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Freie Universität Berlin
Department of Political and Social Sciences
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Pioneers in Environmental Policy-Making

Report of the Colloquium

Axel Volkery
Klaus Jacob

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Pioneers in Environmental Policy-Making

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volkery@zedat.fu-berlin.de
jacob@zedat.fu-berlin.de

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Environmental Policy Research Centre • Forschungsstelle für Umweltpolitik
Freie Universität Berlin
Department of Political and Social Sciences
Otto-Suhr-Institute for Political Science

Ihnestr. 22
14195 Berlin

telefon	+49-30-838 566 87
fax	+49-30-838 566 85
email	ffu@zedat.fu-berlin.de
internet	www.fu-berlin.de/ffu/

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Abstract

On October 18th and 19th, 2002, a colloquium was held at the Freie Universität in Berlin, visited by an international group of about 60 scholars to present and discuss current research from social sciences regarding the potentials and restrictions of pioneering behaviour of states in environmental policy. The colloquium was funded by the Fritz Thyssen Foundation. It was organised on the occasion of the 65th birthday of Prof. Martin Jänicke in August 2002. The primary aim of the conference was to combine different streams of research that are yet independent in order to identify synergies for future research. In detail, these were research approaches that, (1) search for the national characteristics and conditions for pioneering behaviour, (2) ask for the international conditions and (3) analyse the economic conditions and implications of a vanguard role in environmental policy. The focus was primarily on contributions from political science.

It was largely consensus that pioneering behaviour is a critical influencing factor for the advancement of European and international environmental policy. It was conceded, that despite the advancing internationalisation of political law and decision making there is still room for manoeuvre for an ambitious national environmental policy. Beyond that, states may possibly enhance their capacity for action by a skilful management of interdependencies in international regimes and organisations. This can be indicated by the growing importance of the Scandinavian countries for the world wide development of environmental policy. It has to be mentioned though regarding the state of the art in social sciences, that there are neither generally accepted criteria of analysis for the empirical determination of pioneering behaviour, nor for the investigation of the relevant causal factors and impacts of such a behaviour. As a matter of fact, different definitions, perspectives for analysis and methods of measurement are applied, that have to be clarified and coordinated mutually in order to develop a consistent framework of analysis that can be utilised for empirical investigations in cross country comparative research. In the course of the colloquium, the outline for such a framework has been identified and discussed regarding forthcoming research. It is planned to publish the contributions to the project in a conference report.

1 Thematic context of the conference

It is a question open to controversial debate how environmental policy can be successful under conditions of economic and political globalisation and which role is taken by nation states, regimes based on international law, international organisations, multinational enterprises and nongovernmental organisations. Do effective solutions for the pressing global environmental problems depend on the institutionalisation of binding international law and international organisations? Or is it still the nation states that are decisive for the speed and the scope of the development of policies because they learn from each other and therefore, effective solutions for problems are voluntarily adopted (see e.g. Biermann, 2001).

The political relevance of this question can be clarified by the retreat of the US from the international climate change policy. Facing the stuck situation in international negotiations, could a pioneering role of selected nation states or regional confederations such as the European Union initiate an alternative mechanism of coordination, that can be labelled as “Governance by Diffusion of Policy Innovations” (Kern et al., 2001; Ott and Oberthür, 1999; Tews and Busch, 2001; Scheer, 2001)? Instead of an internationally coordinated proceeding of the community of nation states, a process of imitation of policy innovations among the nation states could be a functional equivalent, in particular if this is linked to technological leadership, which results in economic advantages. Examples of this are the rapid diffusion of funding programmes for renewable energies or the – however slower – diffusion of CO2- and energy taxes.

It is subject of controversial debate, which influence the internationalisation of markets and the world wide mobility of goods, humans and capital has on the sovereignty for action for modern, democratic states. Some argue that the nation state is under considerable pressure to modify its national systems of taxation and regulation in order to avoid the exodus of capital and the movement of enterprises: this forces nation states among others to lower environmental standards because they affect the competitiveness of many industries adversely (so called “race to the bottom”) (Green and Griffith, 2002; deVries, 2001; Hardt and Negri, 2000; Cerny, 1999; Strange, 1998).

A second argument stresses the limitations of autonomy for action to the nation state that arises both from the framework of norms of international regimes and regional confederations of countries such as the EU or NAFTA as well as the appearance of new actors such as multinational enterprises and non governmental organisations and the fact that nation states lack the competence to solve many environmental problems because of their global nature (Koehn und Rosenau, 2002; Nye and Donahue, 2000; Held et al., 1999; Haas et al., 1993).

