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## **The Climate Change Policy-Network in Germany**

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## Summary

Germany is frequently perceived as a forerunner in environmental policy, in particular after the turnover in government in 1998. We contribute to the debate on capacities for environmental policy by explaining this position with the specific actors configuration in the German policy network. The paper describes and analyses the German policy-network that formulates the national position in international climate change negotiations. We ask what activities have been performed by the members of this network regarding the in-

roduction of an eco-taxation, analyse what resources the various organisations dispose of, and in how far the organisations are interrelated among each other regarding the exchange of information, cooperation and opposition. We conclude that NGOs are well integrated despite of comparable low financial resources. The network is not fragmented, and coalitions are possible among the different types of actors. This may contribute to the explanation of the German position, however, comparative research is needed.



## Introduction

During the past decade Germany has attracted attention in many countries because of its environmental politics and policies. Germany has become a forerunner in the conceptualization of the *Kreislaufwirtschaftsgesetz*, it has become famous for its highly sophisticated and widespread separation and collection of garbage and recycling and not least it has fundamentally changed its energy policy by incorporating environmental issues. The ecological tax reform, the phasing out of nuclear power and the revision of the energy feed in law characterise a profound change in Germany's approach towards climate change since 1998 (Mez 2003). Compared to many other countries, Germany is a frontrunner of climate policy at the national level as well as in international negotiations. What is specific about German national policy-making, that led to this role?

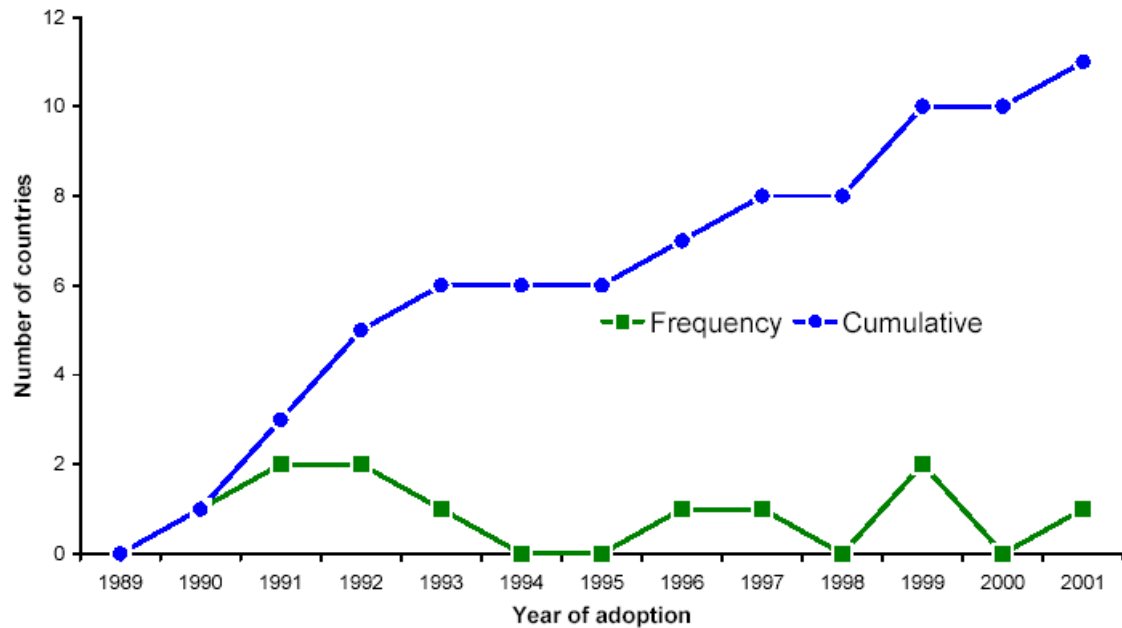
Comparative policy research reveals that there are considerable differences in the willingness and ability to adopt and implement innovative policy measures. The characteristics of the countries need to be analysed to explain this variation. For in-

stance, CO<sub>2</sub> and new energy taxes were adopted by Scandinavian countries in the early 1990s. Other early adopters were rather small European countries e.g. Belgium, Austria or Slovenia. It was only in 1999, when larger countries, in particular Germany and Italy, adopted these measures as well (Tews 2002). Thus, additional momentum for the diffusion of CO<sub>2</sub>/energy taxes is to be expected.

CO<sub>2</sub> or energy taxes are an particularly interesting object to study: They are a standard measure in environmental policy and relatively easy to compare. Although they vary considerably regarding the tariffs and the scope their introduction is – unlike many other policy instruments – hardly a symbolic policy only. Usually the adoption of a CO<sub>2</sub> /energy tax is fiercely debated in a country, because it is a redistributive measure. Therefore, countries that have introduced such a tax can be expected to dispose over a relatively high environmental policy capacity.

