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POLICYMAKING FOR ECOLOGICAL SUSTAINABILITY IN FEDERAL STATES: THE EXAMPLES OF THE GERMAN *BUNDESLÄNDER* AND THE U.S. STATES

Kirsten Jörgensen

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Dr. Kirsten Jörgensen, Forschungsstelle für Umweltpolitik, Freie Universität Berlin, Ihnestrasse 22, 14195 Berlin, Germany; Phone: 49-30-838-550-97; Fax: 49-30-838-566-85; E-mail: kirstenj@zedat.fu-berlin.de

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TABLE OF CONTENTS

POLICYMAKING FOR ECOLOGICAL SUSTAINABILITY IN FEDERAL STATES: THE EXAMPLES OF THE GERMAN *BUNDESLÄNDER* AND THE U.S. STATES

Kirsten Jörgensen

1 INTRODUCTION

In the future, environmental policy will be challenged by persistent environmental problems such as climate change, biodiversity loss, ground water pollution, degradation of soil and over-consumption of space (SRU 2002). Persistent environmental problems have been picked up as a central theme of the end of the 1990s by the Organization for Economic Cooperation and Development (OECD), the Netherlands Environmental Policy Plan and the European Environmental Agency. In a "traffic lights" system the OECD identified persistent problems as "red light" major problem areas that need to be addressed urgently (OECD 2001). Typically, they concern long term and partly irreversible deteriorations of the environment, problems which current environmental policy could neither detain nor solve (Jänicke/Volkery 2001).

To tackle persistent problems a new strategy for the environment is required (OECD 2001). It should provide for environmental policy integration and long-term orientation as well. On the one hand, environmental policy integration is required in public policy jurisdiction such as the ministries and departments responsible for transportation, economy, agriculture, energy policy and urban planning. On the other hand, the sectors contributing to persistent problems by pollution, such as power supply, agriculture, transportation and land use, have to integrate environmental goals and contribute to problem solving. The concept of sustainable development set out in the Agenda 21 suggests new problem solving approaches and ideas, all ruled by long-term orientation. Ecological sustainability can be regarded as a new strategic approach to environmental policy (Jänicke 2000). It combines target-orientation environmental policy integration and cooperative approaches to problem solutions and can be supplemented with management approaches. Its historical roots and strategic approaches will be described in Chapter 3.

The topic of the study is the sustainable development process in the federal systems of Germany and the United States. The survey adopts the perspective of ecological sustainability and asks how ecological sustainability is being pursued on the sub-national level in the German *Bundesländer* and the U.S. states. Surprisingly, until now very little attention has been paid to public policymaking on the sub-national (state) level in federal systems as far as ecological sustainability is concerned. The focus of both political debate and scientific research mainly concentrates on national and local governance. There seems to be a lot of evidence in the field of environmental policy, however, that the sub-national (state) level matters more than is usually assumed. This study will help close this gap in environmental research.

As will be outlined in Chapter 2, the sub-national (state) level is relevant in many respects: The United States and Germany hold the common view that the successful implementation and achievement of environmental policy objectives greatly depend on the individual states and, respectively, the *Bundesländer*. More so, the sub-national level in both systems may even take the lead in creating more effective environmental policy measures. Third, the states and the *Bundesländer* might be an appropriate policy level for cooperation with target groups in business and society. Governance for ecological sustainability requires the participation of private actors and civil society in the context of public policymaking and, consequently, the creation of networks and consensual forms of policymaking in cooperation with target groups in the private sector. Due to the closer relations of the sub-national (state) level to target groups in relevant sectors such as industry, agriculture, urban and regional

planning, it is realistic to expect that the sub-national level is the appropriate level for this new type of policymaking.

Chapter 4 researches long-term oriented public policymaking and environmental policy integration in the German *Bundesländer* and the U.S. states. The study is mainly based on interviews with representatives of environmental ministries and departments. Other interview partners come from organizations responsible for the dissemination of information communication of policy, policy evaluation and for transfer to the sub-national level. My research focuses on capacity building for ecological sustainability such as green planning, sectoral environmental strategies and structures for inter-ministerial cooperation. Furthermore, policy innovations targeted at polluting sectors that contribute to persistent problems will be considered—especially energy policy and climate protection, land use management and transportation.

Pursuing the perspective of active implementation of ecological sustainability, my research tries to identify policy measures for problem-solutions in ecologically relevant areas, provided that they induce progress and could even serve as models. Thus, in this study, state policy innovations and best-practice are regarded as more interesting than policy failures, which could certainly be found in the respective areas.

The interrelations between the European supra-national, the federal and the sub-national levels in terms of governance for ecological sustainability will also be taken into consideration. The question is in how far and in which areas policies on upper levels matter for sustainability processes on the sub-national level. Other driving forces for innovative policy approaches in the states and the *Bundesländer* also will be explored (4.3).

2 ENVIRONMENTAL POLICYMAKING AND ECOLOGICAL SUSTAINABILITY IN FEDERAL SYSTEMS

The capability of German environmental federalism is judged as ambivalent (Müller-Brandeck-Boquet 1996). On the one hand, legislative responsibilities have been shifted to the federal level in the beginning of the 1970s, weakening the scope for regulatory environmental policies in the *Länder* in areas subject to concurrent legislation such as soil protection, waste management, energy, clean air and noise. The joint-decision-trap (Scharpf 1994), which tends to obstruct the problem solving capability in the federal system of Germany was also verified in environmental federalism, for example, in the area of waste management policy (Barbian 1990). On the other hand there is some evidence for a certain problem solving capability of the *Länder*: In ecologically relevant policy sectors such as spatial planning, forestry and water protection, the German *Länder* have broader legal competencies. These policy sectors can be approached with ecologically integrative measures. Practical examples suggest a scope for action in policy formulation and implementation. The *Länder* proved to be pace makers in areas such as hazardous waste risk management (Jörgensen 1996).

Also, in the first half of the 1990s the *Länder* took initiatives in the process of federal policy formulation. They campaigned for environmental improvements of federal policy drafts concerning environmental liability, waste management policy and climate protection (Müller-Brandeck-Boquet 1996: 130 ff.). These policy initiatives aimed at both policy-transfer of Länder policy innovations to the federal level and at new initiatives. Regarding the implementation of federal law some *Länder* developed effective and efficient administration programs that provided for precautionary enforcement of environmental regulations. Hesse developed a target oriented management approach for the Emission Protection Act that diffused horizontally to other *Länder* in the beginning of the 1990s (Klockow/Darimont 1991). Further examples such as energy policy and hazardous waste management policy suggest independent problem-solving capacities of the *Länder*.

The many differences between the federal systems of Germany and the United States may arouse doubts as to how fruitful a comparative research of public policymaking can be. Differences concern institutional structures of federative political decision-making, policy implementation and types of policies as well. There are, however, good arguments for a transatlantic comparison: The comparative federalism research gives evidence that institutional structures of federative states, responsibilities and inter-governmental relations differ with regard to specific policy fields (Benz 2001: 39). Accordingly, comparative research of policy fields in federal systems may spawn knowledge about problem solutions, political approaches and institutional arrangements on different levels of policymaking.

As to the diversity of institutional structures and intergovernmental relations in federal states, the capability of problem solving should vary with the policy field. The capability of problem solving should probably also vary with the policy level. There may be types of problems that might be solved more easily within specific arrangements on the federal level or in multi-level policymaking. In other cases the individual state governments may provide for more appropriate problem solutions, institutional arrangements and approaches for governance. Especially with regard to vertical and horizontal integration, available problem solutions and problem solving capacities, the sub-national (state) level may often provide better conditions.

