

Panel Session 1

A1 Briassoulis

Policy integration for complex policy problems: what, why and how

Contemporary policy problems concern complex, cross-cutting socio-environmental issues that, combined with changing environmental, socio-economic and political conditions and the quest for sustainable development, place new demands on policy making. The principal problem is that the policy market does not provide a satisfactory supply of arrangements to meet this demand. Policies are often found to overlap or be in conflict and the policy system is unduly complicated, producing inefficient or even ineffective solutions and generating new problems. Policy integration (PI) comes as a potentially suitable answer to address this institutional misfit and facilitate the transition to sustainable development. The paper negotiates selected conceptual, theoretical, methodological and practical issues concerning policy integration with a special focus on complex policy problems, occasionally using the combat against desertification in Mediterranean Europe as an illustrative example. Although the discussion refers primarily to European Union policies, it is relevant to other spatial/organizational levels as well. The first section of the paper discusses the distinguishing characteristics of contemporary policy problems, drawing on complexity and institutionalist thinking, sketches briefly the changing context of policy making and the quest for sustainable development, and offers a brief account of desertification and the associated policy needs. The second section, drawing on the pertinent literature, attempts a comprehensive conceptual exploration of the notion of policy integration, proposes a particular conceptualization of PI and argues for the need for PI to handle complex policy problems especially at higher spatial/organizational levels such as the EU. The third section suggests a methodological framework to analyze PI holistically as well as to serve as a basis for the development of policy integration schemes. The last section offers preliminary ideas for the design of PI schemes and suggests future research directions.

A1 Meijers, Stead

Policy integration: what does it mean and how can it be achieved? a multi-disciplinary review

There are increasing calls for greater policy integration from a number of areas, one of the most prominent being environmental policy-making where integration is frequently recognised as being crucial for sustainable development. This is coming at a time when decision-making is facing increasing complexity as a result of various concurrent trends. Some of these trends are toward globalisation and greater centralisation of decision-making, whilst other trends are toward fragmentation and decentralisation of decision-making. A variety of factors have increased the number of actors involved in the policy process, such as the emergence of the information society, greater emphasis on public participation and the increasing role of non-governmental organisations, pressure groups and agencies in the decision-making process. All these developments make policy integration increasingly difficult but more compelling to achieve. Policy integration concerns the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields, which often do not correspond to the institutional responsibilities of individual departments. In the academic literature, several disciplines address policy integration although not always referring to this particular term. A variety of other related (and sometimes synonymous) terms are used such as policy coherence, cross-cutting policy-making, concerted decision-making, policy consistency, holistic government, joined-up government and, most especially, policy co-ordination. These concepts are developed within organisational theories such as those on inter-organisational co-operation and co-ordination, collaboration, intergovernmental management and network management. In order to improve understanding of the concept of policy integration, the paper reviews and compares these various concepts and theories and relates them to the issue of policy integration. Bringing about more conceptual clarity to the concept of policy integration is the first objective of the paper. This literature also opens up a wealth of material concerning facilitators and inhibitors of policy integration. Identifying and synthesising these facilitators and inhibitors of policy integration is the second objective of the paper. The paper examines and categorises these facilitators and inhibitors of policy integration and demonstrates that achieving more integrated policies is dependent on a multitude of different types of factors including organisational factors, behavioural and individual factors, political factors, economic factors, process and instrumental factors.

A1 Loorbach

Governance and transitions. an integrative policy-framework based on complex systems thinking.

Environmental and social issues such as climate change, energy-supply problems, agricultural reforms and mobility problems are so complex and uncertain that traditional, rationalist problem-solving approaches are no longer sufficient. Traditional bureaucracies, highly specialized and focused on the short-term, do not seem to be able to come up with the required solutions and strategies. Governing our modern society in the direction of sustainable development will therefore require new forms of governance that explicitly deal with the diversity and divergence in societal and policy-processes. Bureaucracies acknowledge the problems related to legitimacy, efficiency and accountability of contemporary government, and are therefore trying to make the shift from government to governance, whereby all societal actors are interacting in complex networks (Castells 1996, Teisman, 1998). In practice however, most governance-approaches fail because of a lack of methodology; the often-random selection of

participants and the lack of coherence in and between different policy-processes. Because an integrative framework based on understanding of processes of societal change is absent, the transformation of government will not lead to better policymaking but rather to even more diffuse policy-processes. This paper further develops the model of transition management (Rotmans et al, 2001, NMP4, 2001, Loorbach, 2002), whose main elements are multi-actor governance, envisioning, agenda building and experimentation. The paper presents multi-level governance-framework, building on the concept of transition, recent literature on governance-studies (Scharpf, 1999 Hooghe and Marks, 2001) and complex systems thinking (Midgley, 2000, Holland, 1995). The governance-framework discriminates between strategic, tactical and operational levels of governance and allows for a focused selection of participants, timing of activities and choice of instruments during policy processes for sustainability. Transition management can thus be used to structure societal learning processes and serve to integrate policy and societal domains. The framework will be illustrated using recent experiences in the Netherlands.

