

# Adaptation to Climate Change – Agenda Setting and Policy Integration in Germany

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Adapting Utilities to Climate Change - Analysing and Developing Private and Public Action

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## Abstract

The present article analyzes the progress of policy for adapting to the impacts of climate change in Germany. We consider a period from the early beginnings in the 1990s until the development of the so-called "*Aktionsplan Anpassung*" (Adaptation Action Plan) of the German Adaptation Strategy of the Federal Government in 2011. Our specific concern is on the integration of this new topic into the political-administrative system and on the mainstreaming of adaptation to climate change in general. The present article is based on relevant policy documents (in part, unpublished) and 22 interviews with experts from institutions at the federal and Länder level, scientists and civil society actors. The four following milestones of agenda setting and adaptation policy integration can be identified as being most important on the path to the Action Plan: the 2005 Climate Protection Programme of the Federal Government, the establishment of the Competence Center for Climate Impact and Adaptation in 2006, the 2007 Düsseldorf Declaration and the 2008 German Adaptation Strategy. An integrated approach was used for adaptation policy, mostly originating from higher institutional levels. Crucial impulses emanated from the environmental departments. Until now, the policy integration of adaptation to climate change can be interpreted predominantly as a strategy of mobilisation.

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## 1. Introduction

By way of the EU White Paper on Adaptation to Climate Change (April 2009), the German Adaptation Strategy, passed by the Federal Cabinet (*Deutsche Anpassungsstrategie*, "DAS") (December 2008), and within the framework of international climate negotiations, adaptation to the inevitable impacts of climate change has been established as an independent topic along with climate protection. "Adaptation" means actions, instruments and institutions that mitigate the harmful consequences of observed or expected climate changes and/or exploit their opportunities (for the definition, see e.g. IPCC 2007). Within the framework of this paper, "adaptation policy" is used as a broad term for a policy that is meant to promote adaptation (Mickwitz et al. 2009). This is leading to challenges at and below the national level. However, there has been minimal clarification so far as to the role that policy and state regulation can and should play particularly in the protection of the economy, the regions and the populace against unfavourable climate impacts, and the exploitation of impacts of climate change that might be positive. The core documents specified above continue to stress the "cross-cutting nature" of adaptation, pointing out that a multitude of fields is implicated. In terms of strategy, what should be achieved is an integrated policy approach; i.e., across departments, sectors, levels and fields. This strategy is to be strengthened, on the other hand, through a so-called "mainstreaming," a broader engagement with adaptation and the inclusion of climate impact assessments in the various fields and specific areas of policy along with addressing areas of society beyond the political-administrative system (German Federal Government 2008, BMU 2011).

Yet, is a mainstreaming of the policy – an integration into different policy fields – indeed taking place? How does this integration appear in practice? And what factors determine the observed developments? Why could adaptation policy in particular require an integrated approach?

For this purpose, some characteristics of climate impacts and examples of adaptation must be first brought to mind (see Eisenack and Stecker 2011). Since it is quite difficult to predict future climate protection policies, and changes in climate affect a multitude of local, natural space and social conditions, there are major uncertainties regarding the type and scope of future climate impacts. For example, the frequency of heavy rainfall and associated flooding can have quite different effects according to the topography and water bodies concerned. Since the effects of climate change can be experienced not only at the global level, but also at a local level (in one's direct living environment), local preventive measures are thereby also obvious needed. If, in the future, cities will be affected by stronger heat waves, this can be counteracted locally by, for

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example, the use of air-conditioning systems, urban development measures and modified design parameters of heat-sensitive industrial plants. Not least, nearly all areas of society are affected in various ways. The German Adaptation Strategy leaves very few sectors alone. As action fields, so-called "critical infrastructures" such as transport, power supply and water management are particularly cited. The Stern Review (Stern 2006) estimated that the adaptation of infrastructure in the OECD countries could require U.S. \$15 to 150 billion annually. From such views, it can be easily derived that (i) adaptation may be driven primarily by local processes and actors, namely the parties concerned (e.g. Füssel and Klein 2006), and (ii) this requires a coordination of a multitude of areas of society.

Do such assessments withstand a more exacting examination, upon analyzing adaptation policy up to now? Are there perhaps reasons other than those mentioned that are relevant? After all, one driving force for adaptation policy has been the obligation agreed to by the contracting states in the Framework Convention on Climate Change to formulate and implement measures for facilitating adequate adaptation to climate change (Art. 4 (1) UNFCCC 1992). These are not matters of minor importance, because if adaptation to climate impacts is relevant for such numerous and core areas of society and can be associated with high costs, an important question is how adaptation policy can be organised efficiently.

So far, there have been only few papers that systematically investigate adaptation policy. However, one must mention here, amongst others, the PEER studies (e.g. Biesbroek et al. 2010, Beck et al. 2009, more on this below). Isoard (2011) clarifies the importance of combining policy strategies of overriding importance such as the EU White Paper with regional adaptation strategies, since vulnerability is diverse, depending on locality and sector. On the basis of various categories, such as status of information, strategies and actors along with communication and elucidation, Meister et al. (2009) compare adaptation strategies in ten industrialised countries and six developing and newly industrialised countries. In doing so, they come to the conclusion that, in the countries under examination, the topic of adaptation is enjoying increasing importance in political discourse. Bauer et al. (2011) compare various approaches of governance in ten OECD countries and analyze how these interact with the challenges of adaptation strategies. They prove that most countries are dominated by rather flexible, voluntary-based approaches, and that national adaptation strategies are often a centerpiece around which more complex activities are arranged. However, the topic is still relatively new, and has also not yet been incorporated into many potentially vulnerable sectors (for Germany, see, for example, Pechan et al. 2011, Mahammadzadeh and Biebeler 2009, Greiving and Fleischhauer 2010). Osberghaus et al. (2010) provide an overview of possible government tasks for adaptation

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policy in Germany, and Tompkins et al. (2010) present a survey for Great Britain. Under another point of view, Persson and Klein (2009) analyze the integration of adaptation into development policy. Gagnon-Lebrun and Agrawala (2007) provide an international overview on the status of adaptation policy on the basis of national communications to the UN Climate Secretariat. The studies mentioned typically bring up for discussion current activities on the part of policy actors or implementation by way of various governance approaches. In comparison to these, the present article goes back a step and for the first time provides a detailed representation of the development of German adaptation policy. Knowing how the new policy topic of adaptation has been gradually established is necessary for being able to understand and interpret current and future developments in this area.

As such, this essay examines what pattern adaptation policy in Germany actually followed, from the early beginnings up to the preparation of the "Adaptation Action Plan for the German Adaptation Strategy to Climate Change" in summer 2011. The emergence of this new policy topic is drawn out in detail, thereby giving particular consideration to the integrated approach, as it is promoted within this context. Analyses of policy integration are known from related topic areas such as, for example, environmental policy integration (Jordan and Lenschow 2008) and, in a fledgling stage, climate policy as a whole (for example, Beck et al. 2009), but are not yet explicitly for adaptation to climate impacts. This essay is intended to contribute to the closing of such gaps.