The federal systems of Germany and the United States both view the sub-national level as important for environmental performance. Since the German *Länder* have primary independent administrative responsibility, the successful implementation and achievement of environmental policy objectives depend highly on the German *Länder*. In contrast, the delegation principle specific to the U.S. leaves the control of environmental implementation

to the Environmental Protection Agency (EPA). The EPA then delegates the tasks to the states. Thus, success depends on the effective and efficient joint-implementation of the federal and state levels. Projects such as the National Environmental Performance Partnership System (NEPPS) and the state-federal environmental relations indicate a change in the role of the states. Until the 1980s, the U.S. states were not regarded as important environmental policymakers who would respond independently to environmental problems (Rabe 2000). When environmental policy was created, the federal level clearly led the way. The fast process of federal environmental regulation in the 1970s led, for the time being, to a dominant role of the federal level. But the relevance of the individual states increased. Public and private environmental policy capacities of the states kept growing. In the beginning of the 1990s, it was estimated that the major part of all environmental legislation enacted by the states had little or nothing to do with federal policy (Rabe 2000: 33). The number of delegated programs grew from 40 percent in 1993 to 70 percent in 1998 (Brown et al 2001)[1]. State financial spending for environmental protection increased steadily. In 1986 the rate of federal spending for environmental protection amounted to 40 percent of the funds committed. In 1998 it had decreased to 19 percent. Recently the Environmental Council of the states assessed that in fiscal year 2000, the states spent $13.6 billion on environmental and natural resource conservation, which was nearly double that of the federal EPA budget. Over the last decade, the states' spending grew faster than federal spending (Brown 2001).

In Germany as well as the United States, the sub-national level has taken the lead in the creation of environmental policy measures. As the U.S. example shows, the states may improve and redefine federal strategies, as in the case of pollution prevention, and they may provide for integrated pollution control in issuing permits (Rabe 2000). With respect to ecological sustainability, examples such as Oregon's land use planning program show that the sub-national level is capable of taking action. Beyond regulatory approaches, the German *Länder* as well as the U.S. states have at their disposal a broad spectrum of measures to promote ecological sustainability as far as planning, management, cooperation with non-governmental actors, coordination, information, and regional approaches to policy integration are concerned.

During the last decade, policy evaluation of governance for sustainable development focused on implementation efforts on the national and the local levels. Scientific research and studies by international organizations (Lafferty/Meadowcroft 2000, Lafferty 2001, Laffery/Eckerberg 1998, Coenen 2000) paid less attention to policies performed on the sub-national (state) level or to the vertical integration in federal systems. The examples of Canada, Switzerland and Austria suggest that intergovernmental coordination poses difficulties with regard to the coordination of national strategic planning and the sub-national (state) level. A systematic involvement of the sub-national level in national strategic planning processes did not take place (Jänicke/Carius/Jörgens 1997: 57). Similarly, the German *Bundesländer* were not involved, to their satisfaction, in the formulation of the national sustainability strategy (Jörgensen 2002) released in April 2002. Comparing nine industrial countries and the European Union, Lafferty and Meadowcroft learned that federal systems had difficulties in integrating regional and national priorities. It seems to be difficult to develop a common orientation for the national sustainability process. The implementation of international agreements regarding climate protection, energy and natural resources created problems.

Governance for sustainability, both in the United States and in Germany, was more successful on the sub-national than on the federal level. In the U.S. the states and the regions were clearly more successful than was the federal level (Lafferty/ Meadowcroft 2000, RRI 2001). In Germany the implementation of sustainable development on the federal level in the

[1] Information from Steve Brown, deputy executive director and chief operating officer of ECOS in Washington, D.C., March 2002.

1990s was lagging behind in comparison with other OECD countries. On the federal level, the sustainability process started no sooner than in 1996 and remained quite slow, pushed mainly by the commitments made at the Rio Conference in 1992. Missing in Germany was a systematic approach to ecological sustainability as seen in countries such as Australia, Canada, Japan, the Netherlands, Norway, Sweden and the United Kingdom (Lafferty and Meadowcroft 2000: 356 ff.), who were developing national sustainable development strategies or comprehensive national environmental policy plans. A similar approach was missing in Germany until April 2002 (*Bundesregierung* 2002). In contrast certain areas of German policy, e.g. climate and energy policy, transportation and agriculture, show approaches to environmental policy integration, such as the "Climate Protection Programme" (1992 ff.) and the "Sustainable Development Strategy for Agriculture, Forestry and Fisheries" (2000). Climate protection, rooted in the German approach to environmental policy, is especially path-dependant (Jänicke et al 2001).

As to initiatives relating to the Local Agenda 21 (LA 21), Germany has also been described as a latecomer (Eckerberg, Coenen and Lafferty 1999). Early LA 21 processes originated bottom-up, by and large from non-governmental actors such as environmental and development organizations, church and youth groups and, to a lesser degree, from local politics. One reason for the late start of sustainability processes on the local level in Germany can be found in a lack of support from the central and, accordingly, from the sub-national government. As comparative analyses show, central government involvement is a key variable in explaining the diffusion of local initiatives (Lafferty and Coenen 2000). The situation changed as a result of increased financial and organizational support, provided by the *Länder* and the federal level since 1996. The diffusion of LA21 processes sped up considerably. In December 1999, 1,315 German municipalities, nearly 10 percent, officially worked for the ratification of LA 21 programs (CAF/Agendatransfer 1999). Despite the late start as well as the slowness of Local Agenda 21, innovative projects and forerunner municipalities can be found not only on the federal but also on the local level (ICLEI 1997).

Taking a closer look at governance for ecological sustainability, it becomes quite clear that a mere devolution of regulatory responsibilities and policy resources to the sub-national (state) level as discussed in the 1990s in the U.S.'s "decentralization mantra" (Rabe 2000: 32) will not provide a satisfactory solution. Since environmental problems tend to have cross-border characteristics, since above that a regional or global scale and problem solutions may strongly interfere with other policy areas and may even constitute a threat to competitiveness, the need for central coordination and support besides a sub-national policy is obvious. It is arguable, therefore, that there is less of a need for either devolution or centralization strategies but an urgent necessity for developing a more "appropriately balanced set of responsibilities across governmental levels"—in other words, "a more functional environmental federalism" (Rabe 2000). Following the line of this conceptual deficit, the reality of environmental governance in the federal system has already been changing, and new forms of institutional agreements can be observed. As Kern (2000b) shows, creating a third type of multi-level regulation is gaining importance in U.S. environmental policy. Multi-level regulation combines positive outcomes of hierarchical coordination with the innovative regulatory competition of the states. Due to the elements of hierarchical coordination a race to the bottom can be prevented. As she argues, variants of this third type of vertical coordination may support regulatory competition not only between the states but also between the federal and state levels.

3 GOVERNANCE FOR ECOLOGICAL SUSTAINABILITY: A NEW STRATEGIC POLICY APPROACH

The Rio process and Agenda 21 transferred central aspects of successful environmental policymaking to the political agenda: they concern the necessity of the integration of environmental issues into the relevant sectoral policies. Another important condition for success is a long-term oriented public policymaking based on strategic planning. Furthermore, the Agenda 21 pointed out the relevance of public and private cooperation in environmental policymaking. Chapter 8.7 asks states to adopt a national strategy for sustainable development providing for policy integration, long-term orientation and public and private cooperation.

3.1 Historical roots of ecological sustainability: environmental policy in practice

Most of these environmental paradigms are rooted in the early stage of environmental policy in the 1970s. The Declaration of the United Nations Conference on the Human Environment (1972) emphasized systematic planning and management approaches (United Nations General Assembly 1972: 19 ff.). The first Environmental Action Program (1973) of the European Community focused on environmental policy integration and requested that the member states consider environmental issues in planning and decision making processes. This impetus from the international level corresponded with national environmental policymaking. In the beginning of the Dutch environmental policy development in the early 1970s, the idea of a long-term oriented, strategic environmental policy was discussed (Bennett 1997). Strategic environmental planning was not realized before 1989 when the first Dutch Environmental Policy Plan (NEPP) was released. The first German environmental programs from 1971 and 1976 emphasized the necessity of cross-cutting and preventive policy approaches. In practice, environmental policy developed differently.