B1 Bourblanc

The multi-level integration of policies : linear or circular movement ?

Most of the time integration is considered either as an horizontal (for instance internal or external integration among departments of a government) or as a vertical process (between different institutional levels). Integration is described as a linear movement that stems from the mutual adjustment of the closest actors: the European level interacts with the national level while the national government interacts in its turn with the regional one and so on. Even the theoretical controversies on "europeanization" are divided among ascendant or descendant integration processes' thesis. But instead of speaking about the integration by the top or the bottom, the supra or the infra, we would like to present another insight of integration process, i.e. the sub-national process of integration or how the national level can be bypassed with direct relations between the European commission and for instance some regional small-scaled environmental organizations. In that sense, we may witness a more circular integration from the sub- to the supra- provoking a chain reaction on national levels. Based on a thorough Ph D research, this qualitative survey draws the situation of two European countries (France and the Netherlands) facing difficulties of "Nitrate" Directive implementation, which in both countries resulted in the hardening of national legislation. These national or sub-national organizations as EC new channels of monitoring and informations played a major role in the setting up of an agricultural model more respectful of the environmental requirements. This European national agricultural policies coordination goal follows the unexpected path of coercion (judicial procedures) while we were thinking at a more cooperative pattern. Thus we will also discuss the advantages and drawbacks of such a way to integrate European policy.

B1 Sprenger

Integration of environmental and employment policies: assessment of the eu experience to date

The European Union is facing a double crisis: on the one hand, it is facing a high level of structural unemployment, on the other hand, its economies are exploiting the natural environment in an unsustainable way. The crucial question is, will the resolution of one of these problems make the resolution of the other easier or more difficult? Protecting the environment and reducing unemployment, despite their evident interactions and synergies, are normally dealt with separately, with the public authorities in charge preferring to avoid mixing the two issues. Therefore, the question that has to be raised is whether environmental and employment policies can be tailored and implemented in a way that makes them complementary, mutually beneficial or even mutually reinforcing. The methodology for this paper was developed with the following objectives in mind: * the need to develop an analytical framework to guide identification and understanding of the different forms of integrating environmental and employment policies * to understand the rationale for such integration approaches * to gain an overview of the major drivers of these initiatives. To meet these objectives, the paper will be primarily concerned with similarities and differences in experiences of top-down approaches pursued at national or state level across the EU. It will be based on examples identified by literature review and country-specific information to survey the features and experiences of national or state initiatives calling for integration of employment and environmental objectives. The presentation is to show: * which types of national or state approaches are in practice * what are their effects in terms of employment, social inclusion, environmental improvements and wider policy impacts * what measures appear to work * what are the factors of success or failure what policy conclusions can be drawn.

B1 Coffey, Dom

Environmental policy integration in europe: looking back, thinking ahead

The European Environment Agency is the EU's dedicated agency for gathering and disseminating information on the environment in Europe. Although the Agency is an EU body, its members is made up of 31 European countries, including six non-EU countries. The Agency has in recent years devoted increasing attention to monitoring progress on the integration of environmental concerns into other policy sectors, focusing in particular on a number of key sectors – transport, agriculture and energy. In order to review progress in EPI more widely, and also to explore a potentially enlarged role for the EEA in this area, a one-year project on policy integration was launched in 2004. The project, which is being supported by the Institute for European Environmental Policy (IEEP), is to make a contribution to the EEA's 2005 state of the environment report. This paper gives an overview of the key findings of

the first phase of the project, i.e. the state of the art review, which involved a comprehensive state-of-the-art review of EPI at national and EU levels. The review showed a clear need for a common framework for evaluating and comparing progress across sectors and among countries. The development of such a framework has therefore become a central task for this project. In addition, this review helped to identify some key integration issues that will be investigated in more detail in subsequent papers.

C1 Russel

The environment test and policy integration: a new dawn or a false start?