It is widely believed by politicians, that unilateral action in the context of economic globalisation is becoming less likely not only

in case of transboundary problems, but also for all environmental problems becomes less likely if they bear additional costs. By this, there is the danger of a "regulatory chill" (Hoberg, 2001, 213) independent from the real existence of adverse impacts on competitiveness of more far reaching unilateral environmental regulations: if politicians and voters are convinced that regulatory measures affect the competitiveness adversely, this argument can be utilised from the target group of a policy to make credible threats (Hay and Rosamond, 2002; Hoberg, 2001; WTO, 1999, 5). In this case, innovative environmental policy measures are not adopted.

From this point of view, promising problem solutions are mainly dependent on whether the international community of nation-states is able to agree on binding law and to create the institutional structure for a new governance structure on the international level that is able to enforce these agreements (Young, 2002; Esty, 1999; Keohane and Martin 1995; Zangl 1994). A more optimistic view perceives the appearance of new actors such as nongovernmental organisations or scientific networks, the rapid growth of the body of international law and organisations, and the emergence of new forms of regulation such as public-private partnerships, as the rise of a first outline of a governance beyond the nation-state (Park, 2002; Knill and Lehmkuhl, 2002; Auer, 2000; Zürn, 1998). Under certain circumstances, norms are even developed in bilateral negotiations between private actors without including governmental actors at all (Jacob and Jörgens, 2001).

A more sceptical position argues that in general, international bargaining processes do generate insufficient results because of the disparate structure of interests and an unclear hierarchy for decision making (Suranovic, 2002). However, both lines of argument postulate a declining importance of the role of nation states.

Compared to these arguments, a number of empirical, comparative studies on environmental policy conclude that there is indeed a far reaching change in the general framework conditions for political action. However, a general decline of the room for manoeuvre of the nation states cannot be observed (e.g. Bernauer, 2000). Despite the processes of economic and political globalisation, innovative and ambitious environmental concepts and standards are still formulated and implemented. Moreover, these innovations diffuse on a global scale with an increasing speed (Weidner and Jänicke, 2002; Kern et al., 2001; Tews and Busch, 2001). These phenomena of diffusion of environmental norms can be observed particularly for technology based standards (Wheeler, 2001; WTO, 1999; Garrett, 1998; Vogel, 1997). Governments increasingly orient themselves towards the environmental policies of other countries and adopt their successful approaches for problem solving. As a consequence, a growing global convergence of national environmental policies can be observed regarding institutions, regulatory approaches and instruments. This convergence takes place on the level of pioneer countries and, partially, far beyond the scope of regulation of international or multilateral agreements

(so called “race to the top”) (Delmas, 2002; Bernauer, 2000; Vogel, 1997). In this context the special importance of international organisations such as the OECD or the UNEP as well as special international regimes is stressed, because they serve in many cases as an arena for the diffusion of innovative concepts and strategies (Marcussen, 2001). Especially small countries exploit this opportunity to shape the agenda of international environmental policy (Kellow and Zito, 2002; Jänicke, 2001). Furthermore, the emergence of international environmental agreements can be traced back to the initiatives of single countries or groups of countries that also influence the conceptual arrangement, largely without being opposed by other countries. To sum up: although the nation state is exposed to a changed environment for policy making it remains the decisive actor, also because there is no equivalent displacement regarding the implementation of international guidelines and for democratic legitimation.

A pioneering role in environmental policy is closely related to the expectation that an economic competitive advantage arises for domestic industry. On the one hand, this may happen by exporting technologies that have been developed and marketed as a reaction to national regulation. On the other hand, environmental standards may disclose inefficient patterns of production that, if eliminated, may compensate the costs of adapting to the national regulation. Both explanations represent the core of the so called Porter hypotheses (Porter and van der Linde, 1995; s.a. Taistra, 2001; King and Lenox, 2001). The effects of environmental regulations on innovations have been analysed extensively. A number of case studies revealed support for these hypotheses (Ashford, 1979; s.a. Hemmelskamp et al. 2001; Blazejczak et al., 1999; Rennings, 1999; Wallace, 1995). Quantitative analysis reveals a high statistical correlation between the economic competitiveness of countries and the strictness of environmental regulation (Schwab et al., 2002; Porter and Esty, 2001; Europäische Umweltagentur, 2001) or between the eco efficiency and competitiveness (Sturm et al., 2000). However, the causal direction of this correlation remains unclear: technological innovation may be induced by environmental policy, which at the same time increases the competitiveness. The opposite interrelation may be true as well: technical innovation represents a resource for the advancement of environmental policy and they are picked up by policy makers when it is decided on standards. By this, the diffusion of technologies is supported (Jänicke and Jacob, 2001; Jacob, 1999). Furthermore, the empirical analysis of innovation oriented environmental policy gives evidence that innovation effects cannot be ascribed to a single policy instrument only, but policy style and the configuration of actors do have an independent effect (Jänicke et al., 2000). Thereby, additional potential for action to form political processes is opened up for single countries.