The following graph indicates that up to now only few countries introduced such an instrument.

Figure 1: The Diffusion of CO<sub>2</sub> and energy taxes.



Source: Busch and Jörgens 2003

In this paper, we take Germany as an example of a country that successfully introduced a new energy tax in 1999. Our purpose is to analyse the actors constellation of environmental policy making in Germany, thereby contributing to a micro-foundation of the theory of environmental policy capacity.

Differences between national political outputs have been explained by differences in the constellation of actors, policy strategies, policy style, problem structure and the like (Jänicke 1996: 13-24). A crucial point whether or not the political system is able to respond to environmental challenges proactively seems to be the degree of integration of leading societal actors into the policy-making process and their capacity to build coalitions (Kitschelt 1986, Sabatier 1993). A close interrelationship among the various political actors may also contribute to a faster and easier diffusion of ideas compared to fragmented systems. However, such an openness of the political system is also an openness for

actors that resist ambitious environmental policies. Countries vary regarding the degree of inclusion of environmental organisations that in turn may explain policy outputs. This requires an analysis that goes beyond the description of the formal system. The constellations of actors in terms of power relations between the most influential actors in the environmental field and their "will and skill" (Shonfield) to form strategic alliances to promote environmental policy, seem to be crucial for the quality of political outputs. This approach is part of the debate on the nation states' capacity for proactive environmental policy. This paper contributes to this debate by a quantitative analysis of the policy network of actors that are concerned with international climate change issues in Germany<sup>1</sup>. Based on the analysis of the

<sup>1</sup> Comparative research on eco-networks is currently conducted in cooperation with Yutaka Tsujinaka from Tsukuba University. Empirical research in Germany was sponsored by the Ministry of Education of Japan.

German example being a relatively pioneer in environmental policy making we analyse in how far there is the inclusion of actors and the openness of the political system and we discuss in how far this may be an impediment or an opportunity for the advancement of environmental policy making.

The paper starts with some remarks concerning the methodological and theoretical

### **Our survey: methodological remarks**

Our survey intends to broaden the empirical database concerning environmental policy networks by using quantitative data from interviews with leading experts of the German actors' network. We aim to identify the relevant actors in the German policy network and to analyse the patterns of interaction between them. Environmental policy is a highly differentiated policy field that encompasses many different issues. We focused on the policy network that is concerned with the formulation of Germany's position in the field of global climate change. A huge number of policy actors is involved in the formulation and implementation of policies, in particular in a policy field such as climate change which affects almost every industrial sector, private households, a wide range of government agencies, different scientific disciplines and almost every environmental organisation.

Our aim was to identify those actors that are part of the network for a longer period of time and that are either close to or actually involved in the process of decision making. In order to identify these core members of our network we applied a two step procedure: At first we prepared a preliminary list of representatives of organisa-

framework of our empirical research. Then the German network is described in terms of its size, composition and main interests. In section three the network is analysed with regard to patterns of interaction. Interaction will be explored by three main variables, namely information exchange, cooperation and opposition. In a final step we will relate the data to the policy output and the functioning of the network.

tions and institutions that have been members of institutions such as national advisory councils, parliamentary committees etc. or have been participants of COPs, important parliamentary hearings, etc. We included only those individuals that were participants of more than one of these conferences or being a member of more than one organisation respectively. We then asked experts from science, politics and industry to assess our preliminary list in how far the actors identified actually constitute the German policy network. The result was a list of 92 actors that represent a range of different national organisations. We classified these actors within four categories: governmental representatives, researchers, representatives from NGOs and industrial associations.

53 of them allowed for a complete interview to be conducted, i.e. the return rate was 57,6%. The interviews were based on a questionnaire which had been originally prepared by Tsujinaka Yutaka from Tsukuba University in order to provide data suitable for comparative purposes. This has been translated into German and adapted to the German context. Interviews were conducted by telephone in 2000 and lasted between 32 and 159 minutes each.

## Capacity-building as a theoretical framework

In order to explain political outputs, international comparisons of the environmental performance of nation states have proved to be useful (see Jänicke and Weidner 1995; Jänicke 1996). They indicate that the effectiveness of political systems highly depends on

- relative strength,
- cooperation, and
- integration

of the actors involved in the policy-making process.

The relative strength of different governmental and societal actors is a fundamental variable for the explanation of any policy outcome. It is, however, difficult to measure since there are different sources of power. Organisations may be powerful because of their economic resources (number of members, employees, turnover, etc.), their institutional influence (e.g. veto power), their knowledge and competence or their credibility in public opinion. The ability of a policy actor to influence a decision depends on several sources of power, that may be, to a certain degree, mutually substitutive.

