DIFFERENCES IN CLIMATE CHANGE POLICY IN GERMANY AND THE UNITED STATES FROM A POLITICAL SCIENCE PERSPECTIVE

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INTRODUCTION
"From now on, political science takes over from natural science". John Prescott, Britain’s Deputy Prime Minister, announced on his arrival in Kyoto (according to "New Scientist"-Editorial, 13. 12. 1997).

Understanding the specific "rationality" of policy-making in different political systems, and thus analysing climate change policies from a political science perspective, may be helpful for the further formulation and successful implementation of climate change policy. An assessment of mitigation strategies and the formulation of response strategies focusing only on the economic, technical and scientific aspects of the climate change problem run the risk of not identifying and removing barriers within the policy-making process caused by cultural values, different interests, institutional structures, and the "power-play" in different national political systems.

International and national climate change policies may either mutually support or block each other. The international political debate can on the one hand be a driving force, mainly because of its "agenda-setting" power for the national political debate, but on the other hand the outcome of international climate change policy depends on the capability of national governments to formulate adequate political goals and programs, and to have the power for their realisation and implementation in the national political process.

The following analysis will focus on the differences in climate change policy in Germany and the United States. From a political science perspective, it has to deal with the determinants and restrictions of the policy-making processes and their impact on policy formulation and implementation in both countries. Two kinds of determinants will be considered: structural "internal" determinants deriving from the specific setting and mode of operation of the political-administrative systems, and external determinants, such as public opinion, the role of the media, interest groups, and cultural values, which favour or restrict the process of a pro-active climate change policy. The article will not discuss different expert opinions regarding the seriousness of climate change or the economic opportunities or risks of mitigation strategies. Different expert opinions on these issues exist in both countries. I support the thesis that they cannot explain the differences in the German and US-climate change policy, but "that the perception of expert opinion in the "policy world" makes the difference" (Freudenberg/Buttel 1997, p.1). The analysis will begin with a description of the German and US-climate change policy and a discussion of some indicators that allow
a further comparison of the positions of both countries. Two phases of the policymaking process will be distinguished: the phase of policy formulation and the phase of the concretisation and implementation of climate change programs. In each phase different determinants and restrictions play a role.

**CLIMATE CHANGE POLICY IN GERMANY AND THE UNITED STATES**

From the beginning of international and European climate change policy, Germany was a driving force. In June 1990 the Federal Government agreed on a 25% CO₂-reduction target by the year 2005 compared to 1987 emission levels and commissioned an interministerial working group, headed by the Federal Ministry for the Environment, to prepare a CO₂-reduction program which should point out the necessary policies and measures to reach the political goal. This program was adopted by the Federal Government in November 1990 after German unification. It highlighted the importance of economic instruments in combination with a package of regulatory and "soft" instruments such as information and training. Together with the adoption of the "action-plan" the Federal Government strengthened the CO₂-reduction target to 25-30% because of the large reduction potential in East-Germany. It again commissioned the Federal Ministry for the Environment and the interministerial working group to elaborate additional proposals which should take the new situation after German unification into account. Based on this request modified programs were adopted by the Federal Government in December 1991 and September 1994. The reduction target was further strengthened when Chancellor Kohl announced that Germany will reduce its CO₂-emissions by 25% by 2005 compared to 1990 emission levels, at the First Conference of the Parties to the Framework Convention on Climate Change in 1995 in Berlin.

The German commitment had a major influence on the formulation of the climate change policy within the European Union. Germany accounts for about 30% of the emissions of all European Union Member States. It therefore paved the way to agree on a CO₂-stabilisation target for 2000 by the European Joint Council of Environment and Energy Ministers in October 1990 for the European Union as a whole. Furthermore, this let to the commitment agreed upon in the Framework Convention on Climate Change - the non-binding target to return to 1990 levels by the year 2000 adopted in Rio de Janeiro in 1992. It also influenced the agreement of European Environment Ministers from March 1997 to go into the climate negotiations in Kyoto with a 15 percent reduction target for CO₂, CH₄ and N₂O by 2010 for all Annex I countries.