2 Aims and conception of the colloquium

Thus, pioneering countries play an important role in global environmental policy-making, both regarding the processes of horizontal diffusion and international negotiations (Skou-Andersen and Liefferink, 1997). A main question is whether or not a process, based on mutual policy imitation and adoption, that might be called governance by diffusion of policy innovations, can serve as an equivalent coordination mechanism to internationally negotiated agreements. Another question concerns the relationship between the models of institution-building at the international level and of horizontal policy diffusion: Are these compatible or competitive approaches? What are the restrictions for pioneering behaviour of single countries, how far-reaching is the scope of possible action? To which degree do major advances in global environmental policy-making depend on countries assuming a pioneering role? And why do countries assume such a role at all?

Concerning the explanation of pioneering behaviour, several questions still need to be answered: Which conditions must be given for countries to take up a pioneering role? What are the influencing factors on the national and international level that promote or restrict such behaviour and how do they interact? Does pioneering behaviour require some decisive regulatory capacities as a prerequisite, and if so, are general predictions about them possible? In which domains of environmental policy are effective problem-solutions easily invented and diffused, in which domains hardly or not at all? What is to say about international organisations such as the OECD and their acting as an innovator and agent of diffusion of policy innovations? And how much discretion for ambitious policy-making do Member States of the European Union have in the context of the ongoing process of European integration?

The aim of the colloquium was the integration of different strands of research, namely International Relations, Comparative Research and Innovation Studies, in order not only to lay open a comprehensive survey of the state of the art of research in environmental policy-making, but also in order to connect the so far loosely coupled research strands and discover new research perspectives. For this undertaking, a number of prominent scholars of the respective strands of research could be gathered. Mainly, the colloquium consisted of:

- Scholars who analyse national environmental policy from a comparative point of view. They focus on opportunities and restrictions for policy-making at the national level. They aim at a careful disaggregration of the state in order to analyse its functioning mechanisms properly.
- Scholars who work in the field of international relations, analysing international regimes and treaties. For these scholars, major advances can be reached mainly via the international level. They pay special attention to the role and influence of single countries during regime formation processes. A lot of research has also scrutinized the impacts of international

regulations on processes of policy formulation on national level. In this respect, the different strands of research on international and supranational institution building and their distinct impact on policy-making on the national level has to be distinguished.

Scholars who analyse the interplay of environmental regulation, innovation cycles and market competitiveness. This strand can be subsumed under the heading of “Ecological Modernisation”. In this respect, the invention and diffusion of marketable technological innovations is of major interest. Policy regulation is asked to stimulate these processes and to reduce adaptation costs. However, such a technologically-based approach is hardly able to sufficiently tackle environmental pressure related to the overall industrial structure of a country (i.e. the existence of so called dirty industries). Therefore, the possibilities for initialising processes of ecological restructuring remain another research topic in this strand of research.

Session ’Domestic Sources of Pioneering Environmental Policy-Making’

The introductory keynote was given by Martin Jänicke, Environmental Policy Research Centre. He paid much attention to the fact that pioneering behaviour of nation states needs to be understood as a central driver of international policy development in the field of environmental policy. The capacities of single states for the invention and diffusion of new policies becomes crucial when international regime negotiations offer no possibility for the setting of ambitious goals that bind the signatory states. Pioneering behaviour is confronted with two major challenges: the integration of environmental concerns in other relevant sectoral policies and the creation, but also regulation of markets for innovative technologies with the objective of their world-wide distribution. Pioneering behaviour as an empirical phenomenon can be restricted to the group of western industrialised countries, because only these countries dispose of the necessary institutional, technological and economical capacities. On the other side, these countries face severe environmental pressures and hold accountable for most of the world-wide use of resources and emissions. Therefore, environmental improvements in these countries are of overriding importance.

Jänicke countered fears of a loss of competitiveness of domestic industries due to an ambitious national environmental policy: Environment-related innovations no longer constitute an additive expense factor but are a central determinant of technological progress. Pioneering countries proof to be highly competitive. Global environmental problems often trigger a worldwide demand for successful, effective solutions and their corresponding political regulations. Therefore, strategies to promote innovative technologies that enter world markets by national lead-markets also bear a consider-

able potential in an economic perspective. The internationalisation of policy-decision-making is of advantage in this context: International organisations provide active support for diffusion processes i.e. by pursuing benchmarking or best-practice-comparisons. Political and technological competition might serve as a promising alternative to international negotiations on the lowest common denominator for furthering the cause of global environmental protection. The successful alliance of the European Union and several developing countries for the promotion of renewable energies in the wake of the Johannesburg-Summit can be perceived as an example of this new strategic approach. However, much research is needed in order to clarify the underlying mechanisms of pioneering behaviour of countries and its influence within the interdependent, multi-actor and complex system of international environmental governance.