Cooperation refers to the ability and readiness of the political and societal actors to cooperate in problem solving. Political systems with a cooperative culture can be expected to be more effective than those with conflictual structures. Conflicts are considered as a waste of resources in terms of time, money and intellectual energy. Moreover conflicts are considered to provoke fragmentation if opponents are not successfully integrated in the policy-process. The political systems of different countries vary considerably regarding the

degree of integration and fragmentation among different sectors and levels of policy-making. In particular in cross cutting issues that affect almost every sector of government, such as the environment, it is necessary that the different departments cooperate in problem solving. Cooperation among different actors is facilitated by a balanced level of competence between these actors.

Thus, the policy-making system should be inclusive, integrating all societal actors, since only integration and consensual proceeding offer best conditions for successful implementation. The degree of integration depends on institutional means of participation, as well as on discourse culture and personal factors. Political systems vary considerably in their degree of integrating new and rather weak interests and their corresponding organisations. Compared to traditional interest groups such as industrial associations or trade unions environmental NGOs are usually much weaker and less established regarding their participation in political institutions. Notwithstanding differences in the strength of environmental organisations, some countries are more open in integrating newly arising and weaker interests than others.

From this reasoning we can expect that political systems, that are open for the inclusion of different actors and their interests are likely to perform better regarding their environmental policy output. Openness of the political system refers to free and equal access of the actors to information and participation. Even though it remains arguable whether NGOs can play more than an additive role to state inter-



vention in the field of global environmental policy, it is plausible that the integration of NGOs in the policy process is enlarging the governments' intervention capacity and the democratic legitimisation of the process (Brunnengräber and Walk 1997: 71).

There is a considerable body of literature about the growing importance of policy networks in policy-making. It has been argued, that the emergence of networks together with the mutual dependency of networks' state and non-state members may limit the possibilities for intervention of public policy makers (Kenis and Schneider 1991; Marin and Mayntz 1991; Mayntz 1993). The network approach to policy analysis contradicts the assumption of the state as the major authority in influencing and controlling societal activities (Mayntz 1993: 40). Instead, the emergence of policies is perceived as a process that includes both private and public actors. Policy networks are defined as prevailing informal, but stable relations between actors that have different, but mutually dependent relations (Kenis 1991: 299). The merits of an inclusive approach in policy-making can be expected in the inclusion of major interests. Therefore, during the course of the decision making process, relevant information is likely to be considered and the implementation of policies should be easier than in hierarchical mode.

### **The climate policy network: Size and resources**

The organisations that form Germany's present environmental policy-making network have been founded in three waves with peaks in 1949/50, 1972-1975 and

If the argument is true that the way of networking between major actors in the environmental field influences the quality of political outputs, we could explain the proactive environmental policy Germany has developed in the course of climate change policy process by actors constellation, i.e. the relative strength of environmental interests, the degree of cooperation, inclusiveness and integration. We will try to verify our argument by analysing data obtained through interviews based on the following three categories of variables:

- Variables concerning history and resources of the organisation that are represented by the interviewed actors,
- Variables concerning information exchange, cooperation and opposition with regard to 132 national and international actors in the field of global environment policy
- Variables concerning ascribed influence, interest and activities of the addressed organisation.

The analysis of the data in this paper focuses on:

- Exchange of information and the existence of scientific communities, both of which are important for the professionalisation of relevant actors.
- Inter- and intra group cooperation of the network in the policy-making process, which is regarded to be important for consensus building.
- Level of inclusiveness of the policy network.

1990/91 respectively. The first peak in 1949/50 was due to Germany's post-war democratization. During these years interest groups and institutions proliferated, al-

though unrelated to environmental issues. While only six organisations of the network were established between 1950 and 1970, their number rose to 15 between 1971 and 1990. The years between 1972 and 1975 constitute a period of institutionalization of environmental policy in West Germany. In 1971 the Sachverständigenrat für Umweltfragen was established that evolved to the leading advisory board of the government. In 1974 the Federal Environmental Agency was established and the ruling Social Democratic Party presented the first environmental program. Furthermore, the anti-nuclear energy movement gained momentum during these years. During the eighties this actors experienced a period of consolidation. The Green Party gained increasing influence and electoral success, including participation in government coalitions at state [Länder] and local levels. In 1986 the conservative government created a ministry of the environment. Triggered by the Chernobyl disaster the anti-nuclear energy movement experienced further mobilization. Independent environmental research institutes like the Öko-Institut e.V. (1977), the Katalyse Institute (1978), IÖW (1985) or ISOE (1989) were established during the eighties, constituting the core of an emergent environmental epistemic community.

