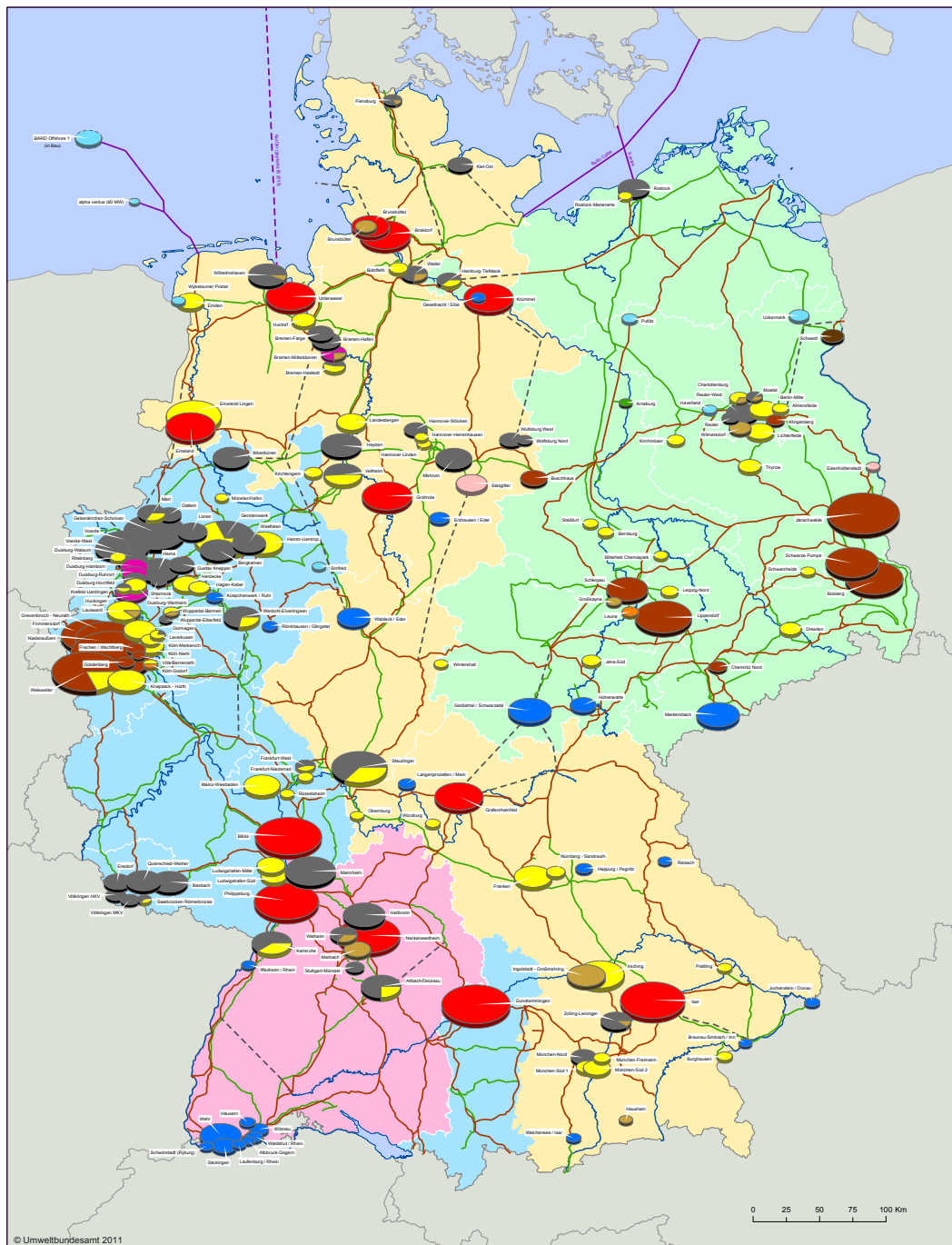
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14. List of tables / figures

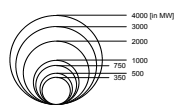
Figure 11 Hierachical representation, own presentation.....	48
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15. Annex



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Kraftwerke ab 100 Megawatt



- Kernergie
- Raffineriegas
- Gichtgas
- Überseekabel
- Steinkohle
- Braunkohle
- Örtrockstad
- 380-kV-L. Leitung
- Erdgas
- Wind
- Wasser
- 380-kV-L. Leitung (geplant)
- Heizöl
- Wasser
- Biomasse
- Hüttengas
- Biomasse
- 220-kV-L. Leitung

- #### Übertragungsnetzbetreiber
- Amprion (RWE)
 - TenneT
 - E.ON
 - EnBW

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 FG I 1.5 - SG UBA-Grafik, GISU



Verteilung der Flächenkategorien der Gebietskulisse Windkraft