In Germany systematic approaches in the first phase of environmental policy decreased in the middle of the 1970s. As a result of the oil crisis in 1973/74 and successful resistance from the trade associations and trade unions, a phase of stagnation began (Müller 1989, Malunat 1994). After that, environmental policy was more or less confined to reacting to acute problems. Media-oriented environmental policy and law was aimed at air and water pollution. Especially in the 1980s, end-of-pipe approaches provided for progress in these areas (BMU 1998). End-of-pipe technologies resulted in huge amounts of toxic waste. Environmental policy partly shifted problems from the air and the water to the soil instead of solving them up-stream. A preventive environmental approach was lacking (Simonis 1988). In addition, the command-and-control pattern of the German environmental policy was being scrutinized. Since it was described as inefficient and ineffective (Mayntz u.a. 1978, Müller 1986, Coenen u.a. 1995). Furthermore, serious problems such as soil pollution (Zieschank 1988) and hazardous waste (Jörgensen 1996) remained unsolved. Soil and groundwater pollution, land consumption and climate change are to be understood as persistent environmental problems (OECD 2001) that accompany long-term and partly irreversible deteriorations of environmental qualities that environmental policy was unable to stop.

Problem-solving in these areas requires integrative cross-environmental-media approaches, strategic planning and environmental policy integration. The latter, especially, raises difficulties in the context of European policy and in the member states as well (Lenschow (ed.) 2002). Based on comparative environmental policy analysis, Hey distinguishes two institutional characteristics essential for environmental policy integration: Regulatory capacity of public authorities as well as resources and a balance of power between environmental and sector stakeholders and authorities in the respective sectoral policy

decision-making (Hey 2002: 128) According to Pehle, the fragmented federal political and administrative structure of environmental policymaking in Germany does not support cooperation of policy sectors in terms of environmental policy integration (Pehle 1998).

3.2 Environmental policy integration and long-term orientation: Strategic approaches on the international, European and national levels

During the 1990s, European environmental policy gave fresh impetus to integrative environmental policy approaches and the integration of environmental issues into community policies. The Environmental Impact Assessment (1985) called for the integration of environmental issues into construction projects and industrial units. The Integrated Pollution Prevention and Control Directive (1996) was made to prevent problems shifting among environmental media. A new voluntary approach to environmental management in the business sector was introduced through the European Environmental Management and Auditing System (EMAS) (1993). EMAS wants to strengthen private responsibility for compliance and environmental improvements in business locations of industrial and service sectors. It was broadly accepted both in scientific debates and in the practical implementation. Moreover, the EMAS voluntary approach of environmental auditing encouraged voluntary agreements between the public and private sectors in Germany.

Altogether, these new European policy instruments may help to overcome some weak points of the traditional medium oriented, disintegrated command-and-control approach of the early years of environmental policy development. But they do not assume environmental policy integration into the environmentally relevant traditional sectors of public policy, neither do they provide for systematic approaches to the integration of environmental issues into polluting sectors, such as energy supply and consumption, transportation, agriculture and the construction industry. With respect to environmental policy integration, European policy developed institutional structures and processes. In 1986, environmental policy integration was first introduced in Article 130r of the Single European Act. Since the desired effects were not realized, the former integration requirement was substituted by the integration principle in Article 6 of the Treaty of Amsterdam, signed in 1997. The new integration principle can be regarded as an institutional innovation. It goes beyond “the normative structure of existing international law” and requires the “integration of environmental interests that in themselves are not contained in legal principles and norms” (Nollkaemper 2002: 28). Its application as an autonomous normative principle will depend on evaluation criteria that will have to be developed (Nollkaemper 2002: 31)

In 1993 European environmental policy introduced sustainability in its Fifth Environmental Action Program. Contrary to the traditional regulatory top-down methods, environmental policy should approach sustainability mainly with self-regulatory and market oriented instruments. Five sectors – industry, energy, transportation, agriculture and tourism – with relevant environmental impacts were chosen for that purpose. They were addressed by a target-oriented approach that should allow for the integration of environmental interests into plans and activities in key sectors of business (Donkers 2000: 56). Similar issues were dealt with at the same time in the preparatory process for the United Nations Conference for Environment and Development in Rio de Janeiro in 1992.

With regard to the lack of progress in environmental policy integration, which was stated in 1998, the European Commission initiated (Europäische Kommission 1998) a new approach to the Amsterdam Treaty integration principle. According to the proposal of the Commission the European Council of heads of states and governments decided (Europäischer Rat 1998) to set up the Cardiff process. Through sectoral environmental integration strategies formulated by the sectoral Councils, there are plans to systematically integrate environmental protection into the relevant public policies. The European Council called upon the Councils for energy,

transport and agriculture to report regularly on environmental policy integration and sustainable development. Between 1998 and 1999 the European Council called on more sectors, such as the internal market, the industry, financing and fishery to submit integration strategies. The Cardiff process was not really successful (SRU 2002). The sectoral program formulation was delayed, and the sectoral strategies and reports did not correspond with criteria for the environmental policy integration. As opposed to the official timetable, the implementation phase could not be initiated in Göteborg in 2001. The evaluation was postponed to the Council meetings in 2002.

Altogether, European environmental policy identified and tackled weak points of traditional environmental policymaking. Environmental Impact Assessment (EIA) and Integrated Pollution Control (IPP) are meant to overcome the earlier separated medium approaches of environmental policy. EMAS activates environmental management on the company level. In doing so, it integrates polluters into environmental policymaking. The Fifth Environmental Action Program goes on to a target-oriented environmental management, whereas the Cardiff process provides for a new institutional approach to sectoral environmental policy integration. All these policy approaches offer relevant policy options for the sub-national level of policymaking. On the one hand, the distribution of legislative functions in Germany and the specifics of German environmental law made the transposition of integrative European environmental directives and ordinances into German law very difficult and long-winded (see Sturm, Pehle 2001). Particularly the *Länder* governments detained the transposition of EIA. On the other hand, EMAS turned out to be a success story in Germany. EMAS enforces cooperation between state and business, aiming at steady environmental improvements. Thus integrative European policy instruments can modernize environmental policy implementation and contribute to integrative environmental policymaking. The Fifth action program gave impetus for strategic sustainability planning. The Cardiff process – still lacking success – may at least be regarded as an innovative approach, although it is in need of better frame conditions.

A model for a world-wide long-term oriented strategic policy approach was developed in the Netherlands. The Dutch National Environmental Policy Plan (NEPP) from 1989 was based on a scientific problem analysis and contained precise goals. NEPP provided an exact time schedule for the environmental implementation. Moreover, its institutional structure addressed public and private actors, from whom it expected contributions to environmental problem solving: “Especially striking is the emphasis on creating and managing a broad, long-term process in which a range of government departments, other authorities, industry and societal groups are allocated a functional role in devising specific actions and ensuring their implementation” (Bennett 1997: 82).

Like the NEPP, the UNCED in Rio de Janeiro reached decisions and recommendations for the sustainability process. Agenda 21 calls on the signatory states to establish sustainability strategies that are to be conducted until 2002. In doing so the Rio process is diffusing the strategic planning approach of a long-term oriented environmental policy. Its central new characteristic is the orientation towards middle and long-term oriented targets based on a problem analysis, while in the past environmental policy often overemphasized the choice of environmental policy instruments and focused merely technical problem solutions. In times of stagnation, it reacted for acute problems while neglecting latent ones. Performance deficits have been a problem in German and European environmental policy as well. The new approach of strategic environmental planning hits the weak points of the regulatory environmental policy, e.g., its fixation to technical problem solutions (Jänicke 2000). It does not aim at the substitution of regulatory approaches. Rather, it provides a framework for management by objectives and performance-oriented environmental policy. Environmental planning addresses – ideally – problem fields, polluting sectors, and target groups for the implementation. From a government decision, and combined with a consensual target

formulation with respective target groups, environmental plans receive a binding character. A decisive condition for their enforcement is, beyond that, monitoring and reporting.