At the end of 1995, CO₂-emissions in Germany were reduced by 12%, methane by 16% and N₂O by 7% (Second National Report 1997, p.3). Most of the reduction was achieved in the so-called New Lander. Only part of it, however, can be perceived as a "free lunch" resulting from the breakdown of energy intensive production branches such as the chemical industry. The political economic and social restructuring of East Germany went along with high private and public investments. The net transfer of public finances to East Germany has totalled about 755 billion Deutschmark between 1990 and 1996. It is obvious that this financial transfer was not motivated by climate change policy but it included subsidies for an energy efficient renovation of the old
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Building stock, the replacement of lignite fired heating appliances in households by modern, mainly gas fired installations, investments at the local level for cogeneration plants, and a nearly complete exchange of old central power plants with more efficient ones by the public utilities. In addition to that, West-German legislation was enforced, for instance concerning the installation of thermostats in buildings. Energy prices for private households increased dramatically compared to the very low prices formerly. The adjustment of the German CO₂-reduction target was made on the assumption that in 2005 East-Germany could be at the 1990-level of West-Germany concerning energy efficiency and the energy mix. Given the fact that the energy intensity of the East-German economy is still about 80%, and CO₂-intensity about 140% higher than in West-Germany (Second National Report 1997, p.9-12), there is still a big potential for CO₂-reduction left in East-Germany.

Compared to the achievements in East-Germany, the impact of the CO₂-reduction program in West-Germany is rather modest. Per-capita CO₂-emissions decreased from 11.2 tons in 1990 to 10.9 tons in 1995. In absolute figures emissions increased by 2% in the same period due to an increase of the population by 5 percent, to the partial transfer of production from East to West, and to an increase in the transport related emissions by some 7%. The development in the transport sector, therefore, has compensated for most of the reductions achieved in the energy supply, and the industrial and private households sectors.

To date, there is no doubt that the measures adopted in Germany are not sufficient to reach the political goal of a 25% CO₂-reduction by 2005. This was admitted by the German Federal Minister for the Environment, Angela Merkel when submitting the Second National Report pursuant to the United Nations Framework Convention on Climate Change (BMU-Pressemitteilung, 16.4.1997). She has therefore called for the adoption of additional measures and is generally supported by the fact that the Federal Government has, after Kyoto, again expressed its willingness to stick to the national 25% CO₂-reduction target. By what means this could be achieved and what kind of additional measures are needed, is the essence of a highly controversial debate in Germany.

Compared to active policy formulation in Germany, the political approach of the US-administration concerning climate change can be characterised as being reactive and incremental. The US-administration emphasized the "scientific uncertainties" during the debate leading to Rio de Janeiro and opposed the idea of setting targets and timetables. But it finally endorsed the Framework Convention on Climate Change with its CO₂-stabilisation target. It went to Kyoto with a stabilisation target for all greenhouse gases and finally agreed to reduce greenhouse gas emissions by 7.5 by 2008-2012.

After the adoption of the Framework Convention on Climate Change, the Bush administration presented in December 1992 its National Action Plan for Global Climate Change focusing on "low-cost actions" (van der Wurff 1997, p.27). A more ambitious approach was started by the Clinton administration with the presentation of its Climate Change Action Plan in October 1993. President Clinton promised to stabilise US CO₂-emissions by the year 2000 compared to 1990 levels, and announced the introduction of an energy tax (BTU tax) which was blocked by Congress in 1993.
The Clinton administration also changed its international policy position. In 1996, at COP-2 in Geneva, it indicated that it would no longer oppose the adoption of legally binding commitments, provided that instruments such as a tradeable permit system would guarantee enough flexibility.

During 1990-95 CO₂-emissions in the United States continued to rise by nearly 6 percent, methane by approximately 4% and N₂O by nearly 10% (US-Climate Action Report 1997, p.8 and 9). The US administration expects an increase of CO₂-emissions by nearly 12% by 2000, and by about 30% by 2010 according to "business-as-usual"-projections.