It is important to note the coincidence of the establishment of environmental organisations and institutions and the environmental movement during those years in relation to the rise of personal networks between the expanding networks' protagonists. Most of them had received their political socialisation in the context of the students movement or had already been members of the environmental movement during the 70s. The third peak, including

the proliferation of ten new organisations in 1990 and 1991 alone, might have partly been a side-effect of German reunification which gave an impetus to the institutionalization of environmental interests in the former GDR. Besides, this increase needs to be considered in the context of the globalization of the environmental agenda and the emergence of the climate change issue in the run up to the Rio summit of 1992.

Altogether we identified 92 national organisations, that representing the actors of today's policy network. We classify them into four categories:

- 29 government units/departments, consisting both of executive and legislative institutions such as ministries, political parties and parliamentary groups, and advisory committees. Even though former research (Jänicke 1990) indicates that the influence of political parties in power is small, it is an interesting point for analysis whether the participation of the Green Party in the coalition government since 1998 does matter in this respect.
- 27 research units/institutes. They include highly engaged environmental research institutes like the Öko-Institut and the Wuppertal Institute for Climate Environment and Energy as well as established national economic research institutes, like the German Institute for Economic Research (DIW) and the Hamburg Institute for Economic Research (HWWA), all of which entered into the climate change debate with research on economic, social, and ecological effects of the eco-tax that was proposed and introduced in Germany.
- The third category are NGOs in the field of climate change policy, nine of which

were named to play an important role. All of them with the are nation-wide organisations dealing with environmental protection, energy, and ecology.

- The forth category consists of 27 interest groups from business, labour unions, foundations, and corporations. The variety within this group is broad, ranging from associations representing energy and car businesses and labour unions from the public sector to founda-

tions sponsoring, amongst other things, environmental research.

Table 1 demonstrates that with the exception of the NGOs the network is balanced with close to equal representation of governmental units, research institutes, and other interest groups. The number of NGOs in the network is small, but most of them are big organisations with a strong environmental expertise like Greenpeace Germany, BUND and NABU.

Table 1: The German Ecological Network

Type of organisation	Total number (A)	Completed interviews (B)	Share of sample (%)	Group specific return rate (B/A) (%)
Governmental units	29	12	22,6	41,4
Research units	27	16	30,2	57,1
Other interest groups	27	17	32,1	65,4
NGO	9	8	15,1	88,9
Total	92	53	100,0	57,6

The institutionalization of the environmental policy-making network since the 70s implies the availability of human, intellectual and financial resources. Thus, it has been argued that the existence of a broad and highly professionalized network of institutions related to the environment is

## Resources

It has been argued that the decisive preconditions for equal participation opportunities are—besides legal provisions—financial and human resources as well as access to information. The size—in terms of membership—of organisations and institutions of the network may influence voting behaviour. Money determines the number of technical and professional staff and may influence the forms of activities as well as the scope of campaigns. Because of this it has become a commonplace to argue that the crucial point for

a precondition for pro-active environmental policy, even though their mere existence does not guarantee the quality of political outputs (Jörgens 1996: 110-111). What is important, too, is the distribution of resources among the members of the network and their modus of interaction.

equal participation opportunities in environmental policy is the access to resources.

All of our data indicates that among the actors of the network NGOs are the weakest in terms of human and financial resources. In our interviews we asked how many employees are in charge of actually influencing the political process (“watch-dog”), or are mainly concerned with the collection of technical data on global environmental change respectively.

*Table 2: Number of employees in Germany who are responsible for performing “watch-dog” functions (%)*

	Governmental Units N=11	Research Units N=13	NGOs N=8	Other interest groups N=16
1 - 10 persons	18,2	15,4	62,5	6,3
11 - 20 persons	0,0	7,7	25,0	12,5
21 - 50 persons	18,2	15,4	12,5	12,5
51 - 100 persons	9,1	7,7	0,0	6,3
101 - 1000 persons	18,2	0,0	0,0	0,0
over 1000 persons	9,1	17,7	0,0	25,0
not applicable	27,3	38,5	0,0	37,5

*Table 3: Number of employees in Germany who are in charge of the collection and analysis of technical data (%)*

	Governmental Units N=11	Research Units N=13	NGOs N=8	Other interest groups N=16
1 - 10 persons	9,1	38,5	50,0	43,8
11 - 20 persons	18,2	7,7	12,5	12,5
21 - 50 persons	9,1	23,1	12,5	16,3
51 - 100 persons	0,0	0,0	0,0	0,0
101 - 1000 persons	9,1	0,0	0,0	6,3
over 1000 persons	9,1	7,7	0,0	0,0
not applicable	45,5	15,4	25,0	31,3

When comparing the number of professional staff of all organisations of the network, it becomes clear that the NGOs have the smallest number of employees who are responsible for both “watch-dog” functions and data collection.