World-wide, many states stimulated by the Rio process and the concept of sustainable development have started strategic planning processes for comprehensive problem solutions, long-term orientation and the consideration of global environmental problems (Jänicke/Jörgens 1998: 28, 36; Lafferty/Meadowcroft 2000: 356). Existing plans differ as to policy sectors, legal status, the public and private actors involved and the intra- or inter-governmental decision-making. Other differences concern the goals (scheduling, quantification), the sectors of interest, and monitoring mechanisms. A constant in these planning processes to be discovered in international comparison is the formulation of quantified, time scheduled, measurable targets and performance indicators (Lafferty/Meadowcroft 2000). This is a methodological approach requested from both environmental policy and business perspectives as well. International policy transfer institutions such as UNCSD and OECD are developing systematic methods and instruments.

4 POLICYMAKING FOR ECOLOGICAL SUSTAINABILITY ON THE SUB-NATIONAL STATE LEVEL

In the following section, public policymaking for sustainable development on the sub-national government in the German *Bundesländer* and the U.S. states shall be scrutinized. All German *Bundesländer* are considered. Regarding the United States, the description is based on a first exploration of a few selected state policies.

First of all, institutional structures established for the governance of public policy for sustainable development will be examined. Second, policies set up for the integration of environmental interests into public policies will be explored, particularly in the fields of energy industry, transportation and land use relating to persistent environmental problems such as climate change, soil and ground water pollution and the continuous loss of bio diversity. Public policies in these areas tend to induce environmental problems

I will ask, how the political administrative system has been organized regarding long-term and inter-departmental policy issues. In answering this question, I will describe institutional structures and policy outputs of administrative responsibilities for ecological sustainability and inter-departmental cooperation. The focus is especially on formally binding government decisions that provide for long-term oriented and integrative measures. Such government decisions apply to different types of green planning, such as Agenda 21 programs and environmental planning, sectoral environmental strategies comparable with the European Cardiff process and the monitoring of the sustainability process.

I will then explore whether the sub-national level brought about a comprehensive green planning. I am especially interested in the Agenda 21 programs and environmental plans. Do they contain quantified targets? Is monitoring required?

Finally, it will be interesting to take a close look at specific examples of policy innovation: which ones aim at the management of persistent environmental problems? Which ones can be labeled as successful? Three policy areas will be considered: energy policy and climate protection, land use management, transportation and agriculture.

4.1 The German *Bundesländer*

All *Länder* governments have fixed political-administrative responsibilities for the sustainability process within their environmental ministries. Bavaria, North-Rhine-Westphalia, and Mecklenburg-Western-Pomerania reorganized environmental ministries and also established departments for sustainable development or integrated environmental protection.

(Table 1: Sustainable Development- Responsibilities and Positive Coordination in the Bundesländer in 2001)

	Responsibilities of the Ministry in charge	**Responsible Department**	**Interagency coordination: Policy output**
Baden-Württemberg	Environment, Transportation	General Principles of Environmental Policy	Interagency: Environmental Plan
Bavaria	Environment, Regional Planning	a) Agenda 21 b) Sustainable Economics	Interagency: Agenda 21, Environmental Pact Bavaria
Berlin	Environment, Transportation, Urban Planning, Construction	Agenda 21 Office	Inter-agency: Sustainability Report
Brandenburg	Environment, Agriculture, Regional Planning		
Bremen	Environment, Construction	Integrative Environmental Protection	Interagency Working Group: Local Agenda 21
Hamburg	Environment	General Principles of Environmental Policy	Interagency Working Group
Hesse	Environment, Agriculture, Forestry	a) Sustainable Development b) Local Agenda 21	
Mecklenburg-Western-Pomerania	Environment	Integrated Environmental Protection and Sustainable Development	Several interagency working groups: monitoring, reformulation of the Climate Action Plan
Lower Saxony	Environment	General Principles of Environmental Policy, Agenda 21 Coordination	Interagency Working Group: Agenda 21
North Rhine-Westphalia	Environment, 7Agriculture, Nature Protection, Consumer Protection	General Principles of Environmental Policy	"Green Cabinet" for sustainable development: draft for the sustainability process
Rhineland-Palatinate	Environment, Forestry	Agency for Environmental education	Interagency: Agenda 21
Saarland	Environment	General Principles of Nature and Environmental Protection, Rio Process, Environmental Education	
Saxony	Environment, Agriculture	Environmental Policy and Economics	
Saxony-Anhalt	Environment, Agriculture, Regional Planning	Regional Development and Agenda 21	Interagency Working Group
Schleswig-Holstein	Environment, Nature Protection, Forestry	Integrative Environmental Protection and General Principles of Environmental Policy	Interagency Working Group
Thuringia	Environment, Agriculture, Nature Protection	General Principles of environmental policy	

The Bavarian State Ministry's Department of "Sustainability in Economics and Agriculture" enforces the Bavarian Environmental Pact. This state-business cooperation will be described below. Mecklenburg-Western-Pomerania's Department of "Integrated Environmental Protection" is aiming at the integration of sustainability into sectoral programs, plans, projects and support programs.

The environmental departments are usually in a relatively weak position and face difficulties carrying out their mission, such as the promotion of sectoral policy integration and the activation of departments such as economy, transportation, energy, and agriculture in favor of the sustainability process.

In some *Bundesländer,* inter-ministerial working groups promoted integrative policy approaches. Policy outputs are:

- environmental plans, Agenda 21 programs, sustainability reports, strategic drafts for the sustainability process (Schleswig-Holstein, North-Rhine-Westphalia, Baden-Württemberg);
- climate Action Plan evaluation and reformulation (Mecklenburg-Western-Pomerania);
- draft for sectoral integration strategies in the area of transportation (Berlin),
- management of the European Structural Funds opportunities (new *Bundesländer*);
- discussion of sectoral policy options regarding settlement and construction activities (Lower Saxony);
- projects.

Positive coordination may relate to customary procedures as well as to new forms. Baden-Württemberg and Rhineland-Palatinate judge their customary procedure of inter-ministerial decision-making on the Environmental Plan and, respectively, the Agenda 21 program, as positive. The policy output is regarded as a result of efforts of "all ministries." A question to be researched is how far the environmental goals agreed upon will gain more practical relevance in the respective fields of jurisdiction.

The persons interviewed viewed work orders, personal capacities, and financial resources as supporting conditions for inter-ministerial cooperation. Financial programs were supportive for integrative approaches regarding land resource management in Baden-Württemberg[2], sustainable economics in Bavaria[3] and the implementation of the environmental plan in Baden-Württemberg. Furthermore, networking with organizations and actors from the nongovernmental sector promoted inter-ministerial work. Integration of environmental and non-environmental jurisdictions into one ministry such as transportation and environment in Baden-Württemberg is regarded positively in terms of environmental policy integration. Such reorganization needs at least an adjustment time schedule from two to three years. Furthermore, a large ministry, equipped with different jurisdictions such as urban planning, environment, construction and transportation, does not automatically support environmental policy integration as the examples from the United Kingdom (Jordan 2002) and Berlin show. Rather, top-down orders and institutional frameworks like strategic environmental plans are required to elevate policy integration.