Some indicators related to the carbon and energy intensity of the German and US-economy may explain differences in the United States and German climate change policy. Similar is the carbon content of the energy mix. Fossil fuel carriers in 1995 account for 87% of energy consumed in Germany (Second National Report 1997, p.43) compared to 85% in the US (US-Climate Action Report 1997, p.59). Per-capita CO₂-emissions in the United States compared to Germany are of a factor 1.8 higher (US: 19.7 t/a in 1995, Climate Action Report 1997; Germany: 10.9 t/a in 1995, Second National Report, p.13) and energy consumption per capita is twice as high in the US compared to Germany (11,395 t to 5,474 t SKE in 1994, UN Statistical Yearbook, 1996). Energy- and CO₂-productivity differ nearly by the same factor. To produce one unit of GDP in the United States, about twice as much energy is needed compared to Germany (310 kg oil equivalent to 160 kg oil equivalent per $1000 GDP in 1994, World Resources Institute 1996/97) and about 1.7 times more CO₂ is emitted (800 kg compared to 470 kg CO₂ per $1000 GDP in 1992 (World Resources Institute 1996/97).

Significant differences can also be observed with regard to the dependency on energy imports. Nearly 60% of German primary energy supply is covered by imports, compared to only 17 percent in the United States (1992 data, World Energy Council 1995). 40% of final energy in Germany is consumed by private households and the commercial sector, compared to only 26.5% in the US; the industrial sector consumes 39% in the US and 33% in Germany. Concerning the transport sector, differences are even more remarkable: 34.5% in the US and 25% in Germany of energy goes into the transport sector (1992 data, World Energy Council, 1995).

A comparison of the electricity and gasoline prices also shows big differences: US-industry has to pay 0,047 compared to 0,069 $/kwh for German industry (data 1995, IEA 1/1997). The price for one gallon of gasoline is 1.31 in the US compared to 3.25 $ in Germany (1993 data. Lawrence Berkeley Laboratory, 1994).

Unfortunately, energy statistics do not provide concrete data to compare the costs of the energy services in both countries. The driver's gasoline bill, for instance, depends not only on the gasoline price but also on the gasoline consumption of the type of his car. Big gas-guzzling cars such as minivans and pickup trucks have become fashionable in the US and already represent about 30% of the market (The Daily Telegraph London, Jan 17, 1998). Thus it is not unlikely that the low gasoline price in the US does not result in a lower gasoline bill of many American drivers compared to the German driver's bill.

To summarize:

- the fossil fuel content of the energy mix is similar in both countries,
• energy productivity is much lower in the US, which can be interpreted as a higher no-regret-potential for energy efficiency improvements in the US,
• the dependency on energy imports is higher in Germany,
• the transport sector is more important in the US and
• energy prices are much higher in Germany compared to the United States.

THE POLICY-MAKING PROCESS
The German case
The German process of climate change policy-formulation can be characterised by a high degree of early concertation and cooperation between the Federal Government and Parliament, and a high consensus among the different political actors at the federal and state level about the need and opportunities of active climate change policy. Whereas the general public debate concentrated on the moral imperative of a German contribution to solve a global problem, the "double dividend" argument dominated the internal political process. Climate change policy was perceived as a means to stimulate innovation and the modernization of the German economy, and to simultaneously solve ecological and social problems.

The setting of the German federal political system normally does not favour innovative political solutions. Like in the United States the approval of a second chamber, the Bundesrat, is needed for most legislation and international treaties. At present, and during the process of climate change policy formulation, the majority of the members of the Bundesrat, representing the Länder-governments, is formed by the Social-Democrats (or coalition-governments with the Social-democrats as the major partner), the party in opposition in the German Bundestag. Another limitation is caused by the German electoral system, which normally favours coalition governments. To date, the Christian Democratic Union, the party in power in the federal government, needs the liberal party as a partner in government. Coordination within the Government and with the respective Parliamentarian groups is therefore essential for a successful policy process.

It was therefore of major importance for climate change policy formulation that, in 1987, the German Bundestag inaugurated the Enquete Commission for the Protection of the Global Atmosphere. In the Commission, Members of Parliament representing the different parties, and experts from the science community worked together. Civil servants from the federal ministerial administration and the Länder administration closely observed their discussion. In the following years the Enquete Commission financed the work of most of the climate change and energy policy relevant scientific research institutes in Germany. They elaborated studies for the consensus-building process of the Commission. The chairman of the Commission, an ambitious Member of Parliament from the Christian Democratic Union, successfully managed this process among deputies from different parties and experts representing the whole range of opinion in the scientific community. Important was not only the integration of different political partisan opinions, but also the integration and, to a certain extent, neutralization of all those experts in the scientific community, who otherwise would have doubted the seriousness of the problem and the need for early action.