Our analysis evaluates both internal and published documents in connection with the development process of German Adaptation Strategy, and relies on a set of interviews conducted with experts from federal and Länder institutions, academia and civil society organisations. The study period extends from 2002 to spring 2011. On the basis of agenda setting approaches, there is an initial elaboration of the core motives and the development of German adaptation policy so far. In a second step, an interpretation is presented on the basis of various categories of analysis of policy integration. The result offers a coherent picture regarding the lines of development, framework conditions and the present pattern of German adaptation policy – the frequently promoted integrated approach can in fact be identified. In the development of adaptation policy, this can be demonstrated by means of four important milestones. Yet, it is necessary to differentiate among various types of policy integration. In particular, there is a prevalence of vertical integration, which in Germany, in contrast to the above line of reasoning, has so far mainly followed a top-down approach. Our studies have demonstrated that this pattern can be explained with an understanding of the development and integration of German adaptation policy primarily as a mobilisation strategy.

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For a start, the next section describes the various analysis categories of policy integration and how they are used in the following. The third section describes our empirical approach and the main part of the paper sets out the development of German adaptation policy in detail. The fifth section then analyses this chronology regarding the various categories of policy integration.

## 2. Policy Integration

For anchoring a new topic into the organisation of a political system, three approaches are generally conceivable – the institutionalisation of a new department or organisational unit, the integration of the topic into a certain existing department or the integration of the topic into all those departments that are (or should be) concerned with the topic. In the literature, the third approach is usually called "policy integration" (Kivimaa and Mickwitz 2009). Policy integration signifies the taking up and the transfer of a new topic relevant to policy into existing political structures and processes. Closely connected with policy integration is the concept of "mainstreaming," which comprises broader engagement with a topic beyond the political-administrative system.

The quite recent debate on the institutionalisation of adaptation policy within the political system is mostly focused on the approach of policy integration, where it is referred to as "climate policy integration" (CPI) (for example, Beck et al. 2009, Mickwitz et al. 2009). Here, adaptation and climate protection are considered together. In the PEER studies<sup>1</sup>, following the definitions for environmental policy integration (Lafferty and Hovden 2003 in Mickwitz et al. 2009) and for policy integration (Underdahl 1980 in Mickwitz et al. 2009), climate policy integration is specified as follows:

- "the incorporation of the aims of climate change mitigation and adaptation into all stages of policy-making in other policy sectors;
- complemented by an attempt to aggregate expected consequences for climate change mitigation and adaptation into an overall evaluation of policy, and a commitment to minimise contradictions between climate policies and other policies" (Mickwitz et. al. 2009, p.19)

It can be derived from the literature that various ideal-typical categories are differentiated in the integration of a topic (see also Swart et al. 2009, Mickwitz et al. 2009). In analysing the

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<sup>1</sup> PEER is a union of the environmental research centers Altera, Cemagref, the Centre for Ecology & Hydrology, Joint Research Centre - Institute for Environment and Sustainability, the National Environmental Research Institute of Denmark, the Finnish Environment Institute and the Helmholtz Centre for Environmental Research (UFZ) <http://www.peer.eu>.

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development of adaptation policy, the following four categories of analysis, which describe various aspects of integration, can be drawn upon:

- 1.) The integration of a topic at the *horizontal* levels of a political/administrative system involves the inclusion of all departments whose work makes reference to the topic.
- 2.) In contrast, *vertical* integration describes the engagement with a certain topic within a political department or sector across several levels (Federal Government, Länder, municipalities).
- 3.) If the responsibilities for a topic and/or implementation are distributed at various levels, and integration as well as coordination occur, we speak of an *exchange between the vertical and the horizontal* levels.
- 4.) The *integration of the specialist community* describes the inclusion of specific knowledge, which is scattered wide across companies, associations and civil society actors.

In a narrow sense, the fourth category of analysis – "integration of the specialist community" is not included in the concept of policy integration. However, since, for adaptation policy, it is also crucial to retrieve scattered knowledge from outside of the political system and include it into the policy-making process, our study subordinates it to the concept of policy integration.

### 3. Method

The analysis of the integration of adaptation and/or adaptation policy in Germany is based on a survey of literature and a set of 22 interviews, which we conducted in the period from December 2009 to September 2010. These were open and semi-structured interviews, which were conducted in part personally, in part by telephone and in one case in writing. In addition to targeted questions on individual steps and actors in the development of adaptation policy in Germany, open questions on the assessment of the development of the adaptation topic as a whole were posed. In doing so, the goal was to make inquiries of actors directly participating in the process, while integrating assessments from research institutions and civil society. As such, included in the interviews were both experts from the Federal Ministry for the Environment, the Federal Ministry of Economics, the Federal Environment Agency, the Federal Office of Civil Protection and Disaster Assistance, the Ministry of the Environment of North Rhine-Westphalia and the Brandenburg Ministry of the Environment, Health and Consumer Protection, as well as representatives of research institutions (Climate Service Center, Bioconsult), civil society organisations (Deutsche Umwelthilfe, campact) and associations (the German Association of

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Energy and Water Industries - BDEW). The set of interviews was supplemented with the evaluation of 18 unpublished primary sources from the time period of 2002-2009, which are directly connected with the development process of German adaptation strategy (unpublished early concepts, internal records). Thus, the study period extends from the first beginnings and ideas for adaptation policy in Germany in 2002, up to current developments such as the compilation of the Adaptation Action Plan.

The evaluation of the data takes place in two steps. Initially, the policy process as a whole is examined and investigated for how the adaptation topic arrived on the German policy agenda. Here, agenda setting approaches provide the theoretical framework for identifying the milestones, actors and concepts central to the process, which in their entirety are understood as "agenda setting" for the previously untreated topic. Agenda setting thereby describes the process of placing a problem recognised as relevant on the policy agenda for processing. The agenda is defined as list of the topics to which substantial attention is or should be dedicated on the part of the government (or of actors with close relationships with actors in the government) (Kingdon 1995 in Jann and Wegrich 2009). Based on the results of this study, in a second step in Section 5, the procedures in the area of adaptation policy are interpreted with application of the categories of analysis as in Section 2.

## 4. The path to adaptation strategy

The emergence of adaptation policy in Germany can be understood as a multi-stage process, with origins in 2002 and 2003. Essentially in chronological order, the following draws out the most important adaptation policy developments in Germany at the national level until 2011.

### 4.1 Starting points and early concepts of adaptation policy in Germany

In the early development of the topic of adaptation in Germany, three starting points can be identified: national and international research on climate impacts and adaptation, the international climate negotiations and forerunner countries such as Great Britain.