90% of the NGOs interviewed employ less than 50 persons in a “watchdog”-function, 62,5% mention less than 10 persons. The same is true in the case of employees who are in charge of the collection and analysis of technical data. Here, all NGOs with technical staff rely on less than 50 persons, while, for instance, 18,2% of government units and 6,3% of the other interest groups have more than 101 professionals assigned to this duty. Budgets of NGOs are lower, too, since they mainly depend on membership fees and donations. Low budgets only allow for low

budget campaigns like in the case of the eco-tax decision making process (Reiche and Krebs 1999: 291). In terms of resources NGOs are definitely not competitive with the interest groups from business. At the same time the case study on the eco-tax debate makes clear that NGOs had a considerable influence in the decision making process (Reiche and Krebs 1999). It was mainly due to the lobbying of Greenpeace that the eco-tax issue gained momentum after 1994. Therefore we may argue that it would be too easy to reduce the question of influence and access to the political process only to financial and personnel resources. According to the organisations of the network, expertise and closeness to the government are much more important than these resources. When asked about the most effective sources of influence, the majority of inter-

viewees states a high quality of scientific and technical staff (41,5%), followed by good relations with the government (35,8%) and strong engagement in global environmental policies (34%), while capable policy staff plays a subordinate role (22,6%). Resource issues such as mem-

## Issues and Actions

Since the early 90s climate change policy is based on international agreements like the UNFCCC, the Kyoto protocol and Agenda 21. With regard to the reduction of greenhouse gases on the national level the issue of climate change policy is closely related to energy policy and the structure and quantity of energy production and consumption. In the case of Germany one crucial point for the ruling parties has always been the problem of how to deal with the national coal production which is strongly intertwined with economic as well as labour interests. Nuclear energy, from its beginning, has been opposed by strong citizens' movements which succeeded more than once in preventing the construction of a nuclear power plant. It lost the acceptance of the general public at the latest in the wake of the Chernobyl accident. The dependence on the supply of oil is comparatively low because of diversified sources from the North Sea, Russia and the Middle East.

One of the mostly debated issues related to energy policy between 1979 and 1998 has been the concept of an ecological tax reform (Priewe 1998). The typical cleavage between economy and ecology in the environmental arena appeared in this case in a rather representative way: Among the political parties, the Green Party, the Socialists (PDS) and the Social Democrats

bership are mentioned by only 13,2%, quality and quantity of general staff by 15,1%, legal staff by 9,4%, and budget by 3,8% as an important precondition for influence. Financial and personell resources therefore may play a smaller role than expected.

were in favour of such a tax, but the Christian Democrats and the Liberal Democratic Party were only ready to support its introduction in the case of an EU-wide initiative (Weizsäcker 1998: 42; Repnik 1998: 43; Hustedt 1998: 45; Homburger 1998: 47). With regard to research institutes the environmental research institutes were mostly supportive, while the institutes in the field of economic research like the Hamburg Institute for Economic Research (HWWA) remained neutral. Other interest groups again were divided over the issue with opposition from the Association of the Car Producing Industries (VdA), insurances, and the Association of Lignite Industries (Deutscher Braunkohlen-Industrie-Verein). Big labour unions supported an eco-tax, expecting positive effects for employment (Putzhammer 1998: 41). Only NGOs were unanimous in its support.

Keeping in mind that resources are not equally distributed between organisations of a network, the question arises how members of the network became active in influencing the decision-making process.

We have asked the organisations what kind of activities they consider to be influential and what activities they have actually employed to influence the decision making process on the introduction of an eco-tax (figure 2).