Since the late 1980s, the 'environment test' (e-test) has been used by the United Kingdom (UK) and the Netherlands as a key part of their environmental policy integration (EPI) strategies, and has provided a model for the European Union's (EU) Impact Assessment regime. The aim of the e-test is to integrate environmental considerations into decisions across all sectors at an early stage in the policy process. It does so by assessing different policy options for their respective environmental impacts so that ideally the most benign policy direction can then be pursued. Very few countries actually use e-testing. However, organisations such as the OECD imply that it is needed to achieve EPI and should therefore be more widely adopted. The EPI systems used in both the Netherlands and the UK have been highly acclaimed by the OECD and some academics. However, critics suggest that the performance of e-testing within these two countries is actually very inconsistent. This paper, therefore, aims to compare the UK's and the Netherlands' experiences of employing e-tests. It illustrates that on the surface the Netherlands' use of the e-test has been viewed as a relative success, yet in practice its impact appears to be limited. Similarly, it highlights that the e-test has been sparsely and weakly conducted in the UK and has failed to have a cross-sectoral impact. This contrasting experience suggests that there is no guarantee that the influence of e-testing will necessarily be as widespread as intended or reported by national governments, EU or the OECD. This paper tests the various competing claims about how to pursue EPI and argues that the success of e-testing may well depend on how well policy makers are stimulated rather than forced to conduct them.

C1 Frendo, Zaccari

Integration at local level: lessons learned from the environmental impact assessment (eia) system in the wallon region (belgium)

While environmental integration is still seeking its ways of implementation at policy level, Environmental Impact Assessment (EIA) of projects at local level already benefits from a rich experience in the EU as well as internationally. Indeed, the EIA directive (1985) has been considered as one of the cornerstones in environmental legislation. However, so far there have been few extended studies on the ways the procedures could be able to effectively integrate environmental objectives in cross sectorial issues. The CEDD has just achieved a 3-year survey of the EIA system in the Walloon Region of Belgium, based on an extensive multi sector field study. It aimed at evaluating the performance of the procedure. The study includes the analysis of the inputs and interactions of all the actors involved : the project developer, the author of EIA, environmental and other administrations, advisory bodies, and the public. Results show the importance of : * Capacity building among the actors; * Development of accessible data; * Juridical institutionalisation; * Differences among sector types; * EIA as a basis of dialogue among various actors; * Specific means to be devoted to these tasks. Some results suggest progress in taking environmental aspects into account among project developers. However, some aspects of the system have been criticized for their "lengths", posing the question of a balance between environmental efficiency and means to be devoted to this objective compared to other requirements. This contribution will also seek to evaluate how the EIA system could fit in new procedures such as the Strategic Environmental Assessment (Directive 2001/42/CE), and the Sustainability Impact Assessment

C1 Voß

Policy integration through foresight

The quest for policy integration is older than the problem of environmental policy or sustainability. It is the unbeloved downside of modern governance in terms of formal bureaucratic procedure and functional division of labour. But it has only made it to much public recognition in the fairway of sustainable development as a cross-cutting problematic which is considered severe enough to touch on the institutional principles of the modern state. In contemporary perspectives on governance, policy integration should not be confined to intra-state relation but include the integration of public policies with and between (informal) governing activities that take place throughout society; strategic actions of large companies or influential interest groups have a similar potential to foil sustainability policies as counter-running departmental policies. The paper therefore puts policy integration between departments and levels of public policy making in context of more general requirements of reflexive governance. Sustainability Foresight is introduced as a method to operationalise these requirements, illustrated with examples from practical application to the problem of shaping sustainable transformation in the German utility systems for electricity, gas, water, and telecommunications. At its core is a process which comprises interactive scenario building, sustainability assessment and development of strategies to shape the course of transformation. Potential and limits of the method with respect to a wider concept of policy integration are discussed in light of these practical experiences.

C1 Scrase, Sheate

Strategic environmental assessment (sea): will sustainability be weak enough to dilute it?

This paper examines early UK experience with implementing the SEA Directive to explore its role in strengthening environmental policy integration, and considers the wider context of ex ante assessments that may evolve to dilute this effect. SEA proceeds from an overview of the state of the environment to explain how significant environmental effects may arise, while creating an open, participative framework for reasoned debate about the findings. This contrasts with many “integrated appraisal” or “sustainability appraisal” systems such as those used in recent UK land-use planning. These typically begin with economic, social and environmental criteria for judging a proposal, and then compare the expected (rather than assessed) outcomes against the listed criteria. The legal requirements to comply with the SEA Directive (effective from July 2004) clearly will strengthen consideration of the environment in public sector planning. On the debateable premise that this could create an imbalance in favour of the environment, the UK Government has responded by making efforts to give a similar boost to the economic and social agendas in its sustainability appraisal system. In draft government guidance on this issued in September 2004 it appears that social and economic appraisal will begin to make more use of evidence-based reasoning and formal participation procedures for advocates of economic and social agendas. This is not to say such advocates will then be any less active in influencing plans outside of the plan appraisal system, not least through efforts to shape national policies. By asking what is being integrated with what, and on what premises, this paper will shed light on the role of ex ante evaluation in the greening (or otherwise) of policies.