The initiation of the adaptation discussion, on the one hand, goes back to the 1990s and the raising of the issue of adaptation in research. Adaptation research is a rather young, interdisciplinary subsection of research into climate impacts, which was given amplified attention in global climate research at the end of the 1990s (Dietz 2006, Horstmann 2008). In Germany, the increasing political need for clarification of the impacts of climate change led to the establishment of the Potsdam Institute for Climate Impact Research (PIK) in 1992. There

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were increasing discussions among academics of adaptation in Germany, not only at the PIK (UBA II 2010, oral record)<sup>2</sup>. Moreover, the topic of adaptation received increasing attention based on new research results bundled into the 2001 IPCC Report. The most important sponsor in Germany of climate impact research was the Federal Ministry of Education and Research (BMBF) (Zebisch et al. 2005), which had financed research on adaptation since the middle of the 1990s. Thereby, the research field of climate change and coastlines was in the forefront at the beginning. There were discussions of, for example, climate change surcharges, and adaptation was included in administrative action long before the adoption of the German Adaptation Strategy (2010 BIOCONSULT, oral record). Research of climate impacts in Germany gained increasing importance. Around the turn of the millennium, numerous new scientific findings on climate change were published, which noticeably reached beyond scientific circles. As examples, the four regional climate models relevant for Germany (WETTREG, STAR, CLM, REMO) can be identified here. In the early millenium, they became important drivers of the national adaptation topic in the continuing process (UBA II 2010, oral record). In Germany, adaptation was brought up for discussion primarily based on evidence from IPCC reports, economic studies on climate impacts and damage statistics of the insurance industry. Science played a pivotal role here. Extreme weather events that concerned Germany itself had a strengthening effect – as focusing events, they generated attention on the topic.

The second starting point of developments in adaptation policy was formed by the international process of climate negotiations. Formally, adaptation policy in Germany was embedded from the outset in the political/institutional framework of both international and European climate and adaptation policy. Adaptation in Germany cannot be explained without consideration of international, European and German climate policy. If one follows the assessments of the interviewed experts, the EU process can apply as an important source of inspiration, particularly in the preparation of the Green Paper (2007) (followed by the 2009 White Paper) on adaptation. At the primary core of the discussion of adaptation in Germany were all direct points of contact of German actors with international climate negotiations, where adaptation clearly gained importance after the turn of the millenium. Thus, a first contact with the subject at the European level arose in the context of the United Nations Framework Convention on Climate Change (UNFCCC); in 2001 and 2002, the EU Science Expert Group dealt with the implementation of the Third Assessment Report (IPCC 2001) into the decisions of the Framework Convention on Climate Change. Within the Science Expert Group, questions in the area of adaptation were also discussed, but, compared to the issue of emissions reduction, these played a subordinate role.

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<sup>2</sup> Each of the Federal Environment Agency (UBA) and the Federal Ministry of the Environment (BMU) is represented by two interviewees. They are identified as UBA I, UBA II, BMUI, and BMU II.

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The members of the Science Expert Group mostly came from the research ministries of the member states. On behalf of Germany, an employee of the Federal Environment Agency provided representation (UBA II 2010, oral record).

Third, Great Britain's progressive addressing of adaptation was a starting point for the first targeted engagement with the topic regarding Germany in the Federal Environment Agency and subsequently in the Federal Ministry for the Environment. At the beginning of 2002, the UBA honored an invitation of the Department for Environment, Food and Rural Affairs (Defra) to the Hadley Center at Bracknell, where a session of the Science Expert Group took place (UBA II 2010, oral record, internal document, 02/2002). In Great Britain, the UK Climate Impacts Programme (UKCIP), financed by Defra, was introduced in 1997. The goal of this programme is to coordinate climate impact research and assist organisations in adapting to unavoidable climate impacts. With the UKCIP, for the first time in Great Britain, there was a plan that clearly addressed (in addition to climate protection) climate impacts and adaptation, and systematically sensitised people to the topic. The UKCIP, unique across Europe and successful in application, left a lasting impression and served as an important stimulant for developments in Germany.

The president of the Federal Environment Agency at that time greeted the report on the trip to Great Britain with open ears. Encouraged by these events, the president induced the internal generation of an initial paper on how the Federal Environment Agency could support climate impact research in Germany (internal document, 09/2002). This formed the internal "original mandate" for a concept on adaptation. In doing so, the goal was not to draft presentations of an adaptation strategy; rather, given the interesting developments in this area in Great Britain, the Federal Environment Agency should promote engagement of the topic and generally strengthen climate impact research in Germany (UBA II 2010, oral record).

## 4.2 Incorporation of adaptation into the 2005 Climate Protection Programme

Climate protection programmes have existed in Germany since the 1990s. As early as 2000, climate impact research found mention on the margins of the predecessor programme to the 2005 Climate Protection Programme regarding climate protection and adaptation in developing countries. Moreover, in the 2000 National Climate Protection Programme, climate impacts were brought up for discussion peripherally for a range of sectors. However, particularly with reference to Germany, adaptation still had no input.

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At the end of 2003 and in 2004, several attempts to bring adaptation up for discussion within the framework of department executive sessions in the BMU have been made. The President of the Federal Environment Agency was able to participate in such sessions every two months; in such sessions, in addition to the Minister of the Environment and his staff, the department executives of the BMU and the Presidents of the three subordinate administrative agencies (the Federal Environment Agency, the Federal Office for Radiation Protection and the Federal Office for Nature Conservation) were present. A responsible Head of Unit and the responsible department executive of Climate and International Matters ultimately introduced the proposal to insert aspects on adaptation into the Climate Protection Programme, which was revised at that time. The Federal Environment Agency was requested to implement a corresponding concept in the draft of the Climate Protection Program, which was then published as the 6th Report of the Interministerial Working Group (*Interministeriellen Arbeitsgruppe*, "IMA") on CO<sub>2</sub> Reduction, in an "adaptation section" to be incorporated for the first time (UBA II 2010, oral record, internal document, 09/2002).

The idea that adaptation, as a new topic to be taken up into policy in Germany, could be taken up into the Climate Protection Program arose in 2004. At that point in time, the BMU Department of Climate and International Matters had responsibility for adaptation and for the compilation of the 2005 Climate Protection Program. Eventually, the section on adaptation was furnished by the Federal Environment Agency and was incorporated nearly word for word. With the exception of the BMBF, which tended to generally oppose any incorporation of adaptation into the Climate Protection Program, the section barely enjoyed attention in the other Departments. The lines of conflict were much more pronounced in the emissions reduction component of the programme. The adaptation section was to a large extent "rubber-stamped" (UBA II 2010, oral record).