The work of this Parliamentarian Commission was important, but not sufficient to
find the support of the majority of the German Bundestag for a 25% CO₂-reduction target, binding the Federal Government. In the Parliamentarian German political system, the majority factions of Parliament will not vote against its own Government. It was therefore essential for the success of the Commission that the Federal Ministry for the Environment prepared, parallel to the discussion in the Commission of the Parliament, a Cabinet decision on a German CO₂-reduction target. To better understand the German political-administrative climate policy-making process, it is interesting to know that the initiative to engage in climate policy was not taken by the air pollution-control division of the Federal Ministry for the Environment, but by a work-unit that was responsible for cross-sectoral issues and the problem of how environmental concerns could be better integrated into other policies. Because of the nature of the climate change problem, where the traditional end-of-the-pipe solutions could not be applied, the unit welcomed the global warming issue as a strategy to successfully question the up-to-now unsustainable structures mainly of energy and transport policy, but also of agricultural and product policy. At first it was supported by the Chancellor's Office and the Ministry of Foreign Affairs because they were aware of the need for a strong German position in the forthcoming international negotiations.

The decision on a 25% reduction target by the year 2005 for Germany was prepared by the administration of the Federal Ministry for the Environment behind "closed doors". Intensive internal discussions and coordination mainly with the Ministry for Economic Affairs (also responsible for energy policy), the Ministry for Transport and other concerned departments of the Government took place to reach consensus. But there was no involvement of any interest group. The first hearing of experts and representatives of interest groups took place in May 1991, when the decision on the 25% reduction target was already adopted by the Federal Government. It was then also approved by the German Bundestag and the Bundesrat.

The normally rather difficult consensus-building process between the Environment Ministry and the mainly economically oriented Ministries within the Federal Government was successful because the concerned departments felt that climate policy would help them solve their own problems: the increase in traffic and the growing costs for transport infrastructure preoccupied the Federal Ministry for Transport. The Ministry for Housing and Regional Planning was concerned with the energy quality of buildings as a major social problem, and the Ministry for Economic Affairs still remembered the oil price crisis and in principle welcomed strategies that could make the German economy less dependent on energy imports and world market energy prices. Important for this perception was the fact that most of the Ministries had sent representatives to the interministerial meetings who were responsible for environmental and general affairs. Thus a process of sectoralisation and "negative coordination" (Scharpf 1973, p.87-89), which normally characterises the German interministerial decision-making process, could be avoided in the programming phase of Germany's climate change policy.

By far more controversial is the concretisation of the program, the adoption of specific measures and the implementation. The Federal Ministry for the Environment has no procedural instruments at its disposal to urge the involved departments to
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prepare adequate measures, or is too weak to block even counterproductive decisions such as the mode of the liberalisation of the electricity and gas market, intended by the Amendment of the Energy Act, which was approved by the German Bundestag in November 1997, and which is opposed by the Länder within the Bundesrat. Equally controversial discussions are taking place concerning an ecological tax reform, with the introduction of a tax on electricity and an increase of other energy taxes as the first step. There is strong opposition to these proposals not only within the coalition of the leading Federal Government and the majority in the German Bundestag, but also from the business community for competitiveness reasons. Another issue of controversy is the future role of nuclear energy. While the ruling Federal Government supports projects of a new generation of nuclear reactors, strong parts of the political community would like nuclear to be phased out.

For the realisation and implementation of Germany’s climate change policy the activities of the German Länder are of major importance, given the difficult situation of climate change policy at the federal level. After 1990 the German Länder and many cities and local authorities began to develop and to implement their own climate protection policies in the field of their responsibilities (Second National Report 1997, p.170-206). Those initiatives very often came from Parliament and political parties and certainly helped to curb greenhouse gas emissions in Germany.

But the role of the German Länder in climate change policy does not stop here. The support of the Länder is also needed for the adoption of federal law and for the implementation of federal legislation and programs. For instance, jurisdiction with regard to regional planning, the pattern of land use, policies regarding infrastructure, the implementation of construction law and waste policy all belong to the responsibility of the Länder. In some regards the situation is comparable to the role of the Federal States of the United States. Their own legislative power, however, is much more restricted. Unlike the US situation they are not entitled to decide, for instance, on specific insulation standards for buildings or stricter emissions-standards for vehicles, to mention only the well-known Californian example. The Länder therefore can help to promote climate change abatement activities. In many cases they can also block insufficient legislation in the Bundesrat, but they are legally and financially not strong enough to substitute lacking federal activities with regard to taxation and other framework conditions for reaching the ambitious German CO₂-reduction target.