D1 Feindt

Greening european agricultural policy – multi-level strategies between trade, budget, agricultural and environmental policy

Environmental effects of modern agriculture are among the more intricate problems of European environmental policy. In the first part, this paper will show that the institutional framework in the EU is not conducive for policy integration. If in consensus, European sectoral councils can decide rather unconnected with each other. Thus, the integration of environmental policy issues into the Common European Agricultural Policy (CAP) has to go through the European Agricultural Council. The premise that European agriculture is generally considered as multifunctional and as a provider of environmental goods prevents crossfire from environmental policy-makers, and standards of good practice are defined in the agricultural policy arena. In the second part, the paper will provide a comparative analysis of four different strategies through which environmental concerns have entered the CAP: * introduction of agro-environmental programs as part of major CAP reforms since 1989 in the face of budget crisis (interplay between EU budget and agricultural policy); * 2003 CAP reform as a move to comply with WTO rules for domestic support (interplay between WTO framework, EU trade and agricultural policy): decoupling of direct payments from production which had stimulated intensive domestic production patterns, and introduction of a cross compliance clause that requires recipients of direct payments to comply with minimum environmental standards; * interplay between national and European environmental norms for good agricultural practice (with the amendment of German nature conservation law and cross compliance as examples); * and implementation of rules for eco-labelling on national, European and WTO level (interplay between trade and environmental policy). Finally, the policy impact will be critically assessed.

D1 Nölting

Analysing the institutional setting – how to promote the organic farming und food sector?

The promotion of organic farming is an important strategy for greening the agriculture and food sector in Germany. But the traditional instruments like subsidies for the supply side and regulations have produced some adverse effects like over supply of organic products. What went wrong? To be successful, an integrated environmental policy has to consider the whole institutional context of the sector. This includes not only political and administrative institutions but also the rules of the civil society and the market. A thorough analysis of the institutional framework conditions clarifies the potentials and restrictions of the policy and helps to develop new institutional arrangements. I will present an institutional analysis and preliminary empirical results concerning the organic farming and food sector in the region of Berlin and Brandenburg. The institutional context is shaped by the (self) organisation of the organic sector, and the general agriculture and food sector. There, three institutional levels can be distinguished: The professional community and the social context (civil society), the agriculture policy and administration (state), and the food market (market). The characteristics of the organic sector can be described by the following analytical model: 1. The institutions and organisations of the organic farming and food sector (definition and co-ordination of the organic sector). 2. The policy and administration for organic farming (production standards, subsidies, advice and information). 3. The professional and social background (conflict and co-operation with general farmer organisations; social and cultural context). 4. The market for organic products (distribution channels, marketing, price, regional firm networks). These four levels with their different or parallel development constitute: 5. The overall institutional setting. Policy instruments and strategies affect these levels in very divers ways. What measures are appropriate for each level? Who should be addressed and how? What are limitations of state policy? How can the institutional setting be improved?

D1 Jørgensen

Policy integration in the shaping of organic food as strategy in the danish food sector – what happened to the environmental concern as driving force