Pioneering behaviour does not automatically yield substantial improvements in the quality of the overall environment. From a comparative point of view, all western industrialised countries are characterized by the parallel of partial success in some areas, such as air or water protection, and of complete failure in other areas, namely the so called persistent problems where state-run measures did not cause any improvement at all in the past, i.e. loss of biodiversity or climate change. A main cause for this record is the sectoral fragmentation of public administration: The policies of the energy, agriculture, industry or transport departments cause severe environmental deterioration. But instead of changing the core of these policies, new institutions such as environmental ministries are additionally created in order to respond to the challenge. By leaving the relevant policy goals of the target sectors relatively unchanged, the causes of environmental deterioration prevail. Therefore, a better integration of environmental concerns into sectoral policy-making is a prerequisite for substantial environmental improvements. For a long time, the difficultness of this task was underestimated: Effective integration strategies require strong institutional capacities that environmental ministries often lack.

Concerning the topic of Environmental Policy Integration, numerous activities during the last ten years can be observed in western industrialised countries, as William Lafferty, University of Oslo, pointed out in his following presentation. But instead of a consistent trend, there is a multiplicity of approaches strongly reflecting the political-administrative tradition of each country. In Canada, for example, the parliament is heavily involved in the process of Environmental Policy Integration. Monitoring of ministries through independent institutions such as the Commissioner for Sustainable Development also plays an important role. On the contrary, the process of Environmental Policy Integration in Germany is dominated by the federal government and, in particular, by the federal chancellor's office. The parliament is involved only to a less degree. Looking at the Dutch example, however, a focus on long-term oriented environmental planning, based on a target-group oriented,

participative approach shows up as the main approach.

In the end, there is no pure model of pioneering behaviour concerning Environmental Policy Integration. But some converging basic developments can be detected, nevertheless: a shift of attention from the strengthening of horizontal coordination mechanisms (overall planning, strengthening of environmental ministries) towards the strengthening of vertical coordination mechanisms (sectoral strategies, scoping reports, monitoring or green budgeting) and a combination of parliamentary, executive and administrative integrative mechanisms can be observed in most OECD-Countries. But in all OECD-Countries, efforts both for horizontal and vertical integration lag behind the original expectations. An influencing factor of crucial importance is the political support from the highest political levels, i.e. from the prime minister's office and also from the ministries of finance and economy. But a corresponding institutional safeguarding of integration processes does not often occur. Contrary to that, conflicts between different actors involved restrict the scope for integration efforts. This is aggravated by failures to counterbalance different interests.

These findings draw the attention towards the concept of institutional capacity. In the discussion, an agreement was reached that the concept of institutional capacity is a useful tool to distinguish between pioneering behaviours of states. The operationalisation of institutional capacity and its use for comparative research were identified as central questions. The subsumption into the wider context of the discussion about sustainable development, which has shifted the focus from a purely environmental towards a broader perspective, also remained to be solved.

Following this discussion, Helmut Weidner from the Social Science Research Centre presented findings on Capacity-Building in Environmental Policy from a large comparative research project. He identified the degree of perceived environmental pressure, the ability and willingness of environmental actors to act and their power-relationships with other societal actors as important factors for successful environmental policy. Equally, the economic and legal framework conditions, the potential of target groups to resist ambitious environmental policy-making and situative factors play an important role. Strong institutional capacities do not automatically yield pioneering behaviour. But pioneering behaviour by rule expands institutional capacities. Weidner also stressed the importance of pioneering behaviour for the world-wide development of environmental policy. Pioneering countries direct the pace of progress due to their central role in diffusion processes. Furthermore, they also provide a barrier function against backlashes in environmental policy. Weidner agreed with Jänicke that pioneering behaviour is restricted to the group of western industrialised countries. He also reiterated the statement that sustainable development is far from being realised in any industrialised country. Ambitious policy-making is strongly tied to public cycles of political economy. During the last thirty years different coun-

tries influenced the international development of environmental policy, beginning with the US and Japan and ending with small European countries at present. Environmental standards have proven to be resistant against political change: A far-reaching cut-back of environmental standards in times of low political awareness cannot be observed in any country, only a slow-down or stop of the further strengthening of policies and standards.