[2] Interviews Gloger and Baur
[3] Interview Schreiber

(Table 2: Long-term Orientation in the German Länder)

Strategic planning					
	Government decision providing for green planning	**Agenda 21**	**Environmental Plan**	**Agenda 21 program/ environmental plan was decided by the Government**	**Targets [1)]**
Baden-Württemberg			2000	12/2000	*
Bavaria		1997		12 /1997	**
Berlin	Agenda 21: 2000				
Brandenburg					
Bremen					
Hamburg			2001		*
Hesse	Agenda 21: 1997 Environmental Plan: 2000				*
Mecklenburg-Western-Pomerania					
Lower Saxony		1998		1998/1999	**
North-Rhine-Westphalia	Agenda 21: 2000				*
Rhineland-Palatinate		2000		10/2000	**
Saarland	Agenda 21: 1999				
Saxony	Environmental Plan: 2001				
Saxony-Anhalt	Agenda 21: 1997				
Schleswig-Holstein	Agenda 21: 2000				*
Thuringia					

[1)]Agenda 21 or environmental plan contains:
** = qualitative targets,
* = qualitative targets and partly quantitative, time scheduled targets
*** = quantitative, time scheduled targets

All German *Länder* governments programmatically pronounced sustainability processes. In practice, public policymaking varies. Five *Länder* (Baden-Württemberg, Bavaria, Hamburg, Lower Saxony and Rhineland-Palatinate) dispose of strategic planning for sustainable development, among them three Agenda 21 programs and two environmental plans. In seven other *Länder*, parliament, government decisions and coalition treaties provide for green planning processes. Policy measures that have been taken in Hesse, North-Rhine-

Westphalia, Saarland und Schleswig-Holstein give evidence that they will most likely finalize green planning processes successfully.[4]

Because of the lack of administrative capacities, particularly the new *Länder* faced difficulties in tracking sustainability.[5]

Regarding the target structure, existing *Länder* Agenda 21 programs consist mostly of vague qualitative targets. Reasons for that can be found in a lack of methodological approaches to sectoral target formulation. Furthermore, uncertainty about the legal character of targets has been mentioned as a restriction. Most important was another fact: the abandonment of measurable targets was the price for the interagency agreement and the governmental decision to start the program. In Baden-Württemberg no agreement regarding measurable targets for the decrease of land consumption could be agreed upon. The Hamburg environmental plan includes a land use management target: from a midterm perspective, the opening up of new land resources for purposes of settlement shall be reduced from yearly 140 hectares in 2001 to yearly 66 hectares in 2010 (Umweltbehörde Hamburg 2001: 124 ff.). Contrary to Baden-Württemberg, the Hamburg plan was not decided by the government.

Until now only the environmental plans of Baden-Württemberg (2000) and Hamburg (2001) provide, at least in part, for measurable targets. Interestingly, a shift can be observed in recent green planning processes. Green planning processes move towards measurable targets. The Environmental Plan of Baden-Württemberg contains quantified and time scheduled targets for several sectors. For the first time, the *Bundesland* introduced greenhouse gas reduction targets into its climate protection policy. The environmental plan of Hamburg's "Kursbuch Umwelt" contains measurable targets for a variety of sectors (Umweltbehörde Hamburg 2001: 161). Other *Bundesländer* are following: the Hessian future environmental plan[6] should be mentioned; Bavaria will reformulate the Agenda 21 program including measurable targets; and North-Rhine-Westphalia and Schleswig-Holstein are also aiming for measurable targets.

The political-administrative relevance of an environmental plan or Agenda 21 program is crucially dependent on a government decision as a provision for binding all government departments.[7] A government decision is provided in four cases (Table 2). Another important aspect concerning the enforcement is monitoring. Respective mechanisms in Baden-Württemberg consist of a time scheduled reporting responsibility in cooperation with the Ministry of the Environment and other ministries.

In the following section, the initiatives and measures of sub-national government policymaking related to the management of persistent environmental problems will be explored. They concern different forms of governance: regulatory approaches, planning, economic instruments, information and public-private cooperation. The study is not aiming at a systematically exhaustive survey. Instead, the study will explore policy innovations in the German *Länder*. On that basis, further research will be planned.

Climate protection/energy policy on the federal as well as on the *Länder* level has, for more than a decade, been an important policymaking area. Policymaking is targeted at both polluting sectors and public policy departments. The ministerial responsibility lies mostly with the Ministry of Environment or of Economics.

[4] For more detailed information see Jörgensen 2002
[5] Interview Minister Keller
[6] Questionnaire from October 2001
[7] Interview Hennecke

(Table 3: Policy innovations in environmentally relevant sectors; Public/Private agreements and target oriented climate protection policy)

	Sectoral policy innovations concern	**Public/Private agreements**	**Agreement contains measurable targets**	**Climate protection addressed in**	**Climate protection ensured by measurable targets**
Baden-Württemberg	agriculture, land use	Planned	planned	2000 environmental plan	yes
Bavaria	economy	1995 Environmental Pact I, 2000 Environmental PactII	yes	2000 Climate Protection Program, Environmental Pact	yes
Berlin	Land use, transportation	1999 Environment Alliance Berlin,		1999 Energy Program	yes
Brandenburg	Land use, agriculture	1999 Environment Partnership		1995 report	
Bremen	Transportation	1997 Bremen Initiative, 2001 Bremen Declaration		Energy Program	yes
Hamburg		Project : Eco-Profit		2001 Environmental plan	yes
Hesse		2000 Environmental Alliance		2002 Environmental plan in progress	in progress
Mecklenburg-Western-Pomerania	Agriculture, nature Protection	2001 Cooperation with the Chamber of Architects		1997 Climate Protection Program	yes
Lower Saxony				2000 Climate Protection Plan	yes
North-Rhine-Westphalia		2001 Environmental Initiative		2001 Climate Protection Program	yes
Rhineland-Palatinate		diverse public private agreements		2001 Climate Protection Report	
Saarland		2001 Environmental Alliance		1999 Climate Protection Report	
Saxony	Land use	1998 Environmental Alliance		2001 Climate Protection Program	
Saxony-Anhalt		1999 Environmental Alliance		1998 Climate Protection Program	
Schleswig-Holstein		1998 Agreements between state, Industry and Handycrafts		1995 Climate Protection Program	
Thuringia		Environmental Initiative of Thuringia		2000 Climate Protection Program	

German *Länder* and municipalities created diverse innovative policy activities in the areas of climate protection and energy policy. I will not examine public and private capacity building, projects, and instruments such as financial support programs, information, cooperation and regulatory instruments (see BMU 2000: 382-384). The focus is on long-term

oriented climate protection planning. Interestingly, even in the absence of a federal obligation thirteen *Länder* are providing for climate protection plans and, relevant to this, for energy plans and programs.

Nine out of thirteen programs contain quantitative targets – concerning reductions of greenhouse emissions, improvements in energy efficiency, increases in the proportion of renewable energy[8] and sectoral goals.[9] Some *Länder* provide by law for a regular monitoring of targets and measures. Accordingly, Berlin's first Energy Action Plan is being evaluated and reformulated[10].

Länder such as North-Rhine-Westphalia, Berlin, and Mecklenburg-Western-Pomerania formulated their targets in correspondence with the national Climate Protection Program of the federal government. The Bavarian government did not adopt the national targets; lower reduction targets were being formulated instead, in order to allow for the comparatively lower Bavarian per capita CO_2 emissions (StLMU 2000: 5).

Contrary to the federal strategy, Bavaria and Baden-Württemberg intend to continue to use atomic power.

In contrast to climate protection, land-use management policy is less developed. In terms of problem formulation at the Environmental Minister Conference, the environmental ministries of the *Bundesländer* regarded land consumption as an urgent problem. It has also been dealt with in the thirteenth Enquete-Commission of the Federal Parliament (Deutscher Bundestag 1998), in the federal government report for the Rio+5 Weltgipfel in 1997 (BMU 1997), and in the national sustainability strategy (Bundesregierung 2002). Land consumption is implemented through residential and commercial settlements, transportation and agriculture, which is why these sectors have to be addressed.

Germany is densely populated, with 11.5 percent of the space paved for purposes of settlement and transportation. Fifty-four percent is being used agriculturally, and 30 percent for forestry (BMU 2002: Kap. VII.3). The continuous decline of unpaved land contradicts the goals of nature as well as soil, groundwater and bio-diversity protection. The negative trend is unbroken. Daily consumption has climbed to totals of about 130 hectares of new areas for the above-mentioned purposes. Thus, problem-solving is urgent. In some *Bundesländer*, land use and settlement development belong to the priorities of the sustainability process. Regarding land resources management, smart policies are required. In the German multi-level-system, land use management requires horizontal integration into sectors such as building, transportation and business. Furthermore, vertical policy integration is extremely important, since planning and building are decided primarily on the local level. As experience shows, *Länder* supervision of local permits did not prove successful. Thus, representatives of the *Länder* prefer a coordinated application of planning, information and communication of shortages in land resource as a more effective approach.