The paper discusses the mechanisms in the shaping of organic food as strategy in the Danish food sector based on an analysis of the development since the 1980's as a contribution to the discussion of strategies for sustainable transition and the role of different policy strategies, including policy integration, herein. The background of the paper is the major achievements with organic food in Denmark since the 1980's, but also the recent reduction in the increase of land being converted to organic farming. The analysis is based on Karnøe's and Garud's approach for analyses of the creation of new technological fields, which sees such creation as a combination of path creation and path dependency. The focus is on the shaping of new institutions, structures, new knowledge fields and on the re-use and re-shaping of existing institutions, structures etc. These processes have involved an ongoing interaction between production, consumption/use, knowledge and regulation, where these systems constantly are co-shaping each other. Policy processes has played and still plays a major role in the development of organic food production in Denmark. This includes private regulation via different policy networks, national governmental regulation and international regulation, especially within the European Community (EU). Also the regulation of the conventional farming has played and plays a role in the shaping of organic food. (Schot et al, 2001) describes three different governance paradigms. All of them have been seen as part of the direct regulation of organic food production: Classical steering paradigm with a central role for government and hierarchical relations: a law on organic farming, including a certification scheme with an organic control label. Market based model based on financial incentives: a national support scheme for conversion of farms and companies, national support scheme for research and development, including public green procurement. Policy networks based on interactions among actors in which information and resources are exchanged: a national council for organic food, the development of national Action Plans and demonstration projects. The regulation of organic food was quite early based on policy integration, since the governmental regulation was organised within the ministry for food and agriculture. This might be seen as a follow up to the development of plans for sustainable development within several ministries in Denmark, including the ministry for food and agriculture. Denmark was the first country to introduce a national support scheme for organic farming and for research and development (1988) based on a law on organic farming (1987). The idea was to generate consumer confidence in organic food. It was agreed that there was a need for developing the supply and demand of organic food further. Therefore the scope of the support scheme for organic farming was extended, so that it also covered support for development of new organic food products. Activities for the development of the demand for organic food was also supported, e.g. campaigns for organic food by one of the retail chains and public procurement by support to the development of strategies for the usage of organic food in public institutions, hospitals etc. The development has also shown limits to policy integration. Denmark has a long tradition for agricultural advisers organised by the farmers' associations. When organic farming started getting more widespread in the 1980 it became clear that there was a need for advice on organic farming. However, it became clear that the existing agricultural advising system was so much integrated into the conventional agriculture and its use of artificial fertiliser, pesticides etc. and had co-operation with the suppliers of these products that it was necessary to have dedicated organic agricultural advisers. Later on, co-operation between the two groups of advisers was organised. The main strategy for the development of organic food as a strategy has been the market-based approach, while the focus has not been on the organic as an environmental strategy in relation to the environmental topics, which are discussed in Denmark: cleaner ground water, reduced eutrofication of streams, lakes and seas and safeguarding the biodiversity. Today organic food is seen by the ministries for food and agriculture and the conventional food industry and retailers as a strategic product niche and not as an environmental strategy for the conventional agriculture. When the Danish parliament implemented some European Community subsidies for environmental friendly farming, defined as a reduction of the use of pesticides and fertiliser, the organic farming organisation had to 'work hard' to get organic farming accepted as an eligible strategy, although it does not use pesticides. This shows how the shaping of the general governmental regulation of agriculture also is shaping the role of organic farming as a possible environmental strategy. In stead of seeing organic farming as an environmental strategy the strategy has been an environmental optimisation of the conventional farming.

E1 Zingerli, Bisang, Zimmermann

Challenges of policy integration: intersectoral coordination in international and national forest policy

International organisations such as the United Nations Forum on Forests (2002), the Food and Agriculture Organisation (2003), and the Ministerial Conference on the Protection of Forests in Europe (2003) emphasise the need for better mechanisms of intersectoral coordination and cross-sectoral cooperation in order to make use of synergies between policy sectors and to strengthen sustainable forest management in the long term. Intersectoral coordination appears, therefore, as a key element in international policy documents and more recently also in national forest policy processes. Drawing on a case study of a National Forest Programme, a new policy planning instrument in forest policy, we discuss the implementation of intersectoral coordination in Switzerland. We particularly shed light on the interaction between the participating actors in the policy process as well as on the attempt to enable an improved dialogue and cooperation between forest policy and other sectors such as agriculture,

energy or regional development policy. We draw lessons learnt from the proactive approach of forest policy towards policy integration and discuss its potential and consequences for strengthening the environmental agenda in a number of other environmentally-effective policy sectors.

E1 Späth, Weber, Rohrer, Oehme

Policy coordination to support a transition to sustainable production systems. Lessons to be learned from the case of biorefineries in Austria

Transition processes towards sustainability can be conceptualised at the level of production-consumption systems, ranging from resource extraction to final or intermediate product and service delivery. Policy initiatives play a pivotal role in fostering such transitions, but require an integrated and coordinated policy approach to be effective. However, the coordination of policy initiatives, both vertically and horizontally, cannot be all-encompassing, but needs to be focused on what we call transition fields, i.e. critical segments of a production-consumption system where a transition process can be initiated. In the case of manufacturing, we are confronted with a high degree of diversity of production-consumption systems. As a consequence, the level of aggregation at which transition fields can be delimited is much lower than, for instance, in energy supply or transport which represent far more homogeneous systems. The case of biorefineries in Austria is an interesting example for studying policy coordination and its impact on the evolution of such a transition field and the corresponding production-consumption system, as well as about the pitfalls and difficulties it involves. At the beginning of the millennium, the perspective for biorefineries seemed to be quite promising in Austria, because an RTD-programme was set up that aimed to integrate sustainability aspects into manufacturing research, thus building an explicit bridge between sustainability and RTD policy. However, policy coordination involves a wider range of key issues, and we will show by means of the Austrian experience some of the barriers to policy coordination and to an effective management of a transition field. The reasons why this Austrian initiative did so far not show the expected benefits can be traced back to a range of factors, several of which relate to problems of policy coordination: the neglect of European policy developments (vertical coordination), both in RTD and other policy areas; a lack of coordination with other relevant national policy domains (horizontal coordination); but also a lack of coordination within sustainability-oriented RTD-policy where the limited amount of research funding was spread too thinly across a wide spectrum of transition fields (internal coordination). Along these three dimensions, the different coordination links will be described and analysed in terms of the underlying reasons why they worked well or not. In many cases, the success of the different coordination efforts can be traced back to organisational and institutional factors. Therefore, the paper will conclude with some general lessons that can be learned from the Austrian biorefineries case for the design of coordinated and integrated policies and corresponding institutional settings, with the emphasis being put on the role of RTD-policy.