Pioneering behaviour, understood as the introduction of an innovation, be it organisational (i.e. building-up of a new agency or merging of agencies) or instrumental (i.e. introduction of a new levy or tax), are shaped by path-dependencies. Countries utilise their comparative institutional advantages. Pioneering behaviour happens mainly in the area of technology-based innovations, where win-win-solutions appear can be expected. There are only few examples for successful processes of ecological restructuring. The main restrictions to political steering of this kind can be ascribed to the sectoral fragmentation of policy-making.

But a commonly accepted definition of pioneering behaviour is still missing. Actual connotations of pioneering behaviour are often made with regard to the simple introduction of something new. Whether this innovation yields actual environmental improvements is of minor interest. For an accurate assessment, attention has to be paid to the whole policy process including the implementation phase. Clarification is also needed regarding the question of when to speak of pioneering behaviour: Analysis can be orientated at the output-level (new strategies, institutions or instruments) or at the impact-level (real improvements). Pioneering behaviour can be broadly assigned to incremental innovations or, more restrictively, to radical innovations. The same holds true for the differentiation between the narrow focus of environmental policy or the wider focus of sustainable development. Also, the different action levels (national, supranational, international) have to be taken into account. Looking at different time periods (short-, medium- or long-term) bring about different assessments of what could be perceived as pioneering policies. Last not least, the absence of a positive definition of pioneering behaviour allows for a random use of the term. In this regard, even developments that contradict environmental concerns can be labelled as pioneering behaviour.

Weidner suggested a possible definition of pioneering behaviour containing the following aspects: Improvement of the feasibility of a strategy of ecological modernisation together with the strengthening of approaches beyond standardised technological solutions that have a demonstration effect for other countries. Research should concentrate on the functions of pioneering behaviour in an international context and on the possibilities for fostering such strategies. Special weight should be given to the analysis of institutional requirements of pioneering behaviour.

In the following discussion, several questions were raised about the feasibility and usefulness of the capacity-approach, especially by the fact that it gave no answer

to the question: capacity, for what? Critical comments concerned the technocratic understanding of ecological modernisation and the strong focus on the state as a main actor. The analytical concept was not only considered to be too narrow, but was also labelled as unsuitable for the drawing of theoretical assumptions and their empirical verification. The number of variables for the accounting of pioneering behaviour was regarded as too large. An extraction of main variables was recommended in order to reduce complexity. An assessment of the problem-solving capacity of political-administrative systems should carefully combine the institutional perspective with a more problem-oriented perspective. A distinction between cases of easy and difficult capacity-building was considered as a useful first step in this regard. It was also recommended to draw more attention to a comparison of the respective strength and weakness of hard- and soft law approaches and possible interactions between the national and international level of policy-making, whilst screening institutional capacities of different countries.

In the following presentation, Atle Midtun from the Norwegian Business School of Management challenged the view that the state is the right actor to be hold accountable for delivering the necessary impulses for processes of structural change. Atle argued that instead of governments it is pioneering companies that had decisive influence on strategies that render a successful reduction of environmental pressure. Due to the stalemate of different interests, negotiations on the international level seldom end up with results that respond to the needs of effective problem-solving. Furthermore, the ongoing shifting of political decision-making to the international level erodes democratic legitimation by public discourse. As an alternative, Midtun proposed the utilisation of the potentials for self-regulation of markets and companies. Within the discussion about the theoretical framework of Corporate Social Responsibility, new strategies for business management are discussed, that no longer aim at profit-maximisation only, but an equal incorporation of the dimensions of social and environmental responsibility. This concept, which is located at the micro-level of business management, complements concepts at the macro-level such as ecological modernisation or capacity-building. In the end, the possibilities for a model of capitalistic markets that are compatible with ecological and social demands need to be explored (self-embedded liberalism). But state-run regulation is always needed as a threat and sanction in the case of failure of voluntary agreements. However, the interplay between hierarchical steering and voluntary self-regulation needs to be explored in greater detail.

A controversial discussion evolved afterwards. Above all, the assumption of companies behaving voluntarily in an environmentally friendly way was criticised. It was frequently stated that such an undertaking rather needs concrete market-correcting signals. This could be pursued either by anticipation of consumer behaviour (i.e. the refusal of buying products with negative product attribute like carcinogenic substances) or by state-run regulation. The

essential challenge of Ecological Restructuring is not managed by single companies. This task requires a strong, not a weak state. The gained experiences with voluntary self-commitments in Europe show the weakness of the self-regulation approach.