Thus, the incorporation of adaptation into the 2005 Climate Protection Programme represented the first core step of agenda setting of adaptation policy in Germany. The Federal Government adopted the 2005 National Climate Protection Programme on 13 July (German Federal Government 2005). Under Section "3. Additional Need for Action [for Climate Protection]: Recommendations for the Individual Sectors," "3.1 Cross-Sectional Measures," "3.1.10 Adaptation to Climate Change," the following is stated, among other things: "The framework for activities under the climate protection policy of the Federal Government is set by the National Climate Protection Programme as well as by the bundle of measures contained therein and optimally harmonised. The need for action to supplement these activities by measures for adaptation is traced back to the Framework Convention on Climate Change (Article 4). This

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Convention obliges the contracting states to develop and implement programmes of measures for adaptation. For this purpose, a comprehensive national concept on adaptation is necessary. The Federal Government will introduce the appropriate necessary steps with consideration of responsibilities among the Länder." (German Federal Government 2005: 41)

### 4.3 Establishment of KomPass and 2006 developments

On 11 April 2005, the Federal Environment Agency, supported by the PIK, organised the first national stakeholder workshop entitled "Climate Impact and Adaptation in Germany" in Berlin with approximately 40 participants (Mahrenholz et al. 2006). The Federal Environment Agency had initiated the event as the first in a number of further events on adaptation in order to advance the topic according to its internal strategy. Following comparable workshops organised by UKCIP, a set of additional stakeholder workshops were conducted in subsequent years. At the event, results from the adaptation-relevant projects of the environmental research plan were presented, and initial contact with associations took place. Thus, the event launched the development of an actor network on climate impacts and adaptation by expanding the existing administrative network (UBA 2005, UBA II 2010, oral record).

In summer 2005, the following study on climate impacts and adaptation, which received special attention, was published: "Climate Change in Germany. Vulnerability and Adaptation Strategies of Climate-Sensitive Systems" (Zebisch et al. 2005). Even today, this study is still a core reference document in Germany in the discussion of adaptation (UBA I 2010, oral record).

Several developments in the environment in turn promoted the efforts at the Federal Environment Agency. As early as May, e.g. at the final meeting at DEKLIM<sup>3</sup> in Leipzig, a discussion was stimulated by research institutions regarding the necessity of a national adaptation strategy for Germany. Moreover, some Länder already had investigated adaptation at that point in time (BIOCONSULT 2010, oral record). In the meantime, other EU member states once again indirectly propelled developments in Germany. For example, in January 2005, Finland was the first country in Europe to publish an adaptation strategy. In 2006, France and Spain followed with their own national adaptation strategies (Swart et al. 2009).

In 2003, there was an initial internal concept on adaptation at the Federal Environment Agency; in particular, the latter refined these approaches in subsequent years. At that time, an important development also consisted in the discussion on the establishment of a Competence Centre on Climate Impacts and Adaptation (KomPass). The first rough concept for a national adaptation

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<sup>3</sup> DEKLIM – Deutsches Klimaforschungsprogramm (German Climate Research Programme), supported by the BMBF.

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strategy was submitted by the Federal Environment Agency to the Federal Ministry for the Environment in 2005. In 2006, the conceptions of the Federal Environment Agency for the establishment of KomPass ultimately materialised, based on the previous reports to the BMU. Following the rough concept of January 2005, the work on the refined concept had taken another year. The launch of KomPass, originally planned at the beginning of 2006, was delayed, particularly due to internal difficulties of the Federal Environment Agency (without additional resources from the BMU or BMBF) to organise necessary personnel resources and coordinate these with its budget department. At Climate and International Matters within the BMU, the topic was not granted high policy priority. It was clear that emissions reduction was judged as more urgent, and that adaptation was deferred as an "end of pipe" solution (UBA II 2010, oral record).

On 13 June 2006, the "Concept for a German Strategy on Climate Impact and Adaptation to Climate Changes" (refined concept) was reported to the BMU (Mahrenholz et al. 2006). This concept, which in the end did not propose any participation on the part of the BMBF (as no agreement could be achieved with the Ministry of Research) consisted of two parts. First of all, it comprised a proposal on how to create a national adaptation strategy for Germany, which contained ideas for the establishment of committees, across departments at the federal level and in respect of cooperation with the Länder. In 2007, these proposals were taken up to a large part. Secondly, this concept set out of what steps would be necessary at the Federal Environment Agency in order to support the creation of a national adaptation strategy. In actuality, the report contained the concept for the establishment of KomPass (UBA II 2010, oral record).

On 1 August 2006, the enactment founding KomPass and thus implementing the refined concept took place, with reference to the concept of the Federal Environment Agency of June. After, as it was conceived from the outside, attention had not been paid to adaptation on the political stage since the incorporation of adaptation into the Climate Protection Program one year prior, this was the second core step advancing the topic of adaptation. Moreover, the enactment can be understood as a positive signal regarding the development of a national adaptation strategy (UBA II 2010, oral record, see Zebisch et al. 2005). Since then, KomPass has understood itself as a "guide and contact point for adaptation activities in Germany". As an interface between climate impact research, society and politics, it locates vulnerable areas and regions, evaluates climate impacts and demonstrates the opportunities of adaption measures as well as their hurdles ([www.anpassung.net](http://www.anpassung.net)). KomPass advises the Federal Ministry for the Environment in the development of German adaptation strategy, makes available practice-oriented information,

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interlaces the relevant actors and serves as an administrative office for the implementation of adaptation strategy. Similar to the British UKCIP, the focus is on the exchange of practice-oriented information and the consultation of decision-makers (Meister et al. 2009).

On October 17, 2006, within the framework of the second national workshop entitled "Adaptation to Climate Change in Germany," the founding of KomPass was announced. The appearance of Sigmar Gabriel, the Minister of the Environment (BMU) at that time, and the setting up of KomPass as a project at the Federal Environment Agency, demonstrated that the BMU was dedicated to the topic, and signaled the start of a more comprehensive discussion of adaptation.

The first public discussion regarding the project of the Federal Government to stimulate a process for a national adaptation strategy took place at the October workshop. In order to reinforce the advancement of the policy, one relied on, amongst other things, the vulnerability study (Zebisch et al. 2005). Although, since 2005, adaptation had been anchored in the Climate Protection Programme as an express task for the Federal Government, this issue had not been incorporated into any policy until the establishment of KomPass. Among many of the conference participants, it had previously not been known that the Federal Government was attempting to implement a national adaptation strategy. In this regard, the conference stimulated a new discussion. Previously, in the public and in broad sections of the relevant technical disciplines, the topic had been subject to the view that adaptation would be pursued in, for example, coastal and flood protection, and would not require any additional attention or independent policy approach (UBA I 2010, oral record). As a consequence of the conference and in the course of a broader discussion of the topic starting from autumn 2006, the impacts of the topic of adaptation were more strongly perceived. Hence, the specialist community thereafter often consciously "caught the wave" of the new concepts (*ibid.*).

Parallel to such policy developments, the promotion of research continued to develop. As a follow-up to the German DEKLIM Climate Research Program, for the period of 2006 to 2009, the BMBF launched "Klimazwei – Research for Climate Protection and Protection from Climate Effects" (BMBF 2007, Meister et al. 2009). Within the framework of Klimazwei, the *Servicegruppe Anpassung* (Adaptation Service Group (SGA)) was instituted as a component of the "Models and Data" data service at the Max Planck Institute for Meteorology in Hamburg. The SGA supplied all relevant data to Klimazwei and the subsequent projects of the "Klimzug"<sup>4</sup> research

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<sup>4</sup> KLIMZUG. Climate change in regions is a BMBF research programme with a total of seven associated projects and a funding period of 2008-2014. [www.klimzug.de](http://www.klimzug.de).