E1 Laakso, Keskinen

Multi-level governance in renewable resource industries in Norway and Finland

Multi-level governance is often seen as constituted by complex overlapping networks of decision-making, including state actors as well as business and interest organisations in a field. This organisation of decision-making necessarily poses questions about its legitimacy and responsibility to those impacted by the decisions. This paper summarises the results from a study of multi-level governance in forestry, fishing and reindeer herding sectors in northernmost Norway and Finland, based in some 40 interviews with local and regional government, local and international business represented in the area, public and private interest organizations, and local practitioners. The study describes changes in the governance systems over time, their current situation, and the limitations and possibilities of the actors to adapt to changes—environmental or socio-economic—in situations. The paper shows that forestry and fishing have over the last generation developed from local labour intensive livelihoods to relatively globalised, capital-intensive businesses governed by international corporations. As major economic actors, these industries bring external financing and the capacity to invest through crises to the areas, but at the cost of placing the control over resources and revenue at the international rather than the local or regional level. Reindeer herding, on the other hand, has remained a comparatively more localized, family-based business, but its resulting low profitability and limited distribution networks limit its available resources and thereby its ability to adapt. However, the comparatively limited power of reindeer-herding organization has made it place an increased focus on international indigenous processes, as a way to provoke changes in national regulation and in this way increase its leverage. The paper thus illustrates how both political and economic globalization impacts sustainability and rights at the local level through powerful, largely external organization, thereby placing the focus for local resource governance on national and international levels.

F1 Schroeder

Implementation without ratification: vertical interplay and the case of California's climate change policy

Institutions are clusters of rights, rules, and decision-making procedures that give rise to social practices, assign roles to participants in these practices, and govern interactions among players of those roles. Institutions operate at all levels of social organization, and interact both horizontally, i.e., at the same level of social organization, and vertically, i.e., across levels of social organization. Interdependence between institutions can be either functional or political in nature. The former occurs when a problem addressed by multiple institutions is linked in biophysical or

socioeconomic terms, while the latter arises when actors seek to link institutions deliberately in the interests of pursuing individual or collective goals, often to enhance institutional effectiveness. The objective of this paper is to examine the nature of interplay between international and regional level institutions. The Bush administration's withdrawal of the United States from the Kyoto Protocol has created a situation where arrangements for reducing greenhouse gas emissions are being developed at both international and regional levels despite reluctance to do so at the national level. Hence, although the United States is unwilling to ratify the Kyoto Protocol, several US states have declared their resolve to meet the country's seven percent unratified reduction commitment individually. The state of California serves as the focus of this research project. While already leading nationally in wind power capacity, the state has recently proposed not only to promote solar energy, but also to build a hydrogen highway along its major freeways. The paper explores the decision-making competence of state-level governance to implement commitments made at the international level. It investigates the compatibility of the provisions set up under international agreements with the social practices prevailing at the regional level. Finally, it evaluates to what extent the regional level capacity and material resources are sufficient to meet commitments made at the international level.

F1 Kotov

EU-Russia "kyoto deal": a case of policy integration? analyses of advantages and risks of an informal agreement

During several years when the KP entry into force became dependent on its ratification by Russia, its prospects became more and more dismal. The gloomy situation can be changed through the compromise reached at the EU-Russia summit (Moscow, May 2004). The Russian press perceived its results as "a deal": the EU supports Russia's joining WTO in exchange for the KP ratification. The mechanism that the EU and Russia found turned out to be efficient, and it helped to achieve the key environmental goals. These goals were achieved through integration of instruments of foreign economic (trade) policy and environmental policy. A question arises whether this mechanism could be used for the solution of other environmental problems, both domestic and international. The ratification of KP is only one item in the long list of problems of Russia's environmental policy. Currently, the high priority of the Russian state is acceleration of economic growth, and environmental policy becomes subordinate to this goal. When the efforts of the most politicians are focused on economic growth, while they perceive environmental institutions (especially in the situation of the flourishing corruption) as obstacles to this growth, it is essential to figure out: (1) to what extent the greening of policies could be efficient in terms of rehabilitation of Russia's environmental policy; (2) in what sectors of environmental policy does it have chances for an efficient application, and (3) how the cooperation with the world community (with the EU) could provide to the solution of these problems.