To a certain extent the situation of the Federal State with regard to European policy is similar to the relation between the federal and the state level in Germany. Germany is part of the European Union and the internal market. Emission standards for vehicles, as well as other trade related standards, are harmonized at the European Union level limiting the national policy-making power. The same is true for important climate change relevant policy areas such as energy policy, transport policy and agricultural policy, some of which at present are developing in a counterproductive direction. Another barrier is the lack of an adequate tax policy to counterbalance the policy of cheap energy prices due to the liberalisation of energy markets (see Palinkas contribution to this publication).

To sum up:

• Climate change policy formulation and programming is a "success-story" in
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The United States' case

In the US-Presidential political system the federal government and the legislative bodies are clearly distinct power entities. Governmental policy formulation and programming is separated from the political process within Congress. President Clinton and his administration have to struggle with a different party-majority in the House of Representatives and in the Senate. But even if this would not be the case, a US President cannot rely on the support of the representatives of his own party due to a different party system in the United States - a rather weak party organisation serving mainly as an electoral campaign machine. Congress and its committees compete with the President and his administration in formulating political goals, programs and legislative proposals, and use their own expertise in doing so. Lobbying from public and economic interest groups, therefore, has a better chance than in Germany of addressing Members of Parliament, Senators and their staff, to influence their ideas of policy formulation and legislation. The impact of economic interest groups is also facilitated by the fact that there is - different from the German system - no public funding of the work of political parties and their activities during the electoral campaigns. Candidates who do not have enough resources of their own to finance their campaign, have to find sponsors. This offers a large field for interest-guided "help", mainly for economically strong interest groups.

The US climate change policy-making process can therefore be characterised by two specifics. There was no attempt at an integrated process of policy formulation within the political institutions and among the political actors. Different political opinions reflected more or less the different points of view of external forces. Main elements of Clinton's Climate Change Action Plan, the introduction of the BTU tax and financial resources for the funding of climate change mitigation measures, were not approved by Congress.

The defensive role of the US administration in climate change policy-making may be explained by structural determinants of the American political system. But part of
the defensive role of the United States Administration seems to be influenced by a non-political rather technocratic, administrative preparatory process. The lack of active policy-formulation and consensus-building activities from the side of the US administration could mainly be observed during the extended lead-up to Kyoto. Within the preparatory meetings the US delegation confronted the other delegations of the Parties to the Framework Convention on Climate Change with contributions of a highly scientific and technical nature. This technocratic approach may explain why they didn't formulate a political position earlier and did not start earlier to round up support for it. President Clinton and Vice President Al Gore have an important "pulpit" to communicate and to assemble public opinion. The Executive Branch of the White House didn't try to use that, but formulated a position at a very late stage. Very late in the process they called interest groups to the White House to "talk". Thus for a long time they left the field open to opponents like the global climate coalition and failed to join forces with prominent public interest groups in favour of a strong American climate policy.

The other specific is a different perception of the role of politics and the opportunities of climate change in the United States to the German perception. Whereas German policy and public opinion believe in the necessity of "political guidance" and state responsibility, US policy emphasises the role of the market with a minimum of political interference and a high degree of "flexibility". In general, climate change is perceived as a "burden" resulting from a global problem, which may restrict the United States sovereignty and economic performance.

The unanimous adoption of the Byrd/Hagel resolution by the Senate in July 1997 reflects this perception. The resolution calls for a participation of developing countries in combating climate change, and formulated the position of the Senate to prevent ratification of an international commitment under the Framework Convention on Climate Change with its two-thirds quorum, if the financial and economic consequences were not acceptable for the American economy. The following comments of Republican Senators may illustrate the concerns of the opposition in Congress to a stronger commitment of the United States in combating climate change. "This is the first time an American President has allowed foreign interests to control or limit the growth of the U.S. economy", Senator Larry Craig of Idaho commented the Kyoto commitment (US News and World Report, Dec. 15, 1997). Senator Chuck Hagel of Nebraska even saw America's security at stake, "since the US military was one of the biggest users of fossil fuels in the US, any treaty forcing the US to reduce its emissions would have negative side-effects on national security" (Resources for the Future 1997, p.8).