Figure 2: Activities regarding the introduction of eco-taxation

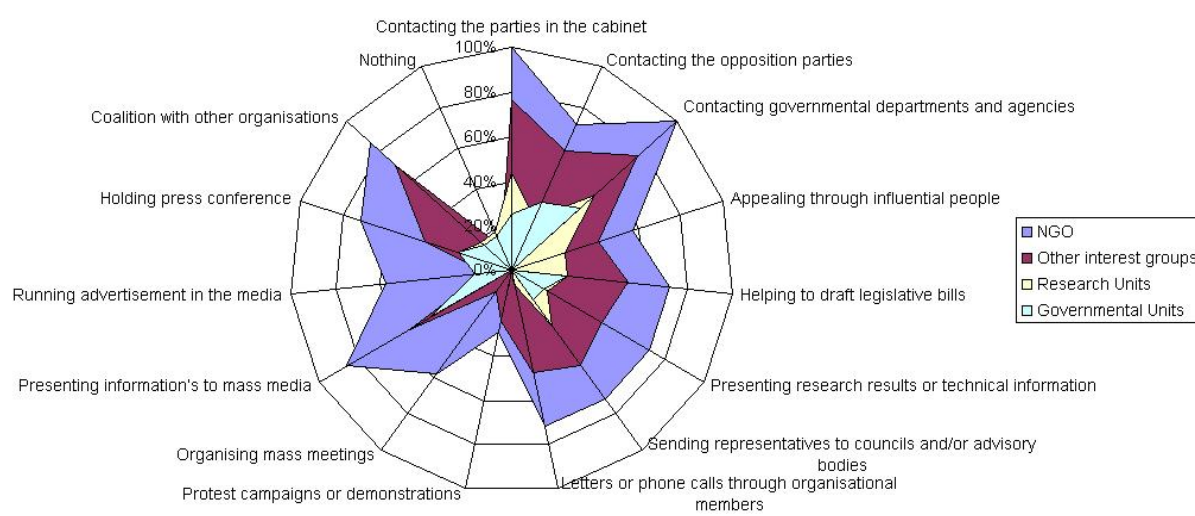


Figure 2 reflects the pattern of action of the network in favour of the introduction of the eco-tax. The main target in the policy-making process, for all network members, have been governmental institutions, including help in drafting the bill or even contacting opposition parties. Only the NGOs have extended their activities to channels of directly and indirectly influencing the general public by contacting the mass media or through the organisation of

mass rallies. As their resources are low we might argue that mobilizing the general public and employing the media may compensate for a low number of members. This appears especially true with regard to high environmental awareness in German society and its tradition of direct action. Citizens' movements have been active during the seventies all over the country and again after the Chernobyl accident in 1986 .

## The Question of Power: Influence, Conflict and Cooperation

As mentioned before climate change policy divide the network in pros and cons, but this does not tell us the whole story. With regard to the policy-making process the crucial point is how opposite positions are mediated and integrated into the process. Therefore, we will have a look at conflict constellations and cooperation patterns.

To grasp the conflict potential, we have asked the organisations of the network what organisation they consider an opponent. The results are supporting our assumptions but are startling still:

The data demonstrates that NGOs and interest groups are mostly involved in conflicts. NGOs name the highest number of organisations they consider to be opponents, even though the difference with other groups is not significant ( $p=0.431$ ). Interest groups on the other hand are most frequently named as being opponents by the interviewed organisations, but only the difference of the frequency between interest groups and research institutes is significant. ( $p=0.010$ ).

Organisations' representatives were asked which other organisations (out of a list of 48) they perceive as opponents (column one), it was counted how often they are

perceived as opponents by other organisations (column two), and it was counted how often classification as opponent was mutually symmetric (column three).

Table 4: Conflict patterns

	Mean number of organisations out of 48 named as opponents	Mean frequency of being named by 48 network members as opponents	Mean number of symmetric opposite relation
Governmental Units (n=11)	2,45	3,45	0,27
Research Units (n=13)	2,30	1,07	0,07
NGOs (n=8)	6,12	3,12	1,25
Other interest groups (n=17)	3,70	5,41	0,70

The ten national organisations that were named most frequently as opponents are the Association of German Electricity Suppliers (VDEW), the Association of Lignite Industries (Deutscher Braunkohlen-Industrie-Verein), Shell, British Petroleum and other organisations related to the interests of energy suppliers. From the governmental organisations the Ministry of the Envi-

ronment, the Green Party and the Christian Democratic Party are named, but no research institute and no NGO are mentioned as opponents.

In order to get an idea of the conflict pattern we will now explore the relative frequency one group has named the other as being an opponent (table 5).

Table 5: Relative Frequency of Conflict

	Governmental Units	Research Units	NGOs	Other interest groups
Governmental Units	0.041	0.007	0.000	0.112
Research Units	0.021	0.053	0.019	0.072
NGOs	0.170	0.000	0.047	0.228
Other interest groups	0.085	0.019	0.156	0.088

While conflict patterns reflect differences in positions, it is startling that the overall level of conflict is rather low. We can not find any open fragmentation of the network. The strongest opposition we can find between NGOs and interest groups, while NGOs are not concerned about research institutes and show only little concern with regard to other NGOs. What might be interesting is that the governmental units do not mention any problem with the NGOs, but name a relative high number of opposite organisations in group 4 (other interest

groups). If these answers are reliable, this raises the question whether party affiliation of the government is crucial for the position of NGOs within the network. Weidner and Jänicke (1995), in their comparative research, did not find any case where party composition of the government made any difference, but since in 1998 the Green Party joined the Social Democrats in a coalition government, the data may already reflect closer cooperation and less conflict between NGOs and government than under conservative majorities. The

appearance of former environmentalists in public offices and the federal bureaucracy might be considered to benefit environmental networking between NGOs, environmental research institutes and the environmental administration. At least in the case of introducing the eco-tax the inclusion of the Green Party in the coalition government should be considered to have strongly favoured the introduction (Reiche and Krebs 1999: 294). This argument is well supported by data concerning information exchange and cooperation patterns.