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programme, and was mandated to make available for example climate observation data (Swart et al. 2009, Wunram et al. 2009). The BMBF's amplified taking up of the adaptation topic on the research side was accompanied by an increased employment of resources for adaptation on the part of the Federal Environment Agency. Indeed, the studies in existence up to 2006 did not allow for a uniform and detailed view of the entirety of regions and sectors in Germany, yet the mosaic of information formed a resilient basis for arguing in favour of adaptation. In certain offices, reference could therefore be made to a "sufficient risk," and activities could thus be justified. This was an important prerequisite for advancement in the policy discussion (BMU II 2010, oral record).

The research results were likewise the basis for the media to take up the topic. This required a certain lead time, since, in scientific treatment, adaptation lagged behind climate protection and avoidance (Swart et al. 2009). At the same time, the media discussion of climate impacts was accelerated by events that were highly visible in the media, such as the 2003 summer heatwave and the 13 July 2006 rock slide on the Eiger in the Bernese Oberland in Switzerland, which the scientific community attributed to climate change. With severe floods in Austria in 2005 and 2006, an additional neighbouring country was affected by extreme events that were attributed to climate change. Thus, since around 2005, the public has got an idea of how increasing extreme events can be connected to climate change. Therefore, the factual occurrence of such extreme events positively influenced the framework conditions for the agenda setting of adaptation policy (Climate Service Center 2010, oral record).

#### 4.4 The 2007 Düsseldorf Declaration

In spring 2007, the topic of adaptation was for the first time on the agenda of the German Conference of Environmental Ministers (*Umweltministerkonferenz*, "UMK") of the Länder. It took place in Düsseldorf on 27 March 2007 as a special UMK on the topic of "Climate Change and Consequences". And already in the Preamble of the Düsseldorf Declaration, the results document of the Conference, adaptation takes a prominent place. "Climate protection and strategies for adaptation to climate change have great ecological and economic importance. [...] In order to be able to limit climate change at all, crucial steps must be taken today toward emissions reduction [...]. At the same time, adaptation measures are necessary for climate change that has already begun" (UMK 2007: 1).

As a centerpiece for the further course of developments, following the anchoring in the 2005 Climate Protection Program and the 2006 decision to establish KomPass, point 5 of the Declaration must be highlighted as the third milestone on the path to adaptation strategy: "In

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order to protect human health and keep commercial damages to a minimum, it is urgently necessary to adapt today to climate changes that are already expected. Therefore, a sustainable climate protection policy requires strategic planning for adaptation to the impacts of climate change." At this point, the UMK stresses "the necessity for an appropriate national and coordinated regional strategy." In the last point of the Declaration, the UMK approaches the Federal Government with a request that the BMU would take up later; the UMK "requests that the Federal Government, within the framework of the German EU Council Presidency in 2007, introduce the 'Düsseldorf Declaration' into the discussion process at the European and international levels." (UMK 2007: 6)

The Düsseldorf Declaration marked the political will of the Länder to be more intensively engaged with adaptation, and thereby was a further step for the establishment of the topic. As with the Climate Protection Programme, the text passages on adaptation had been compiled by the Federal Environment Agency also again in the course of consultations (UBA II 2010, oral record). On 24 and 25 May at the 68<sup>th</sup> UMK in Bad Sassendorf, the Düsseldorf Declaration was again emphasized, with the request that the Federal Government submit, by the 2008 UMK spring conference, a plan that the Federal Government indeed complied with by means of the BMU. The Länder later referred back to the Düsseldorf Declaration, although, in terms of technical content, the special UMK did not offer new points. Nevertheless, it can be understood as a (further) policy agenda setting for adaptation. Since then, nearly every UMK has had on its agenda a decision on adaptation. (UBA II 2010, oral record)

#### 4.5 Developments at the federal level and changes in responsibility at the BMU

Having addressed the Düsseldorf Declaration, which was particularly decisive at the Länder level, we now turn again to the federal level, where crucial steps of the agenda setting for adaptation policy could be observed in 2007. At the national level, the BMU Water Department<sup>5</sup> had entered the scene in 2006, with its interest in the topic of adaptation and in a national adaptation strategy, whereby developments were accelerated.

The political impetus for more tangible steps in the Federal Government's creation of an adaptation strategy took place at the beginning of 2007; this was closely connected with the initiatives of the BMU Water Department during the German EU Council Presidency in the first

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<sup>5</sup> The correct description reads as follows: Water Management Sub-Department in the Department of Water Management, Waste Management and Soil Conservation – WA 1 I. For reasons of simplification, the abbreviated term "Water Department" is used in the following.

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half-year of 2007 ("Time to adapt!" conference on water and adaptation) (BMU II 2010, oral record). The conference aimed at calling attention to the issue of adaptation in the sense of integrating aspects of adaptation into the implementation of the water management and water law requirements. Thereby, adaptation was not to be understood as a new independent topic, but as a requirement to be integrated, e.g. in terms of water balances and ecological water systems, primarily in order to consider the impacts of climate change on a timely basis in planning (BMU II 2010, oral record). Thus, for example, a lecture was presented by representatives from the Netherlands, a country that had in the meantime already compiled its own adaptation strategy (BMU 2007, BMU/Ecologic/UBA/PIK 2007). The conference "substantially contributed to water topics being associated with climate adaptation." (UBA I 2010, oral record) Thereby, the topic as a whole was made more tangible.

Upon the inception of an informal, cross-department working group on adaptation, likewise at the beginning of 2007, there was an intensification of the discussion regarding adaptation at the federal level. The group, then called the Department Working Group, was the direct predecessor of the later Interministerial Working Group (*Interministerielle Arbeitsgruppe*, "IMA"), which was formally established after the adoption of the German Adaptation Strategy (UBA I 2010, oral record). Despite the already existing engagement in individual Ministries<sup>6</sup>, the inception of the Department Working Group presented a new quality of systematic engagement with the topic in politics.

Furthermore, the change in responsibilities within the BMU was pivotal. In spring 2007, the BMU internally pursued the question of, on the one hand, where in the Ministry there was sufficient interest in the content of the adaptation topic and, on the other hand, where prior knowledge already existed for taking up the topic more intensely. During that time, the BMU Water Department had shown clear interest in the topic with the Water Conference. It was thereby highlighted that, within the water sector at the European level, there was already an extensive engagement in terms of content and a "kind of process referring to climate and water." (BMU II 2010, oral record). At the same time, through the reallocation of tasks within the Water Department, personnel capacities were freed up to be concerned with the topic (BMU I 2010, oral record). As such, the responsibility for the topic of adaptation was shifted from the Department of Climate and International Matters to the Department of Water Management, Waste Management and Soil Conservation, in order to exploit its connection to the topic and

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<sup>6</sup> For example, in 2007, the Federal Ministry of Transport, Building and Urban Development introduced an initiative entitled "Shaping the Future in an Era of Climate Change – Shipping and Waterways in Germany." The Federal Ministry of Food, Agriculture and Consumer Protection is concerned with the possible impacts of climate change for breeding, crop farming, animal husbandry, agrarian economics and forestry. The Federal Ministry for Economic Cooperation and Development is developing a systematic "Climate Check."