F1 Ochs, Sprinz

Europa riding the hegemon? transatlantic climate policy relations

Following the US retreat from the Kyoto Protocol on global climate change, transatlantic relations on this issue have been in disarray. While the EU has become the dominant actor promoting the reduction of so-called greenhouse gases, the US has largely embarked on a domestic strategy to deal with a global problem – to which it is a major contributor. In this paper, we will review the state of global and transatlantic climate relations and probe (via counterfactual thought experiments as well as results from expert interviews) the changes and potential shape of a transatlantic climate rapprochement. Furthermore, we will outline the actual strategies used by the EU in coping with the current US position of international political detachment and conjecture which strategies the EU might use in case hopes for a rapprochement may prove illusory.

G1 Bauer, Biermann

Partners or competitors? Policy integration for sustainable - development between united nations agencies

This paper will analyse policy integration and institutional interlinkages within the United Nations system. In particular, we will focus on two major UN programmes in the field of sustainable development policies, the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). We will systematically analyse processes of cooperation and collaboration between both programmes in particular with a view to the integration of their respective policy objectives—environment and development—within the overall framework of sustainable development. We argue that a comprehensive operationalisation of sustainable development must target both poverty reduction and environmental protection; it must not trade off one priority versus the other, since protection of natural resources is a precondition for successful poverty reduction. We highlight strengths and weaknesses of both UN programmes, in particular where they refer to the ecological pillar of sustainable development, and show a lack of coherence in the operationalisation of sustainable development policies within the United Nations. Based on an extensive assessment of political, structural and functional factors that contribute to this situation, we will then discuss how institutional interplay and policy integration between UNEP and UNDP could be adjusted to further implementation of policies for sustainable development that do not trade off environmental concerns for economic growth. Conceptually, our paper will draw on a theoretical framework on analysing the effectiveness of intergovernmental bureaucracies currently developed within a larger international research project on international environmental organizations; politically, our paper attempts to

contribute to the current UN debate on the reform of international environmental governance and on the institutional operationalisation of the Millennium Development Goals.

G1 Lehtonen

International peer review as a tool promoting policy integration: the case of the oecd environmental performance reviews

As an intergovernmental organisation lacking coercive powers, the OECD can promote policy integration through what has been called 'idea-games', relying on moral persuasion, and processes such as socialisation, and imitation. This paper compares two OECD 'peer review' processes – the Environmental Performance Reviews (EPRs), carried out since 1992, and the Economic Surveys – as to their impacts on environmental policy integration. The EPRs enhance environmental policy integration mainly by increasing the visibility and legitimacy of environmental issues in the non-environmental sectors. This impact stems both from the review process and from the use of the report and its recommendations. However, the potential of the EPRs to influence policies is greatly reduced by the scant interest that the reviews generate and by the low status of the 'environmental policy community' in policy making. The inclusion of a sustainable development section in the prestigious Economic Surveys hence display a greater potential for policy integration. Yet, the very limited scope of the sustainable development analysis, the lack of expertise among the economic experts participating in the debates around the Economic Surveys, and the lack of enthusiasm of the 'economic policy community' to address the questions of sustainable development compromise the Surveys' potential to promote environmental policy integration. Given the highly unequal distribution of power between the two policy communities, genuine environmental policy integration and well-informed decision making might be better served by a clearly separating environmental and economic issues at the analytical, peer review level.