Open access to information is important, because the number and diversity of in-

formation sources at the disposal of policy-making institutions is crucial for the professionalisation of the network and the quality of political decisions. To be accepted by the network as an important information source implies influence. Moreover, beside its function of knowledge diffusion, information exchange serves as an important step towards cooperation.

We distinguish between the number of information contacts mentioned by the organisations of the network (A), the frequency they were named as a source of information (B), and the number of organisations with whom they exchange information (C) (table 6).

Table 6: Sources of information

	Mean number of organisations mentioned as information source (A)	Mean frequency of being mentioned as information sources (B)	Mean number of information exchange relations (C)
Governmental Units (n=11)	32,27	32,18	24,90
Research Units (n=13)	21,53	24,92	14,15
NGOs (n=8)	31,87	29,00	23,37
Other interest groups (n=17)	26,11	24,94	17,35

NGOs and governmental units name the highest number of organisations from which they get information.

Among the ten organisations with the highest number of information sources are the Ministry of the Environment, the Foreign Ministry, the Federal Environment Agency, the Green Party, Greenpeace, BUND, Germanwatch, the Wuppertal Institute for Climate, Environment and Energy, and only the Association of Electricity Suppliers (VDEW) from the business sector.

Most of these organisations are among those who were likewise named most frequently by other members of the network

as a source of information. Among the top ten are again the Ministry of Environment, the Federal Environment Agency and the Green Party, as well as the country's three most important environmental NGOs, leaving other interest groups behind them. In both perspectives NGOs and governmental units are mentioned more frequently than research units and interest groups. This is startling, since, in the case of the NGOs, it demonstrates that they do not only depend on expert knowledge but are also well accepted as independent sources of expertise themselves. With regard to the professionalisation of the network we would rather have expected a leading role of research institutes. How-



ever, according to the data, they are even less involved than other interest groups. They mostly are involved in information exchange with the environmental administration. But while the administration considers NGOs an important source of information, research institutes do not.

When looking at the inter-group information contacts, we find the highest relative frequency of contacts between the gov-

ernment units and the NGOs. Unlike our expectations/assumptions, NGOs do not depend highly on information from research institutes in order to compensate for weak resources. Rather they have even more contacts with other interest groups, while these other interest groups, too, contact governmental units and NGOs more frequently than research institutes.

*Table 7: Relative Frequency of Information Contacts*

	Governmental Units	Research Units	NGOs	Other interest groups
Governmental Units	0.669	0.636	0.739	0.631
Research Units	0.615	0.497	0.375	0.312
NGOs	0.761	0.500	0.797	0.625
Other interest groups	0.631	0.439	0.566	0.526

Tables 6 and 7 demonstrate that the governmental units are most frequently involved in gaining and providing information in any constellation. All other groups are targeting above all the environmental administration, but the network is inclusive without significant differences between the groups in terms of information contacts.

Beyond a mere information exchange, we have asked organisations about their supportive relations<sup>2</sup> with other members of the network. This question mainly aimed at the reconstruction of advocacy coalitions in the national policy-making process. Like expected, the correlation between information exchange and support is high, i.e. those who maintain many contacts to ex-

change information, have many supportive relations, too.

Again we differentiate between the number of organisations, which each organisation mentions as supportive, the frequency the same organisation is mentioned as supportive and the cooperation relations, i.e. the number of organisations, which were named by organisations they consider themselves as supportive. Again the governmental units responsible for environmental policy are at the center of the network, followed by the NGOs:

<sup>2</sup> Since the expression „cooperation“ implies an equal relation between at least two partners, we prefer to use the term „support“ to indicate that an organisation may provide support without gaining any return for it or vice versa.

Table 8: Cooperation pattern

	Mean number of organisations mentioned as being supportive	Mean frequency of being mentioned as supportive	Mean number of cooperation relations
Governmental Units (n=11)	15,36	16,27	4,72
Research Units (n=13)	10,69	12,00	4,69
NGOs (n=8)	10,62	15,37	5,62
Other interest groups (n=17)	14,41	11,00	5,52

The group that names the highest number of other network organisations they support includes the Foreign Ministry, the Federal Environment Agency and the Parliamentary Commission for Environment, Nature and Reactor Safety, the German Association of labour unions (DGB), the Wuppertal Institute, Germanwatch and the Association of Car Producing Industries (VdA), i.e. members of all groups are represented. This corresponds with the ob-

servations of some authors that new policy coalitions appeared at least since the early 90s. In the case of the eco-tax issue coalitions came into existence between Greenpeace and the labour union for public services (ÖTV), the Green Party cooperated with the labour union IG Bauen-Agrar-Umwelt, and BUND with Misereor, a humanitarian organisation linked to the Catholic Church (Reiche and Kobs 1998: 189-191).