Session 'The European and International Dimension of Pioneering Environmental Policy Making'

In his presentation, Albert Weale, University of Essex, addressed two major questions: Has the process of European integration increased the capacities for environmental policy-making in the Member States? And is the problem-solving capacity of the European Union higher than related problem-solving capacities of international regimes? An answer to both questions is anything but easy because a global assessment of the problem-solving capacity of the European Union and its Member States proofs to be a difficult undertaking. There is no principle of comparative advantage with regard to the generation of political-institutional measures for environmental problems. Institutional arrangements as a rule should therefore follow the most efficient model. But there are two exceptions to this proposition: The first is the case of a higher voluntary acceptance of ambitious environmental measures in one country compared to other countries. And the second is the production of transnational public goods. But severe distinctions rest in detail due to different path-dependencies. A correct assessment of action capacities additionally needs to take into account the structure of the relevant problem and the chosen time-frame for evaluation. Weale proposed two benchmarks for the determination of pioneering behaviour: The scope and binding character of regulations and the perception by other countries as a pioneer. In this context, Weale critically assessed efforts to develop indices that measure and compare institutional capacities of single countries. Better insights can be won by analysing determining factors for capacity-building and capacity-decline on the basis of case-studies.

The impact of European environmental policy on the environmental policy capacities of its Member States implies both a strengthening and weakening. Leading Member States (i.e. states that pursue an ambitious environmental policy), experienced a strengthening of their capacities regarding transboundary environmental problems that make unilateral problem-solving impossible. This also limits the possibility of adopting uniform product and production standards. Leading states can also legitimate their ambitious policy with regard to the need of complying with European regulations. Last not least, leading countries harvest a double dividend if their policy is chosen as reference frame for the design of future EU regulation: There is low pressure for adaptation during the implementation phase and a competitive advantage on possibly emerging markets for environmental goods compared to other countries. Obviously, these countries also suffer from

European environmental policy if they have to implement EU-regulations that are not compatible with their own regulations. The level of European regulation can also be substantially lower than the level of domestic regulation.

Laggard Member States experience an involuntarily strengthening of their capacities, both in terms of actor configurations and institutional arrangements, due to the need of complying with EU-law. Membership in the EU constitutes a strong political pressure towards a more active environmental policy. In this respect, additional economic incentives are provided by the market-demand for products that fulfil higher environmental standards in the leader states. A weakening of capacities can occur when local environmental problems are ignored, because they are not treated by EU-regulation. Independent learning processes can also be hampered by strict, one-sided EU-regulation.

The comparison between the problem-solving capacity of the EU and international regimes appears to be very difficult, too. On the one hand, one could assume that the need for unanimous decision-making within international regime formation allows for greater possibilities to obstruct policy formulation by single, unwilling states. On the other hand, international regimes are single-issued and therefore likely to be free of the bargaining over “package-deals” which are a characteristic of the decision-making process on the European level. Rather, the decision-making both at the European and at the international level was successful in the past if there was a visible problem that triggered substantial political pressure and could be tackled with technological solutions. Insofar, the specific problem-structure is of great importance for determining the problem-solving-capacities of the EU, its Member States but also international regimes.

Following this presentation, critical comments were raised concerning the principle of competitive advantage in environmental policy: Several discussants claimed its heuristic utility for comparative research, arguing that countries, as pioneers, indeed specialise in different domains of environmental policy and, therefore, try to frame policy-formulation on EU-level according to their preferences. Countries also perform differently concerning the implementation of different regulations. Thus, the principle of comparative advantage might also be useful when looking at implementation processes.

The impact of international regimes and international organisations on the environmental policy of single states and the question which conditions on the international level favour pioneering behaviour by states were the main topics of the presentation given by Frank Biermann, Potsdam Institute for Climate Impact Assessment. Regimes can significantly advance learning and diffusion processes, namely by the promotion of environmental awareness in countries with low environmental standards, by setting ambitious binding standards or by providing mechanisms for financial and technological transfer. Organisations are important players within and beside regimes, especially with regard to tasks such as monitor-

ing of compliance or dissemination of knowledge. However, insights into their functioning and their effects on learning and diffusion processes are limited due to the few studies that were conducted in this field up to now.

But regimes also hamper or even prevent pioneering behaviour of states. The most prominent example is the World Trade Regime. States are constrained to impose standards for products, production or processes which lead to import restrictions. States that are discriminated by such regulations succeeded with their law-suits at the WTO appellation body in the case of product standards. Import restrictions concerning products can only be maintained in the case of scientific uncertainty or potential harms for human health and the environment. States have considerably more discretion with regard to production standards: they are allowed to impose import bans if there is a clear link between the importing and the exporting country and if a number of procedural conditions for procedural applications of such restriction are fulfilled, as the Shrimps/Turtle-Case has shown. At large, the borders between world trade law and environmental law are in constant flow and the case-law of the last years has substantially broadened the range for unilateral environmental measures. Above all, world trade law is only concerned with the specific policy design. Not the level of protection, but the choosing of a compatible policy design is the crux of the matter.