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existing prior knowledge. The responsible working unit is the specialised department WA I 1. This organisational decision at the end of the German Council Presidency in June 2007 had the consequence of organisationally separating adaptation from climate protection (BMU II 2010, oral record). The topic of adaptation, however, to the extent that it referred to the international context and the Framework Convention on Climate Change, remained at the Department of Climate and International Matters.

## 4.6 Initiation of the work on the German Adaptation Strategy and the 2008 adoption

In 2007, the developments flowed into the start of the German Adaptation Strategy process. The impetus of the German Adaptation Strategy process in 2007, which took place immediately after the change in responsibility for climate adaptation topics in the Federal Ministry for the Environment, is interpreted here as the fourth core step in the agenda setting of adaptation policy in Germany. Apart from policy announcements at the KomPass Founding Conference, the topic was not advanced at the federal level for two years after the 2005 Climate Protection Programme. Serious policy activities could be recorded only starting from the moment when the Water Department at the Ministry of the Environment became concerned with the topic (UBA I 2010, oral record).

The work of the Water Department immediately concentrated on two items – on the one hand, at the federal level, the work of the department working group set up in September 2007 came more firmly to the foreground. The working group was to incorporate the exchange of information and the work on the German Adaptation Strategy at the working level, and in this manner support the process at the federal level. On the other hand, a network was to be created for the discussion of adaptation with the Länder. This could be built upon the preliminary work of the Federal Environment Agency, which had already developed a network of administrative agencies through the discussion on climate impacts (*Fachgespräch Klimafolgen*) along with collective projects with the Länder, e.g. on regionalisation processes (BMU II 2010, oral record).

The official beginning of the exchange with the federal states was a letter compiled by WA I 1, which was sent by the BMU's Secretary of State to the Environmental Ministries of the Länder and their Secretaries of State. The goal outlined in this letter was the development of a federal strategy for adaptation, under the inclusion of the Länder, by the end of 2008 (BMU II 2010, oral record, UBA II 2010, oral record). The Date had been suggested by the Federal Environment Agency on the basis of the notion that, in this way, the German Minister of the Environment

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would already have something presentable in hand at the Kyoto Conference of the Parties in Posen in early December 2008 (UBA II 2010, oral record).

Thus, in the first half-year of 2007, the BMU took up the passage of the 2005 Climate Protection Programme. As a result, through the establishment of the networks at a federal level and in exchange with the Länder, the discussion thread was taken up officially for the first time in summer and autumn 2007, and the discussion on a German Adaptation Strategy formally commenced (BMU II 2010, oral record). Thereby, the Federal Government then fulfilled its mandate specified in the Climate Protection Programme (UBA II 2010, oral record). In cooperation with the Länder and one and a half years later, the German Adaptation Strategy on climate change was finally adopted in December 2008 in the form of a Cabinet Report. It comprises a description of the targets and the framework of the German adaptation process, a compilation of climate changes expected for Germany, and their potential consequences for a range of sectors and areas of life, along with statements on the course of action and next steps (German Federal Government 2008).

## 4.7 Developments in German adaptation policy since 2008

In the first years, the development of adaptation policy proceeded almost entirely chronologically. With the publication of the German Adaptation Strategy in 2008, various strands of action started to run in parallel. This fact will be mirrored in the following by replacing the chronological succession as a focus by the diversity of activities.

### 4.7.1 Setting up of the IMA and coordination among the Ministries

The integration of the topic into the political-administrative system formally took place with the mandate, formulated in the German Adaptation Strategy, on the "Institution of an Interministerial Working Group (*Interministerielle Arbeitsgruppe*, IMA) on Adaptation to Climate Change" (German Federal Government 2008: 4), in which all Ministries are represented. Since then, the lead management of the IMA has been with the BMU in the Water (Sub-)Department. Regarding the topic of adaptation, the responsible working unit WA I 1 is supported by the preparatory work and the employees of KomPass. "The IMA is to compile the Adaptation Action Plan, to consolidate the initiatives of the federal departments and to support and accompany the shaping of the dialogue and participation process within the framework of the adaptation strategy [...] (German Federal Government 2008:66)."

A few weeks after the official adoption of the German Adaptation Strategy, in February 2009, the BMU State Secretary wrote a letter to the respective State Secretaries of the other Ministries

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with the announcement that an IMA would be appointed. This letter was followed by a letter from the responsible BMU department executive, who officially invited all colleagues at his level in the other departments to cooperate within the IMA. The IMA adaptation strategy is formally set up at the level of the department executive, but is at the same time underlaid by a working level, which is composed of consultants or unit managers (BMU I, 2010 oral record). The Action Plan was compiled by the working level.

The IMA as such assembled in May 2009 and, in its first session, established the working method. If there are milestones to decide (for example, a first version of the Action Plan for the German Adaptation Strategy), the level of the department executives meets; otherwise, the sessions take place at the level of consultants. Until the beginning of 2011, a total of nine IMA sessions took place at the working level; these concerned coordination among the departments, regarding among other things the compilation of current and planned measures for the Action Plan or discussions on the prioritisation of measures. The sessions were prepared by the IMA chairmanship (BMU/ WA I 1) as lead management. Such lead management has never been questioned by the other departments (BMU I, 2010 oral record). The BMU viewed its role as having concern with various areas of the topic, and accordingly showed an interest in advancing the topic. Given the rather varied vulnerability in the various environmental media and environmental fields, early on the Ministry had self-interest in networking as deep as possible and working on the topic collectively with other Ministries (*ibid.*). Moreover, other Ministries, such as the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) and the Federal Ministry of Transport (BMVBS), have shown interest in the topic and are active in their fields with their own sector research programmes (e.g. KLIWAS). In contrast to the BMU and the BMVBS, there are also other Ministries that have only in recent years begun to be concerned with the topic. For example, in April 2010, the Federal Ministry of Economics for the first time visibly took up the topic in an expert workshop.

The degree of participation of the various departments in the IMA sessions was and is high. Nearly all Ministries are represented. The participating persons as such are dominated by those who are either responsible internationally for the topic of climate protection or originate from the area of sustainability. Moreover, representatives of the Office of the Federal Chancellor from the Department of Sustainable Development and the Federal Press Office participated in the sessions. The latter provides support particularly through public relations work.

In autumn 2009, the BMU issued to the various Ministries the request that, in a first round, they collect what adaptation measures had already been launched in the department area, and what could be important for an action plan. The return on this was "rather restrained" (BMU I, 2010

oral record) and showed that, in many specialist areas of the departments, awareness of the topic of adaptation would still have to be improved. The collection of measures and their coordination were made even more difficult by the fact that no additional funds were available for financing them; rather, existing department budgets had to be used and/or rearranged (in the sense of "mainstreaming").