Three *Länder* developed and took over policy innovations. Baden-Württemberg developed a land resource management plan to reduce the rate of unsettled land being developed. This approach combines instruments of planning law, financial support and cooperation. It is supplemented with research on technological aspects of mobilization of sites

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[8] BMU 2000: Nationales Klimaschutzprogramm. Beschluss der Bundesregierung vom 18. Oktober 2000 (Fünfter Bericht der Interministeriellen Arbeitsgruppe "CO2-Reduktion"). Berlin. Klimaschutz-Monitor: Bericht des HLUG zum Erlass I 16 101 d. 08.25-14053/00 des HMULF vom 10. April 2000, Stand: März 2001. Own data collection.

[9] Ministerium für Wirtschaft, Verkehr, Landwirtschaft und Weinbau 2001: Vierter Energiebericht der Landesregierung. http://www.mwvlw.rpl.de/index3.asp?page=/Inhalt/Service/Infomaterial.asp. Last accessed in September 2001.

[10] Landesenergieprogramm Berlin 2000-2003 http://www.stadtentwicklung.berlin.de/umwelt/klimaschutz/landesenergieprogramm/ : last accessed in January 2002.

and innovative cleaning up methods. Regarding legal instruments, development planning on the level of the *Bundesland* prescribes the use of brownfields, polluted sites, etc. Furthermore, the program BW-PLUS provides support for local planning and decision-making to be established in pilot municipalities (Gloger 2001: 2 f.). Bavaria adopted this policy innovation from Baden-Württemberg.

The *Bundesländer* Berlin and Brandenburg developed an institutional innovation for land resource management. In 1996 they founded an interstate planning department. Both agreed on joint land use planning to prevent the metropolitan area of Berlin from urban sprawl and other negative impacts observed in comparable settlement areas. The overall concept of joint spatial planning is described as decentralized concentration. It shall provide for both the realization of essential purposes of regional planning and protected areas.[11]

Transportation became a preferential area for policy integration. Motorized traffic is growing. CO_2 emissions from transportation contribute to global climate change. From 1990 to 2000, they increased by 12.8 percent (Bundesregierung 2002: 147). Furthermore transportation contributes to space consumption, the cutting of trees, and to soil, water, and air pollution. The national sustainability strategy of the German federal government addresses "environmental friendly mobility" (Bundesregierung 2002). It is one out of three priority areas for action.

On the sub-national level, the state of Baden-Württemberg (1995) developed a sectoral strategy. The General Transportation Plan integrated some ecological targets such as emissions reduction of greenhouse gases and air pollution. It has been monitored, and (less demanding) targets have been reformulated in the context of the environmental plan of Baden-Württemberg (UVM 2000: S. 67). In Berlin, a sectoral strategic planning process in collaboration with organizations from the transportation and the environmental sectors is on the way. A progress report was edited in 2001 containing quantitative scheduled reduction targets on greenhouse gases (a reduction of 25 percent from 1995 to 2010), air pollutants (should fall below 25 percent of the European limiting values) and the consumption of space. Future transportation planning should be combined with areas such as land use, energy, social aspects and economy, since all are relevant with respect to sustainability.

As mentioned above, the Agenda 21 called for the involvement of private actors in public policymaking. The majority of the German *Länder* developed business-state agreements that refer to the European Environmental Management and Auditing System (EMAS). These agreements, called "environmental alliances" (*Umweltallianzen*) or "environmental pacts" (*Umweltpakte*), aim at a new business-state partnership by changing the traditional command-and-control approach to a more consensus-oriented policy style. In a comparison of *Länder*, the Environmental Pact of Bavaria from 1995, especially its reformulated second version from 2000 is the most advanced and far-reaching business-state agreement. Since 1995 it served as a model for almost all *Länder* (Table 3). Generally, this kind of cooperation aims at introducing environmental management activities and compliance audits in accordance with the European Environmental Management and Audit Scheme (EMAS) on the company level, while in turn direct control by environmental authorities is reduced. These reductions in direct environmental control include reporting duties and technical monitoring in the areas of waste, air and water regulations. The key aim of these initiatives is to reduce environmental compliance costs for those companies participating in environmental management systems, to make environmental regulations more calculable for companies, and to promote organizational improvements on the individual company level. There are plans to monitor the cooperation on the *Länder*-level after one year. The Bavarian "Environmental Pact" was

[11] Ministerium für Umwelt, Naturschutz und Raumordnung/ Senatsverwaltung für Stadtentwicklung, Umweltschutz und Technologie (Hrsg.) 1998: Gemeinsam planen für Berlin und Brandenburg - Gemeinsame Landesplanung Berlin-Brandenburg. Potsdam.

revised and updated in 2000. It was positively evaluated, particularly because of its provision for a broad participation of business associations including industry, handicrafts, and, especially, small and medium sized companies. The strategic approach of the Bavarian agreement can be regarded as a policy innovation. It contains measurable targets, provides for monitoring, and strives for the creation of a broad platform including business organizations and regions. The agreement contains quantified scheduled environmental targets and precise actions addressing business sectors and the public sector.[12] Targets concern greenhouse gases, air pollution, energy productivity, renewable energy, recycling rates, and water productivity.

An important condition of success for the continuity and further development of the Bavarian Environmental Pact has been the top-down initiation by the head of the Bavarian Government, Edmund Stoiber. The strategic approach of the sub-national government also provides for vertical integration, since municipalities are involved.

4.2 The U.S. States

Several states such as Minnesota (1993), New Jersey (1997), Maryland (1998), Oregon (1999), and New York (2001) have – most often by executive order – fixed sustainability as a goal of state policy and distributed administrative responsibilities. In the meantime, they also provided for inter-administrative working structures.

Table: Institutional structures for sustainable development processes in U.S. states

	Government decisions			
	Administrative responsibilities	Inter-administrative working structures	Green planning	Monitoring
Maryland	Executive Order 1998	Executive Order 1998		
Minnesota	Environmental Quality board (EQB) 1993	Round table 1993 EQB participation	Minnesota Milestones 1991-1998	1996 agency reporting required
New Jersey	Executive order 1997	Interagency implementation		
New York	New York State Bill A5676 2001	New York State Bill A5676 2001	New York State Bill A5676 2001	
Oregon	1999 House Bill 3135 2000 Oregon Executive Order No. E0-00-07	1999 House Bill 3131 2000 Oregon Executive Order No. E0-00-07	2000 Oregon Executive Order No. E0-00-07	2000 Oregon Executive Order No. E0-00-07

Oregon's Executive Order (2000) declares sustainable development a policy goal of the state of Oregon and strives for a long-term oriented perspective of sustainability within twenty-five years. Sustainability in Oregon includes economic viability as well as ecological dimensions. The main emphasis is on resource efficiency and the steady reduction of environmental impacts. In contrast, the Minnesota Milestones-approach and the sustainability approach of New York pay more attention to economic development and social integration.

Oregon's Executive Order (2000) assigns responsibilities, makes arrangements for horizontal and vertical integration of the sustainability process and prescribes scheduled duties for reporting. Surprisingly, New Jersey, which in comparison to other states is usually

[12] Ministerpräsident Stoiber, Pressemitteilung der Bayerischen Staatskanzlei, 23.Oktober 2000.

ranked quite low in terms of environmental quality,[13] has recently been ranked very high regarding the institutional framework for sustainability (RRI 2001). New Jersey is better known as a state with strong environmental pressures – it is densely populated, heavily industrialized, and suffers from environmental damages. New Jersey has made a strong effort in policy formulation and institutionalization but not yet in the implementation of ecological sustainability (RRI 2001). The policy outputs responsible for New Jersey's high sustainability ranking were its institutional structures. The state's Office of Sustainability was created by executive order in 1997. Furthermore, according to another administrative order, policy integration is being enforced through interagency implementation of the state's development and redevelopment plan. One incentive for New Jersey to address persistent problems like climate change is due to the fact that it is – like the Netherlands – endangered by rising sea levels brought about by global climate change.