But the international harmonisation of high environmental standards can also have negative implications for developing countries: if these countries are not involved in decision-making processes and remain without further financial and technological support or simplified market-access, development opportunities of these countries are considerably constrained. The relationship between trade and environment also needs to be discussed with regard to the issue of equity and fairness between north and south. In this perspective, a consensus between the developed and developing countries that lives up to the interests of the developed and developing countries and does not prevent processes of innovation and diffusion of policies and technologies is needed. However, research that pays attention to the different perspectives from the north and south and incorporates findings from studies around the world also is rare. Thus, a critical self-reflection of political science is needed, too.

Session
‘The Political Economy of Environmental Policy-Making’

Nicholas Ashford, Massachusetts Institute of Technology discussed the question in how far governmental regulations may provide the preconditions for a sustainable development and in how far such regulations have to be provided. The most important sets of objectives in this regard are the advancement of environmental protection, employment and competitiveness. The political agenda has to include – just in oppo-

site to an environmental policy that considers only the effects of economic activities – a system change. Which technologies are required for sustainable development? From an economic point of view, technologies for a sustainable economy cannot be limited to those that improve the performance or the costs of existing technological systems. New market demands have to be met by radical or disruptive innovations. From the point of view of the environment, it has to be asserted that the previous additive technologies are not sufficient. Furthermore the recent efforts in reducing the consumption of resources and energy are not sustainable. It is necessary to change the basis of the current use of resources and energy. Finally, the employment policy cannot be limited to the provision of sufficiently skilled employees, but radical changes in the human/technology interfaces have to be considered as well. This also implies a system change.

These requirements are not established well on the current political agenda. The fragmentation of political institutions and actors is in favour of segmented sectoral solutions and of a dominance of the target groups. Ashford discussed in particular the question in how far enterprises can be expected to react to weak regulatory impulses by the government or if more powerful interventions are necessary.

Thereto a typology of innovations was developed as a first step: In the tradition of Schumpeter, the dichotomy of radical and incremental innovations can be distinguished. From this perspective, radical innovations may encompass the process of creative destruction that is the replacement of dominant firms, technologies or ideas. That is, however, not an indispensable precondition. These categories can be understood as discrete points on a continuum that describes the rate of alteration. The designation of a system change is more precise for the dichotomy of sustaining vs. disruptive innovations. So called sustaining innovations are marketed by established firms on known markets. In contrast to this, so called disruptive innovations are related to a – in many times not clear defined – demand for goods and services that arises outside of established networks between customers and companies. As a rule, these innovations are marketed by new firms. This type of innovations is stimulated by strict regulations or by a strong societal demand for products that are produced considering sustainability demands.

Ashford discussed in particular the question, in how far regulations may contribute to a consideration of the three dimensions of sustainability in the development of innovations. A transformation in the direction of sustainability requires willingness, opportunity and capacity for a change. Policies that aim at supporting this change have to be designed according to their scope: they may aim at the diffusion of existing technologies only, they may enforce incremental or radical innovations or they may aim at the genesis of disrupting innovations.

According to Ashford, the academic as well as the political debate in the Member States of the European Union is mainly centred around an evolutionary perspective on these issues. This implies the creation of

niches for new technologies at first. But such a strategy disregards the creation and the support of new actors that are essential for the generation of disruptive innovations. The restrained European policy style contributes to the failure to care for the inducement of innovation; therefore the dominant firms are able to prevent additional costs by regulations and to protect their markets.

To supersede these deficits, several strategies for regulation can be considered that have to be, however, part of an overall and integrated approach. It is necessary to promote competitive markets with a number of innovative firms instead of supporting monopolised markets. Current competition policy is largely in support of monopolies, thereby promoting existing technologies and hinders new and small innovators to enter into the market. Regarding employment policy, it is necessary to focus on the creation of new jobs rather than protecting existing ones. The shortage of employment opportunities is a major impediment for a development towards sustainability. Strategies for environmental policy should stimulate innovations by strictly setting a demand, whereby empirical studies hint at win-win potentials of such a strategy. Contrary to an evolutionary approach, the time horizon for the development of disruptive technologies is considerably shorter.

Governmental action can be improved by a systematic analysis of the technological options. It cannot and should not be the primary aim of such an analysis to make a decision on certain technologies, but it should support the process of technology selection by drawing a vision of sustainable development. Governments´ activities cannot be limited to the function of a referee between the different interests, because they are not all adequately - if at all - represented in the political process. The objective of the government should be to act as trustee of long term interests in order to make the necessary transformation possible.