In the coming months the Clinton administration has two problems to solve. Clinton and Gore are determined not to send the Kyoto treaty to the Senate for ratification, unless they gain the cooperation of major developing countries such as China, Mexico and Brazil. To achieve this goal they need a further clarification among the Parties to the Convention concerning instruments such as the "Clean Development Mechanism". According to the US administration it should serve as a "clearinghouse for private-sector investments", opening up lucrative foreign markets for America's industry. They also have to push international agreements with regard to the
establishment of a system of tradeable permits, which is perceived in the US debate as the most cost-efficient way of combating the greenhouse effect.

The second field of action is domestic policy. Clinton needs the support of Congress to implement a series of measures, announced on October 22, 1997, consisting mainly of a $5 billion package of tax incentives and research grants, and the amendment of regulations aiming at unleashing competition in the electricity industry (White House Press Release, October 22, 1997). In the national political debate the fate of climate change policy is already now linked to Al Gore’s political future, running for Presidency in 2000, and the battle between big business and American environmentalists, being part of Gore’s political base. Curtis Moore characterised Gore’s situation as follows: "Gore is a textbook example of an American politician caught between the public interest and monied interests" (Washington Post, Dec 14, 1997).

PUBLIC OPINION AND THE ROLE OF INTEREST GROUPS

The external conditions for formulating climate change policy in Germany and the United States could not be more different. They were supportive and friendly in Germany and highly controversial in the United States.

Due to an intensive debate on the problem of climate change in the German media (Müller 1998), the awareness and knowledge of the German population about climate change is very high. In the opinion polls since 1990, people continuously placed climate change as one of the most frightening ecological problems in the future. The contamination of food or soil had a lower score, as well as the problems of overpopulation or chemical accidents (IPOS 1991, 92, 93, 94). Polls on the causes of climate change and relevant actions showed a very high degree of knowledge. For instance, 61% of a sample of 1212 West-German citizens gave the right answer in reply to the question, which kind of greenhouse gas may be the main contributor to climate change. In East-Germany even 64% could correctly indicate CO₂. 73% of the East-German interviewees knew the price of one kilowatt-hour of electricity and 42% in West-Germany. 53% in the East and 54% in the West knew that heating is the most energy consuming energy service in households (BMU 1996, p.67).

In the programming phase, Germany’s climate change policy was supported not only by environmental groups, but also by the majority of economic interest groups. A hearing with more than 250 representatives from all relevant groups, in May 1991 brought a high level of consensus with regard to the general objectives and the reduction target.

The situation is different concerning concrete measures and means. Particularly the energy industry - the suppliers of oil, coal and electricity - and the energy intensive industries oppose any regulatory or fiscal measures. They are dominating the economic debate on instruments and measures. The so-called "sunrise industry" is rather weak and has only recently started to become organized and to have a voice in the climate change debate. Other industrial branches, such as the construction sector and many small and medium-sized companies, have not yet realized that they would profit from a strong energy efficiency and solar strategy, and remain rather passive in the climate change debate.
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The generally supportive position of the associations of German industry and the interest of avoiding regulatory and fiscal political decisions, which the Federal Government had announced, led to a voluntary agreement and commitment of major parts of German industry. In 1995, the Federation of German Industry and 19 industrial associations and the public electricity utilities promised to reduce CO₂ on a voluntary basis. The commitment was strengthened in March 1996 (BDI, 1996). The associations of industrial branches promised hereby to reduce their specific or absolute CO₂ emissions by 20% by the year 2005 compared to the emissions level of 1990. The agreement covers more than 71% of the energy consumption of the industrial sector, and more than 99% of the public electricity supply. In response to this voluntary agreement, the Federal Government promised to refrain from legal measures and to negotiate exemptions for the German industrial branches concerned, in case of the introduction of an European CO₂/energy tax. The implementation of this agreement on the companies level is rather uncertain. It is therefore accompanied by a monitoring program under the responsibility of an independent economic research institute. The first monitoring report on the performance of the voluntary agreement was published in November 1997 (Hillebrand et al., 1997). It showed that two sectors, the chemicals industry and the steel industry, have already now nearly fulfilled their commitment due to the restructuring process in East Germany (Hillebrand et al., 1997, p.147). The Federal Government, in its last CO₂-Report, therefore asked industry to strengthen its commitment by an additional amount of 10-20 million tons (BMU 1997, p.4).