#### 4.7.2 Cooperation between the Federal Government and the Länder

Since June 2009, the official cooperation between the Federal Government and the Länder in the topic area of adaptation has been institutionalised through, among other things, the standing committee of "Adaptation to the Impacts of Climate Change" (StA AFK) within the Federal/Länder working group on Climate, Energy, Mobility – Sustainability (BLAG KLiNA). The formal follow-up of the two informal groups of the "Inter-Länder Working Group of 'Adaptation Strategies of the Länder'" and the "Federal/Länder Exchange on Adaptation to Climate Change" was adopted at the 72<sup>nd</sup> Conference Environmental Ministers (UMK 2009). The chairmanship is collectively composed of BMU through the department executive of WA I 1, along with the corresponding department executives of the Länder of Saxony and North Rhine-Westphalia. The task of the standing committee is to insert itself into the development of the Action Plan and to advocate across the Länder, among other things systematic climate impact monitoring. Such monitoring is to be based on indicators, describe changes (caused by climate change) that have already occurred and thus allow for conclusions on the future impacts of climate change.<sup>7</sup> As already briefly mentioned in Section 4.4, the topic of adaptation has also been established continuously on the agendas of the Conferences of Länder Environmental Ministers (for this purpose, see the minutes of each particular conference). Through this body, the Länder are therefore also able to clarify their concerns in the implementation of the German Adaptation Strategy and the design of the Action Plan. The demands of the Länder in the minutes thereby bring up the "classic" discussions between the Länder and the Federal Government, as they are also known in other areas of politics – reasonable participation of the Länder, division of competencies between the two levels, independent decisions regarding measures of adaption in their area of responsibility.<sup>8</sup>

As a whole, it can be stated that the exchange within the BLAG KLiNA and within the standing committee therein contributed to mutual suggestions, both at the Länder level and at the national level (Mohns 2010).

<sup>7</sup> There is additional information on the Standing Committee of Adaptation here: <http://www.blag-klina.de/themenfelder-anpassung-an-die-folgen-des-klimawandels.html>

<sup>8</sup> The minutes of the UMK are publicly available at: <http://www.umweltministerkonferenz.de/Dokumente-UMK-Dokumente.html>

#### 4.7.3 Integration of the specialist community

In addition to the integration of the topic into the tasks of the various Federal Ministries along with the cooperation between the Federal Government and the Länder, the inclusion of the (specialist) community was and is the third column of adaptation policy in Germany. In the period of May 2009 to June 2010, in cooperation with project partners, KomPass organised six "dialogues" with industries and/or sectors that are characterised by an increased vulnerability to the impacts of climate change. The individual topics were coastal protection, energy management, transport infrastructure, chemical industry, civil protection and insurance. The goal of the events was discussing options for action among the individual industries while collecting input for the Action Plan. In June 2010, the set of events was concluded by a higher-level dialogue on points of view and expectations on the Action Plan for implementation of the German Adaptation Strategy. The set of events will be continued with other focal points. A detailed documentation and evaluation appeared after the first series of events (Hoffmann et. al 2011). For the further intensification of networking among numerous research projects within the area of adaptation, the UBA conducted two so-called "status conferences" (November 2009, September 2010) and discussed, among other things, the channels of communicating research results into practical politics.<sup>9</sup>

An additional participatory element regarding non-governmental actors within the framework of the preparation of the Action Plan was an inquiry conducted by KomPass in spring 2010. Here, mostly companies, municipalities and associations were asked to provide their vulnerabilities and assessments on different focal points of the Action Plan. The results of this inquiry are also to find their way into the Action Plan. Then, in spring 2011, a preliminary version of the Action Plan was presented to the specialist community for consultation. The Adaptation Action Plan was transmitted to the Federal Cabinet in July 2011 and given consideration in a session in August. The Action Plan itself is to provide information regarding, among other things, the focus of the activities of the Federal Government and the Länder, the regulatory framework of the Federal Government, the cooperation between Federal Government and Länder along with the further course of action.

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<sup>9</sup> There is also good documentation of the lectures and results at the website of KomPass (<http://www.anpassung.net>).

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## 5. Policy integration in implementation

Having described the development of the topic in the preceding sections, the following chapter is dedicated to applying the analysis categories of policy integration specified in Section 2 to the process of the emergence and establishment of adaptation policy.

From the initial years until present, *vertical integration* has mostly been dominated by the activities of the Federal Ministry for the Environment combined with the subordinate Federal Environment Agency. The focused engagement with the adaptation topic within both institutions has again and again served as a driving force for horizontal integration, and has considerably propelled such integration into the forefront (for example, by means of various rough concepts or technical proposals). As shown in Section 4, developments in the European environment, including the activities in Great Britain, had a clear influence on adaptation policy in Germany at the national level. One interesting aspect is that vertical integration within the BMU and its agency somewhat stagnated, when the establishment of KomPass and the associated issue of financial and personnel resources were discussed. For the time being, there are, as a whole, no additional financial resources available for adaptation policy at the federal level.

Certainly, the Düsseldorf Declaration also exerted some influence of vertical integration on the horizontal (federal) level. Since its adoption in 2007, the topic of adaptation has been featured at nearly every conference of Environmental Ministers of the Länder, and has thus contributed to integration in the environmental sectors of the Länder – also by way of the exchange between Federal Government and Länder within the BLAG KliNA.

In addition to the BMU as the most active actor among the Federal Ministries, the BMVBS, for example, with its activities in the field of water and sectoral research, has likewise already taken up the topic for some years and integrated it within the sector. However, compared to the BMU, other Ministries as a whole still have to catch up. In contrast to the federal level, the municipal level played no part in the agenda setting of adaptation policy. Although, by now, the importance of the regional level is being increasingly recognised, and municipalities are taking on the topic, regional and local approaches are understood, however, as an effect rather than a driver of the national adaptation process (Mohns 2010).

The first initiatives of *policy integration at the horizontal level* can be accounted for retrospectively to the middle of the last decade. Thus, in the National Climate Protection Programme of the Federal Government from 2005, there is a sub-section on "Cross-sectional Measures" and adaptation activities. When, one year later, the concept on the creation of a

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national adaptation strategy was submitted to the BMU, the latter also proposed setting up cross-department committees, including for instance an informal cross-departmental working group on adaptation. This group commenced its work in 2007, and subsequently merged into the IMA. The official affirmation of the IMA in adaptation strategy represented a new quality in the systematic integration of the topic at the horizontal level. Moreover, in terms of content, adaptation strategy, with its 15 different identified action fields and cross-section topics, likewise strongly focused on the integration of the topic. Thus, compared to vertical integration efforts, the actual implementation of horizontal policy integration took place at a rather later point in time in the development of adaptation policy.