Thomas Bernauer, Swiss Federal Institute of Technology discussed in the subsequent presentation the issue of possible environmental relief by economic structural change. He started with a discussion of recent work of Martin Jänicke and colleagues. For several types of emissions and resources inverted u-curves of the respective indicators were identified in highly developed industrial countries until the 1980s. However, since the 1990s, a partial rise can be observed. This is explained by non causal interventions as well as the missing structural change in the industrial sectors that are responsible for these emissions. Bernauer identified several questions that are left open in this research: this line of research focuses on material inputs instead of emissions and environmental effects. The ecological importance of the selected indicators may have changed in time: For example the production of paper has been multiplied but the specific environmental effects have declined considerably in the same period of time. Up to now, theories to explain the rise, decline and re-rise of selected indicators for resource consumption are integrated to a small degree.

Indicators that are able to explain industrial structural change relieving the environment, can be grouped in (1) variables that encompass the innovation activities, (2) socio-economic variables, (3) intra-industrial competition, (4) regulation, (5) political institutions, and (6) a category for residuals such as the development of factor costs. These types of influencing factors are partially closely interconnected. This focus broadens the current research perspective in the research on Kuznets-curves by focussing on the importance of political influences: which political institutions are suited best to support a green industrial change? Democratic structures may facilitate the participation of environmental actors in the process of agenda setting. However, the same institutions offer the potential losers of structural change the possibility to slow down or to block the change. It can be expected that there is a considerable variance in the international comparison of political institutions, that prevent an unilateral favouring of either environmental or industrial interests.

3 Summary

The assumption that single nation states are either lacking incentives for an ambitious policy to provide or to secure public goods or that they lack the capacity for action on the background of increasing processes of political and economic globalisation can be unambiguously rejected on an empirical basis. Governmental pioneering behaviour is an important influencing factor in the world wide development of environmental policy. However, it takes place in a complex and interdependent multi-level system with many different actors. International regimes do influence the room for manoeuvre for nation states as well as international organisations, multinational enterprises or non-governmental organisations.

On the one hand, principal questions are pertained with the capacity for action that is necessary on the national level to enable single countries to develop a more far-reaching environmental policy than other countries. On the other hand, it is necessary to examine the interdependency between the international and the national level focussing on the mechanisms of global processes of learning and the diffusion of environmental policy and –technology. The participants of the colloquium agreed on the need not only to sharpen the focus of analysis in this line of research, but furthermore to find a theoretically and normatively based definition of pioneering behaviour in order to advance this line of research. In the course of the colloquium, it was shown by many critical questions and remarks that the focus of the concept of pioneering behaviour is unclear: Under which conditions we can speak of pioneering behaviour?

Connected to these claims, another issue of repeated criticism was the narrow focus on environmental policy innovations throughout all research on pioneering be-

haviour. The extension towards issues of sustainable development, that is an important characteristic of the current general debate has been largely ignored, the critics say. It is an open question, how pioneering behaviour of countries in the field of sustainable development could be classified. The term pioneer is used rather vaguely and without clarifying the implicit assumptions and stating the objectives.

Another critical issue was the possible scope of such a research program: Should it be restricted to the invention of regulatory and technical innovations or widened to the ecological restructuring? Related to that was the uncertainty about methods that allow a correct measuring of pioneering behaviour: often, policies are assessed as being pioneering policies, because of inventing a new technology. But if the specific emission reduction of these technologies is counteracted by growth processes, a notion of pioneering behaviour does not make sense, because the status quo remains unchanged.

Furthermore, current research on pioneers is mainly restricted to the level of national policy-making: Pioneering behaviour and capacity-building is solely attributed to the state, and in particular to OECD-countries, thereby ignoring the interactions of state and non-state actors and the question of capacity-building in non-OECD-countries. The current pioneer-research pays too little attention to the failure of pioneering behaviour: In which policy domains do innovation and diffusion processes constantly fail? Why do some instruments diffuse easily and others not?

Pioneering behaviour as a term is positively connotated, containing the expression of modern, efficient and effective environmental policy. However, there is no common understanding of what a modern environmental policy should look like. Rather, there are totally different developments in the European and US-American discussion with increasingly strong impacts on the concrete design of international regimes and treaties: Within the European debate, there is a clear orientation towards the institutional capacities of the state and its responsibility to pursue a strict environmental policy which is accompanied by a critical assessment of voluntary agreements and other approaches of self-regulation. The contrary holds true for debates within the US-American dominated research communities: there, deregulation, self-regulation and cost-benefit-analysis are the keywords.

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