From a German perception, the general debate about climate change and technological solutions to tackle this problem is strongly influenced by a number of well-known, prominent individuals from the American environmentalist and scientific community. It seems that these advocates for a strong American climate policy could not mobilise the general public in the US. In a summary of the US positions on climate change policy, issued by "Resources for the Future", the authors summarized the attitude of the American general public as follows: "Much confusion and ignorance of the issue, ... little conviction of the need for strong action at this time; ... possible support for some modest actions ...(e.g. a small tax increase used for needed infrastructure repairs or to offset other taxes)". (Resources for the Future, 1997, p.13). The authors guess that relatively poor media coverage may explain this rather low awareness (Resources for the Future 1997, p.14).

Similar to the German situation, the "winner-industry" in the United States is rather weak. The opposition has organised resistance in the Global Climate Coalition, in which the oil- and coal- industry have joined forces with the car manufacturers and has aggressively articulated its view. Some weeks before Kyoto, the Global Climate Coalition launched a $13 million advertising campaign against an international treaty on climate change, and is expected to spend even more in the coming debate about ratification of the Kyoto Protocol (Washington Post, Dec. 14, 1997). A report, published by Greenpeace USA, indicates, that money from these interests is not only spent on advertising campaigns. Since the Rio Earth Summit in 1992, the oil and gas sector interests have donated $53.4 million to candidates and their parties. $20.8 million was donated in the period 1995/96 alone. In addition, the Big Three automakers (Chrysler, Ford and General Motors), together with the National Auto Dealers
Association, donated $9.1 million to politicians. The key US Senate committees: Energy and Natural Resources, Environment and Public Works, and Commerce, Science and Transportation and their members are, according to Greenpeace, beneficiaries of a considerable part of these donations (Greenpeace USA, 1997, p.3).

The close interrelationship between "monied interests" and the political world in the US political system would be a too simple explanation for the American perception of climate change. Fraenkel has shown in his excellent analysis of the US Governmental system that, due to the relative ideological neutrality of the American party system, the influence of religious and humanitarian groups on public opinion and the political process is higher than in other political systems (Fraenkel 1962, p.72). But he also pointed out that the United States have a deeply rooted tradition of economic liberalism. The role of the state and the expectations of the average American of the governments and state's responsibility for taking care of his or her personal future against external risks, is different from the German and Western European tradition. Whereas Germans tend to be protected against economic, personal and future risks by the state authority, and are therefore, in principle, willing to support governmental leadership for tackling future risks, Americans are not. This leads to the paradox that Germans accept restrictions for the sake of common and public interests, but are not willing to accept political interference with regard to their personal behaviour, such as smoking or driving fast. In the United States, on the contrary, government and the "political class" are expected to execute personal perceptions of morality if represented by strong public interest groups (the best example was the success of the "anti-saloon league" in 1919, and the then starting "prohibition"-period which banned the production and trade of alcohol in the United States) but are not necessarily given the mandate to interfere, if collective risks and dangers are at stake.

**SUMMARY**

Differences in climate change policy-making in Germany and the United States are firstly the result of a different perception of the risks and chances of combating climate change in both countries. In the United States, the climate change issue is perceived as a "burden" in the context of a global problem restricting United States sovereignty and economic performance. The German political debate by contrast, is focusing on the "double-dividend"-perception: that an active contribution to combat the global ecological problem is needed for moral reasons and for global security. Equally or even more important is the perception in Germany that active climate change policy can be used as an opportunity for innovating and modernizing the economy, for creating jobs and for becoming less dependent on energy imports. Different perceptions also prevail on the role of the state. Whereas German policy is formulated and supported by public opinion in the spirit of the necessity of "political guidance" and strong state responsibility, the United States' debate emphasizes the role of the market with a minimum of political interference and a high degree of "flexibility". Thus the political autonomy in the phase of policy formulation was rather high in Germany compared to a rather reactive policy formulation process in the US.