From 1993 until 1998, the institutional structure of the sustainability process in Minnesota consisted of a roundtable bringing together business, environmental and community representatives and public administration agencies, the latter including the Environmental Quality Board (EQB). The EQB consists of the representatives of ten state agencies who handle environment and development, five citizens, and an additional chair filled at the request of the governor. Furthermore the Office of Strategic and Long Range Planning, Minnesota Planning belongs to the EQB. Since 1996, Minnesota's major state agencies are required to report publicly on the basis of the principles of the roundtable (RRI 2001: 41) about their performance. So far, five reports have been given since the Minnesota Milestones program was set up.[14] The Minnesota Milestones 1998 report compared the progress to the goals. The strongest impetus of Minnesota's Milestones program is not at all on green issues; just four out of nineteen goals and fifteen out of seventy indicators concern environmental issues. The environmental goals are qualitative; they concern conservation of natural resources, air, water and soil quality, the protection of ecosystems and the state's natural resources with respect to their use as recreational areas. Environmental indicators allow for assessments of environmental quality, especially regarding persistent environmental problems. As the latest report shows, according to key indicators improvements in air and water quality can be reached. On the other hand, environmentally problematic trends like vehicle miles, solid waste, energy and water use are being left unchanged.

The state of Maryland framed the sustainability process in the context of smart growth policy based on the Governor's Executive Order of January 1, 1998.[15] Smart growth is not a comprehensive green plan but a strategic approach to the protection of environmental resources. Institutional structures concern a smart growth and neighborhood conservation sub-cabinet and incorporates the rule that projects have to be reviewed in terms of smart growth. The state government regards smart growth as an initiative that provides for a long-term orientation and policy integration.[16] Whereas sustainable development is widely unknown, the smart growth slogan is communicated very well to the public. It is hoped that smart growth will provide for land-use management and affect other environmental protection issues of

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[13] Ranking performed by: Gold and Green 2000, Institute for Southern Studies, Durham, NC, 2000 (first published in 1994) http://www.southernstudies.org/gg2000sources.html#Green1, last accessed in March 2002. Environmental indicators concern environmental quality, emission form industrial and agricultural activities and transportation including hazardous waste; energy and resource efficiency, average individual's added cancer risk, total miles traveled by car, truck, or bus per gallon of gas consumed in a year, waste generation and recycling.

[14] Minnesota Milestones: A Report Card for the Future (1992), 1993 Progress Report, 1996 Progress Report and 1996 Children's Services Report Card: Measuring Minnesota's Progress for Children. Minnesota Planning, St. Paul: mnplan.state.mn.us

[15] Governor Glendening's Executive Order, January 1, 1998: Smart Growth and Neighboorhood Conservation Policy.

[16] Interview Jane Nishida, Head of the Department for Environment, December 21, 2001.

high priority, like the climate protection issue. Smart growth enforces policy integration since the reduction of urban sprawl will also contribute to climate protection. Federal and state laws are used as tools to bring smart growth forward. Since responsibilities to govern land use lie on the local level, vertical integration of smart growth is based mainly on financial incentives. Denying funds is the only measure at hand. Criteria for releasing public expenditures for infrastructure projects are, first of all, inward-looking densification, followed by water sewer and road funding, which will be applied for smart growth compatible projects only. More restrictive programs would not be accepted by the legislatures. The smart growth idea spread in the context of the National Governors' Association meeting when Maryland's governor headed the Association. More so, this policy approach attracted the interest of the Organization for Economic Cooperation and Development, where it is being evaluated.

According to the central criteria of strategic environmental planning, none of the U.S. states have an official environmental plan. A sustainability strategy (RRI 2001) decided by the government does not contain a measurable set of targets for priority areas, nor are specific actions assigned to target groups. Yet three states have begun strategic planning processes, adopting the Dutch national environmental policy plan method. New Jersey entered the process of cross-sector sustainable state strategic planning. Oregon released an Environmental Stewardship Plan. The third green planning process took place in Minnesota and lasted from 1991 to 1998. The Minnesota Milestones program, begun in 1991, was originally initiated by the Governor as an "early model for outcome measurement to hold government accountable for results." Its nineteen goals have been developed with public participation.[17] The roundtable's conclusions were reported in 1998 in "Investing in Minnesota's Future: An Agenda for Sustaining Our Quality of Life."

Altogether these examples give some evidence that a certain political-administrative capacity building towards governance for ecological sustainability is taking place in at least some U.S. states. Capacity building concerns process oriented institutional structures for policy integration and long-term oriented policymaking under public participation.

Furthermore, some approaches to modernize environmental policymaking in terms of a performance-oriented management have been developed. They aim at making the implementation of environmental policy more reliable and more appropriate for the impacts of the programs. Besides that, they seem to open some scope for new strategic approaches regarding integrated pollution prevention, environmental planning, priority setting and especially decentralized, place-based decisions.

This new approach has been established in diverse contexts. The federal EPA "Reinventing Regulation" process (Rosenbaum 2000) [18] took place in an inter-governmental federal/states context. A central project to improve federal environmental policymaking towards performance orientation was the National Environmental Performance Partnership System (NEPPS), developed in May 1995, which refers to the Dutch method of national environmental policy planning. It aimed at a joint set of priorities by the EPA and the states to make the implementation of environmental policy more reliable and more appropriate for the impacts of the programs (Loeffler/Parker 1999). The basic elements of the NEPPS approach are: environmental goals; states self-assessments; formal agreements between the states and the EPA; reduction of federal supervision/control; and public outreach and involvement. It was hoped that NEPPS would enforce environmental protection since it allowed the states to

[17] http://www.mnplan.state.mn.us/Report.html?Id=2019. last accessed March 2002

[18] Different innovative initiatives such as Project XL and the Common Sense Initiative have been launched by EPA during 1990s. Partly linked with sustainable development since they provided for cooperative problem-solving approaches instead of hierarchically approaches. They were part of the EPA reform "Reinventing Regulation" (Rosenbaum 2000) that was aimed on an organizational modernization of the EPA and that provided for a new environmental policy style as well.

address priority problems first. As it turned out, NEPPS did not require environmental improvements nor allow a deterioration of performance.

A sub-national context was formed by the "New Environmentalism" with main players in the environmental protection agencies at the state level in collaboration with the private sectors (Rabe 2000, Scarlett 2000). Programs matching the new environmentalism have been developed in Wisconsin, Oregon, Illinois, Minnesota, Massachusetts, New Jersey, and Florida. The state programs strive for industry-wide permits instead of source-by-source permission requirements. They are related to performance goals or indicators such as are laid down in the programs in Florida, Oregon, and Massachusetts. Supporters argued that these approaches tied up a decrease in administrative paperwork with a better availability for environmental goals like pollution reduction, as in the Environmental Results Program of Massachusetts (Rabe 2000, Scarlett 2000). A couple of states, such as Wisconsin and New Jersey, developed their cooperation with the private sector, as is the case in Germany. Wisconsin is cooperating with the above-mentioned Bavarian Environmental Pact. A Multi-State Working Group on Environmental Management Systems (MSWG) has been formed,[19] not connected with NEPPS but tracking comparable goals. The MSWG is an intermediating organization aiming at an advanced development and at the diffusion of "systems-based public and private policy innovations" by spreading information, researching, promoting dialogue, creating networks, and establishing partnerships. Thirty to forty states attend annual meetings and about twenty-five states participate regularly at quarterly meetings.[20]

The third context concerns the quite successful multi-state cooperation on a regional basis supported by the federal level, for example, the inter-state Chesapeake Bay regime and Great Lakes Basin (Fiorino 1999, Rabe 2000).