In addition to the examples mentioned of horizontal and vertical integration, various forms of the *exchange and the coordination of the first two categories of policy integration* can be discerned. The responsibilities for the policy topic of adaptation are, as shown, unevenly distributed. The legal framework is largely decided at the federal level, but the actual implementation of adaptation measures often occurs at the Länder level or the municipality level. By way of the "KliNA" Federal/Länder working group, the Federal Government, represented by the BMU, is in close exchange with the environmental ministers of the Länder. Beyond this, the different levels are interlocked with one another. Thus, in spring 2011, the Länder were comprehensively included into the consultation process for drafting the Adaptation Action Plan and were invited to provide their opinions thereon. The formal conclusion of the consultation process was marked by the joint hearing with the specialist community and representatives of the IMA on May 12, 2011 at the BMU in Bonn.

Moreover, the UBA was a driving force in the *integration of the specialist community* into the discourse on the topic of adaptation. The stakeholder dialogues initiated by the UBA, which took place for the first time in 2005, since then have been drawn upon as a core theme in all further developments in the field of adaptation policy. The dialogues serve the purpose of, on the one hand, a forum for discussing research results arising from adaptation projects and, on the other hand, a multiplier platform. Part of the events took place in cooperation with associations, such that, in addition to the specialist community involved in research, employees from companies, administrative agencies and other social groups could also be addressed. Thus, the stakeholder dialogues served a dual function. It was possible to, on the one hand, make the topic of adaptation known to a broad specialist community and, on the other hand, collect the expertise and scattered knowledge of various actors and sectors and contribute these to the process of formulating policy.

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Additional means of communication, such as online inquiries or the consultation process for drafting the Action Plan as well as numerous specialised publications on the part of the UBA, contributed to integrating the topic into the specialist community and the public. Just under 800 experts from science, economics, relief organisations, NGOs and further actors were invited to take part in the consultation process. One interesting aspect is that, from the field of science, one-fourth took the opportunity to participate, but only one-twelfth of those from economics took such opportunity (KomPass 2011). As shown above, the engagement with the topic is obviously still more widespread in science than in economics. Moreover, the goals of the so-called "Clearing House Mechanism," the provision of which is planned at the EU level for spring 2012, are further advancing the exchange between science, economics and politics and closing gaps in knowledge within the different sectors. In the form of an Internet platform operated by the European Environment Agency, the Clearing House Mechanism is intended to collect information, measures and data concerning the topic and make these available for the public (Jürgens 2011, EC 2009). The Internet site of KomPass, on which the Federal Environment Agency offers climate guides, the "Tatenbank" database and additional applications, functions as a similar platform for Germany.<sup>10</sup>

## 6. Summary & Conclusions

Considered as a whole, all categories of analysis of policy integration, as described in Section 2, can be found in the development of adaptation policy in Germany. They are, however, differently pronounced. It has become clear that the engagement within the environmental sector (BMU and UBA) from the beginning has led to the continuous development of the topic of adaptation policy. This had a strong influence on the subsequent horizontal integration and integration of the specialist community. The integration at the level of the Conference of Environmental Ministers also had influencing, although less obvious, effects at the federal level.

As demonstrated, resources are extremely limited, explicitly for adaptation. There is the challenge of mobilising the necessary personnel capacities, networks and attention for a future topic that has so far been underwhelming and is again and again at the risk of losing priority. This explains the strong dominance of vertical integration, with the environmental departments attempting to establish the topic firmly on a long-term basis. This is possible primarily through a shift from the rejection of adaptation as a strategic option in climate discourse to a necessary option in a mix of strategies. This interpretation is supported by the lack of synchronisation of

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<sup>10</sup> Der Klimalotse (The Climate Guide) – Manual for Adaptation to Climate Change ([www.klimalotse.anpassung.net](http://www.klimalotse.anpassung.net)); Tatenbank – Database for Measures for Adaptation to Climate Change ([www.tatenbank.anpassung.net](http://www.tatenbank.anpassung.net))

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the departments and administrative levels regarding their status of information. In place of a bottom-up process, which is expected in the theoretical literature on adaptation – in contrast to climate protection (Füssel and Klein 2006), the handling of climate impacts is currently follows a top-down model (as an example for the transportation sector, see also Eisenack et al. 2011).

The study shows that the agenda setting of adaptation policy in Germany follows an approach of policy integration. Important impulses emanated from the environmental departments for reaching both other departments and the broad specialist community (e.g. from associations, companies and municipalities). As to the emergence of adaptation policy, the study results therefore point to a raising of issues within policy (inside initiation), where problems and solutions are initiated and promoted primarily through the political/administrative system itself (mobilisation) (see Jann and Wegrich 2009).

The presently dominant integrated approach of German adaptation policy thereby combines, to the greatest extent possible, both policy actions and the "cross-cutting nature" mostly specified in relevant documents. The German Adaptation Strategy designates needs for action in a total of 13 action fields, plus the "Cross-sectional topics: land use, regional and urban planning along with civil protection" (German Federal Cabinet 2008). An "integral approach" is applied to "[...] contribute to the fact that adaptation becomes an integral component in planning and decision-making processes in all relevant action fields" (*ibid.*, p. 7). This multi-layered view of policy integration is continued in the consultation draft for the Adaptation Action Plan of the German Adaptation Strategy for Climate Change (BMU 2011). What is aimed for is, on the one hand, a vertical/horizontal/specialised community integration ("The Federal Government promotes new networks and sustains or expands existing networks for adaptation to climate change at the federal level, and also at other levels, with the goal of promoting integration and cooperation," *ibid.* p. 26) and, on the other hand, an integration into policy instruments (e.g. "The Federal Government will examine whether existing instruments of the [statutory] framework can be improved in such a manner that adaptation capacity and individual arrangements are strengthened," *ibid.* p. 28).

Not least, an integrated approach for adaptation policy also seems to be sensible and necessary for avoiding conflicts in measures regarding uses and goals. This is emphasized by the adaptation strategy of the Federal Government and further spelled out by the Action Plan. Moreover, in the EU White Paper on adaptation to climate change, references to the fields of action take up a great deal of space. As such, coordinating the individual measures of various actors is necessary for producing a certain consistency in the overall actions. The German Adaptation Strategy explicitly emphasises that the two policy topics of sustainability and

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adaptation are to be brought together, which seems sensible in view of the long-term perspective of both topics. This is another reason for the necessity of integrated actions.

For the future development of adaptation and an ongoing integration of the topic into tangible policies, it can be expected that various interests will become more visible – particularly if there is a broader discussion of the financing instruments of adaptation policy. At this point, however, this analysis is reaching its limits. As adaptation policy so far has been localised in an early phase of policy formation, discussions have centered on framing, problem construction and the question of how to raise awareness for the new topic. In further research projects, it would be interesting and worthwhile to examine how adaptation policy, in view of increasingly conflicting positions, has developed since the compilation of the German Adaptation Strategy, how it will develop in the future and how it will be put in more concrete terms. In this context, the present article makes a contribution through revealing the relevant constellations of actors and identifying the former drivers of the policy topic.

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