Policy implementation is difficult in both countries, but for different reasons. The US administration policy is blocked by a strong alliance of monied interests and the
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majority of the political actors in Congress. This can only be neutralized by a shift in the power balance between the interests of the opposing economic interests and the pro-active interests of the "winner" industries, public interest groups and public opinion. In Germany the political institutions and actors play a more important role. Therefore the implementation of the ambitious German climate change policy will depend more on the outcome of elections than on the position of interest groups. In both systems the reality of the economic indicators plays a secondary role. The relatively high no-regret potential in the United States, due to the relatively low energy efficiency of the US economy, is not perceived as an economic disadvantage, which may cause problems in future world-wide competition. It is also not realised that flexible instruments, like joint implementation and tradeable permits, will initially provide markets for "best available technology", but could be counterproductive to innovation and the necessary change of the existing structures and patterns of energy supply, production, consumption and mobility. In Germany, high energy prices are perceived as a competitive disadvantage, not realising that due to a higher energy efficiency of the German economy, the concrete energy bill in many cases is lower than in the US. A different perspective concerning competition is therefore needed to successfully implement the ambitious German climate change program: to make German economy less dependent on imported energy resources and more competitive by better and even more energy-efficient production and products.

Different approaches in climate change policy can to a large extent be explained by the difference of major "internal" and "external" determinants of the two political systems. Concerning implementation, mainly economic barriers and neo-liberal perceptions have to be removed in both countries. A first step here would be to improve energy statistics. For climate change policy and climate change political debate, energy costs - not prices - are relevant. The perception of the costs and benefits of climate change policy would be different, if energy bills and the costs of energy services in the industrial sector, in private households and in the transport sector would be compared, and not the economic performance of the energy supply sector.

Germany’s climate change policy got its public legitimacy and emphasis from the international climate change debate and the widespread perception of the positive impact of an active climate change policy on innovation and job creation in Germany (Jochem/Hohmeyer 1992, Umweltbundesamt 1997). For the debate in the United States the international scope of the climate change abatement process is rather demotivating. As long as the American society and the American political class believe that high greenhouse gas emissions and a high energy consumption equal a high standard of American life and economic prosperity, America's climate change policy will be reactive and defensive. But the impact of a moral imperative should also not be neglected. Strong political leadership together with the support of strong public interest groups have a chance to convince the American society that a new type of American worldwide leadership and pioneering role is needed to change unsustainable production, consumption and mobility patterns not only in the US but worldwide.
REFERENCES

BDI (Federation of German Industry) 1996: Aktualisierte Erklärung der deutschen Wirtschaft zur Klimavorsorge, Köln

BMU (Federal Ministry for the Environment) 1990: Beschluss der Bundesregierung zur Reduzierung der CO₂-Emissionen in der Bundesrepublik Deutschland bis zum Jahr 2005 vom 7. November 1990, Bonn


BMU 1997: Beschluss der Bundesregierung zum Klimaschutzprogramm der Bundesrepublik Deutschland auf der Basis des Vierten Berichts der Interministeriellen Arbeitsgruppe "CO₂-Reduktion" vom November 1997, Bonn

BMU-Pressemitteilung (Press Release) 16.4.1997: Bundeskabinett verabschiedet zweiten nationalen Klimaschutzbericht Deutschlands, Bonn


Hillebrand, Bernhard, Buttermann, Hans Georg, Oberheitmann, Andreas 1997; CO₂-Monitoring der deutschen Industrie - ökologische und ökonomische Verifikation, Band 1: Ergebnisse und Bewertung, Untersuchungen des Rheinisch-Westfälischen Instituts für Wirtschaftsforschung, Heft 23/1, Essen


Lawrence Berkeley Laboratory 1994: Energy Analysis Program


New Scientist 13-12-97: Editorial. Psst, wanna do a deal?


Differences in Climate Change Policy in Germany and the United States

politischer Prozess. Aufsätze zur Theorie der planenden Demokratie, Frankfurt


The Daily Telegraph London, Jan 17, 1998: America’s Major Car Makers are now Planning to Replace Gas-Guzzlers


US News and World Report 15-12-97: Derided as both too little and too much, the Kyoto treaty may still inspire progress on the environment, by Gregg Easterbrook


White House Press Release, October 22, 1997: Remarks by the President on Global Climate Change, National Geographic Society, Washington D.C.


van der Wurff, Richard 1997: International Climate Change Policies - Interests and Perceptions - A comparative study on climate change politics in Germany, the United Kingdom and the United States, Academisch Proefschrift aan de Universiteit van Amsterdam