Strong opponents of the New Environmentalism policy regime doubt the positive environmental impacts of the decentralized, process oriented, and consensual new approach and the absence of coercion. They point out that it is rooted in the neoclassical liberal Republican Party thinking, in the "laissez-faire ideology" approach (Lowi 1999). Fiorino argues that in nationally, highly regulated areas such as industrial air, water, and waste pollution, a prescriptive legislative framework and traditionally adversarial relationships restrict progress in the flexible and responsive performance-based approaches as they have been tested in the context of federal projects such as the Common Sense Initiative and Project XL, neither of which has shown a lot of progress.

Performance-based environmental approaches exist in several states, in some regional arrangements, and on the federal level in combination with traditional regulatory approaches. They may provide capacities for target oriented environmental policymaking and strategic approaches to ecological sustainability. Especially with regard to persistent environmental problems, they may, as the Chesapeake institutional arrangement shows (Fiorino 1999), contribute to effective forms of multi-level and regional governance.

4.3 Policymaking in the *Bundesländer* and the United States: Driving forces and restrictions

The German *Länder* and the U.S. states have the scope and the means to approach ecological sustainability from both a self-contained approach and in the context of federal policymaking. The majority of the German *Länder* and a few U.S. states began strategic planning processes, where a capacity building towards policy integration can be observed. In the context of environmental policy implementation and autonomous policy formulation at the sub-national level, the United States has been modernizing environmental policy towards

[19] http://iwrc.org/mswg/about.htm
[20] http://www.rff.org/reports/2001.htm

a result-oriented management. The German *Länder* have also been creating policy innovations for managing persistent problems. Thus, the sub-national (state) level in Germany and in the United States is more important than scientific and public debates presently suggest. That said, the question arises of how both self-contained and federal problem solving can be stimulated, especially to encourage solutions for persistent environmental problems and ecological sustainability.

First of all, it is evident that governance for sustainability in the U.S. states and the *Länder* is driven by different processes and embedded in diverse frame conditions. Thus, different levels and sectors of policymaking in Europe – the supra-national level included – and the United States are of importance.

As examples from Bavaria (business-state Environmental Pact), Maryland (Smart Growth), Baden-Württemberg (sectoral integration strategy regarding transportation) and New Jersey (capacity-building for green planning processes) unanimously suggest, the most critical condition for the initiation and enforcement of innovative strategies seems to be the political will of the head of the state government.

A driving force for progress in inter-agency cooperation within the *Länder* was project-oriented collaboration with representatives from the business and social sectors. As in the U.S. states, regional and international cross-border institutional arrangements promoted policy integration.

In the United States, the driving forces behind modernizing environmental policy and management were the increased importance and weight of the states themselves with regard to their larger implementation capacities and their share in financial spending for national environmental enforcement (Löffler, Parker 1999). It was in the interest of the states to transfer the traditional principal-agent relationship between the EPA and the states, as it no longer reflected the role of the states in environmental policymaking.[21]

The diffusion of state and *Länder* policy innovations plays an important role in political systems of both the United States (Kern 2000a) and Germany. There is a lesson to learn for the German *Länder*: Whereas the German *Länder* dispose of rather weak mechanisms for horizontal coordination and policy-transfer, the U.S. states – driven by the New Federalism and devolution – have created remarkable capacities like the Environmental Council of the States (ECOS). Also, organizations such as the National Conference for State Legislatures supports the exchange of information and policy-transfer. Complementary to this, the non-profit organizations contribute to policy evaluation and consultancy regarding the states. From the German perspective, and in the view of representatives of the *Länder,* the sectoral minister conferences for transportation, agriculture, etc. should be stimulated to promote sectoral environmental policy integration. In addition, a strengthening of public and private capacities for policy evaluation and policy transfer could stimulate regulatory competition and the diffusion of smart policies in the federal system of Germany.

In 2001, representatives from both *Länder* and state environmental departments generally judged the central state contributions to the sustainability process as relatively weak. In Germany, federal environmental policy improvements such as the new ecologically oriented strategic approach in agricultural policy, the nature protection law (2002) and the climate protection policy were viewed as helping the process. In the view of the *Länder*, though, the federal level, government, and parliament contributed to the concept of sustainability mainly through scientific work. The *Länder* would have preferred a sustainability strategy – much earlier than the one finally released in April 2002 - much earlier than that. In other respects the federal exercise of its far-reaching legislative responsibilities in environmentally relevant areas is regarded as dissatisfactory. Also, a lack of consistency between the federal law and the integration of environmental issues in federal plans has been identified. According to

[21] Interview, Brown 2002

representatives from the *Länder*, federal policymaking is still strongly fragmented and focuses too much on policy sectors.

Regarding climate protection in the United States, the federal position on the Kyoto process is not shared by all of the states. Many states argue that the United States could meet the Kyoto goals. A few states, such as New Jersey and Wisconsin, already have implemented climate change program initiatives; in Maryland, a climate change program is in process. States can be important actors in filling the gap of a missing federal climate protection policy and sustainable development as well. It would be helpful, though, if they received federal support.

Sustainability processes in the *Länder* have received much more support from the European than from the federal level. The European Union expresses "truths, for which the environment people of the *Länder* must fight." The fifth European Action Program, integrative instruments such as the European Environmental-Audit system, the European Structural Funds and the Cardiff process are regarded as supportive conditions. Also, in the area of sustainable agriculture, European policy is seen as a driving force. On the one hand, the merged system of supra-national, federal, and sub-national (state) financing of incentives for organic farming and agro-environmental measures at the present stage turns out to impede the redistribution from subsidizing conventional agriculture to ecological oriented methods. On the other hand, since 1992, the German *Länder*, such as the forerunner Baden-Württemberg and especially the new *Länder*, showed some progress and increased their ecologically managed agricultural areas.

Whereas in 2001-2002 the preparation process for the world summit in Johannisburg stimulated sustainability processes in the German *Länder,* this was not the case in the United States.

5 CONCLUSION

In the future, environmental policy will be challenged by persistent environmental problems like climate change, decrease in biodiversity, and the degradation of soil and land. For this reason, a change in polluting sectors such as transportation, agriculture, energy supply, and consumption is necessary. Ecological sustainability provides for a new strategic approach. It shows the importance of target oriented public policymaking and the institutional capability for policy integration, especially with regard to persistent problems. Relevant strategic approaches have been developed on different policymaking levels: the Dutch Environmental Policy Plan; the international Rio process and the Agenda 21; and various European policy approaches such as the fifth European Action program and Cardiff process. However, in contrast to a lack in public perception, the sub-national (state) levels in Germany and in the United States also provide for capacity-building, new institutional arrangements, and policy innovations for ecological sustainability as well as for public/private environmental collaboration. The majority of the German *Länder* runs green planning processes and comprehensive environmental plans, and Agenda 21 programs are also advancing. A clear trend towards measurable targets can be observed. As the first selective exploration of state policies shows, some U.S. states have begun much more process-oriented ways of strategic planning. Furthermore, in the U.S. states, some approaches to the modernization of environmental policymaking towards performance oriented management approaches have been developed. These approaches are aimed at making implementation of environmental policy more accountable and more relevant to the impacts of programs.

The integration of environmental goals into polluting sectors and public policy sectors is at the early stages in both Germany and in the United States. As existing approaches to the management of persistent problems show, the sub-national level can become more important in the future and, with a view of the diffusion of decentralized problem solutions, should be regarded as such.

As some examples for policy innovations show, the sub-national level may invent smart policies that provide for vertical and sectoral policy integration as well policies such as land-use management in Baden-Württemberg and smart growth in Maryland. The sub-national level may be more appropriate for encouraging public/private collaboration, as the Bavarian environmental state-business agreement has shown.

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