Table 9: Relative frequency of support between the groups

	Governmental Units	Research Units	NGOs	Other interest groups
Governmental Units	0.421	0.294	0.330	0.262
Research Units	0.280	0.361	0.125	0.113
NGOs	0.170	0.144	0.453	0.191
Other interest groups	0.415	0.183	0.406	0.320

Table 9 demonstrates that the network is well integrated. NGOs are integrated like the other groups. Even though they have opponents in the network, mostly from interest groups associated with business, this does not have any consequences for information contacts and their support frequencies.

What does this mean for the position of each group in the network in terms of power? We asked the participants of the questionnaires which organisation they consider as most influential. Among those ten organisations with the highest reputation in terms of influence the most fre-

quently mentioned are Greenpeace (3.37), the Wuppertal Institute (3.06), the Federal Environment Agency (2.96) and the Association of Car Producing Industries (VdA) (2.70). This corresponds to the data concerning information exchange and cooperation. Here too Greenpeace, the Wuppertal Institute and the Federal Environment Agency are among the ten organisations with the highest reputation. The diffusion of former activists of the environmental movement in all of these organisations can be assumed to be in favour of policy coordination.

## **Explaining political output by policy networks**

The German contribution to global climate change politics has been highly appreciated internationally. We have started the analysis of our data with the assumption that a well integrated policy network might explain proactive environmental policies. We have explored the working of the policy network with regard to inter- and intra-group cooperation, information exchange, as well as conflict patterns and have referred to the case of the eco-tax legislation to verify the data.

Our findings may be summarized as followed:

The network is divided in environmental and economic interests, but it is not fragmented. Data demonstrates that levels of conflict are low and cooperation and information exchange is not divided along conflict lines. Even though at least the eco-tax issue might have been controversial, the network has been open to new ecological coalitions and new cooperation patterns. The research institutes were influential in presenting proposals. Especially the study of the renowned German Institute for Economic Research (DIW), conducted for Greenpeace in 1994, is said to have been extremely influential in the decision-making process. The labour unions have joined forces with NGOs in favour of its introduction. Cleavages are less deep than expected. All groups have access in the policy-making process, even though the distribution of resources is not balanced at all. The data support qualitative research according to which NGOs in Germany are integrated and an accepted part of the information and support network. Indeed, they are considered to be more influential than other interest groups.

This is supported by the interviews, according to which inequality of resources does not matter as much as expertise and good relations with the government. Even though it has been argued that NGOs are "low budget" organisations, they seem at least partly to compensate weak resources by employing mass media for their purposes, forming coalitions with research institutes and labour unions and targeting the government. They are favoured by a competitive party system, which allows influential members of the environmental movement to become party politicians. Other environmentalists joined research institutes. After the 1998 elections some of these former NGO representatives have become members of parliament and/or officials in governmental institutions. Even though former research suggests that the parliamentary political process does not explain differences in policy outputs, it is obvious that the relation between NGOs and governmental units is stronger than with other groups, which may be ascribed to the political change of 1998. At least with regard to German climate change policies since the mid 90s, the political closeness between the leading organisations of the network should not be underestimated as a component which explains political output, besides policy style and political culture. Shared basic political beliefs among the organisations with the highest reputation in the network, namely the Öko Institute and the Wuppertal Institute from the research institutes, the Ministry of Environment and the Federal Environment Agency from the government units, and Greenpeace and BUND from the NGOs, may be considered to provide the network with preconditions favourable

to proactive environmental politics. At the same time economic interests are integrated. Thus, the network may be described as inclusive, cooperative, and open.

Integration of economic and environmental interests may imply that the policy output appears as a mere compromise. In the case of the eco-tax process German critics have complained about the power of interest groups in the environmental policy-making process. They argue that unrelated to the government's party affiliation, every government has to cooperate with interest groups from the business sector in order to survive (Krebs and Reiche 1996: 141). From the perspective of radical environmentalists, the German government has failed to introduce an eco-tax which would have had the potential to become a means of ecological modernization, as tax income is not spent for environmental protection purposes and actual tariffs are much lower than has been demanded.

Furthermore, the German eco-tax was criticised because it lacks incentives to reduce CO<sub>2</sub> emissions, because it is based on the taxation of secondary energy rather than primary sources.

When referring to the situation in other countries, critics may become more satisfied: the introduction of the eco-tax made Germany a forerunner in climate protection internationally. Although the introduction was considerably later than in the pioneering Scandinavian countries, it gained international attention and it is likely that further eco-taxes in other countries and the EU are triggered. The introduction has been a success in terms of green interests in so far that the tax has been introduced and that the introduction has been decoupled from the activities of the EU. NGOs and green interests in the government and in society have had voice in the process and this can not be taken for granted with regard to other societies.

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