G1 Luken, Grof

The Montreal Protocol's Multilateral Fund and Sustainable Development

The 1987 Montreal Protocol is widely recognized as a global environmental accord that has produced tangible results in terms of reductions in ozone-depleting substances. In addition, and this has been largely unrecognised and so far undocumented, there have been other benefits best characterized within a sustainable development framework. Aiming to identify such sustainable 'side-effects', this article reviews 51 out of 930 projects implemented by UNIDO, one of the four implementing agencies of the Multilateral Fund for the Implementation of the Montreal Protocol. Within this sample, the 44 investment projects have reduced ozone depleting potential and global warming potential. Some projects have reduced atmospheric emissions and contamination of groundwater. Other projects have increased the competitiveness of enterprises in domestic and international markets and have sustained and in a few cases created employment opportunities. Others, fewer in number, have contributed to environmental problems, caused difficulties in maintaining productivity and quality standards and decreased the number of employment opportunities because of the need to rationalize manufacturing processes. We conclude that potential contributions from Multilateral Fund investment projects to sustainable development could have been amplified with guidance for the technical staffs of the implementing agencies. Concerned with optimising resources and orchestrating global environmental efforts, we therefore suggest to systematically and explicitly integrate sustainability parameters into the future funding for mitigation of global environmental problems. Rethinking implementation strategies would be of particular value for Global Environment Facility industry related projects in the focal areas of climate change, international waters, ozone depletion, and persistent organic pollutants. There clearly is a potential to generate multiple beneficial impacts beyond the environmental objective if we mutually design, implement, and evaluate projects with the objective of maximizing their contribution to sustainable development.

Panel Session 2

A2 Andersen

The innovation system approach to eco-innovation – a new policy rationale

Creating synergies between innovation policies and environmental policies plays a central part in integrating sustainability issues into the economic process but it is no easy endeavour. The historic dichotomy between competitiveness and environmental issues still persists and is embodied in policy regimes, economic and other social theories as well as wider societal understandings. The paper discusses two things: (A) The differences in rationales and instruments underlying respectively environmental and innovation policies. (B) The potential of the (national) innovation systems theory perspective (NIS) for providing an analytical framework that may align innovation and environmental policies and lead to a new policy rationale. Ad .A. In discussing the differences in policy approaches, the paper argues that there is a schism between (the traditional) environmental policies aiming at addressing reactive behaviour and innovation policies aiming at addressing proactive behaviour, a schism that severely hampers the development of a socially responsible market economy. Understanding and recognizing the differences in rationale between the different policy areas is central for promoting an integration of these. In understanding the process of policy integration in the innovation system the paper pulls in experiences from integrating environmental and innovation policy making in Europe, noticeable a case study from Denmark. Ad. B. The paper critically assesses the

possible implications, potentials and drawbacks of applying a NIS perspective for the simultaneous fostering of innovation and sustainability issues. The paper draws on innovation theory from an evolutionary economic as well as resource based theoretical perspective in developing a framework that captures the innovation system dynamics related to sustainable development. The paper seeks to identify how and where the innovation system perspective may suggest new policy strategies and new instruments. The paper argues that this new approach may provide an expedient platform for integrating innovation and sustainability policies which will allow for more effective policy making for eco-innovation.

A2 Foxon, Makuch, Mata, Pearson

Towards a sustainable innovation policy – institutional structures, stakeholder participation and mixes of policy instruments'

Environmental policy and innovation policy regimes at national and EC levels require a more strategic principle and process based approach to policy coherence, in order to achieve greater integration. This paper investigates potential public-private institutional structures, forms of stakeholder participation, and development of mixes of policy instruments that could play a role in integrating environmental policy and innovation policy regimes into a sustainable innovation policy regime. These factors form part of guidance for improving policy processes for promoting sustainable innovation, currently being formulated in a research project under the UK ESRC Sustainable Technologies Programme, aiming to reflect the complexity of both innovation and environmental processes and systems. This paper analyses three aspects of this guidance – the role of public-private institutional structures in policy development; forms of stakeholder participation and related consensual policy decision-making designed to include representatives of the innovation constituency; and approaches to the development of a more coherent and integrated mix of policy instruments. It draws on a project case study of EC Directives and other policy measures relating to alternative energy sources in vehicles; assessment of Integrated Product Policy as an attempt to achieve greater policy coherence; analysis of the Transition Management approach (developed by Kemp and Rotmans, and now being applied to innovation in energy policy by the Netherlands' Ministry of Economic Affairs); and direct experience of involvement in EC policy processes. Finally, potential institutional developments to move to a more adaptive policy making approach are considered. This would facilitate 'policy learning', by institutionalising policy review, learning and correction mechanisms, and so facilitate more rapid reaction to the dynamics of innovation. It is argued that such an approach could be beneficial to sustainable innovation policy, the development of more sustainable innovation systems, and also to the integration of environmental policy with other policy areas.

A2 Steurer

Strategic public management (spm) as holistic approach to policy integration

Policy integration is very much about how political decisions are reached and implemented. Although policy integration addresses a broad understanding of governance, the issue is often addressed in a relatively narrow sense. Scholars and practitioners are addressing policy integration most often by discussing particular policy instruments or mechanisms, rather than new, more appropriate patterns of governance or administrative narratives in general. In this paper I advocate that policy integration on a broad scale requires a holistic approach, i.e. a new narrative of the public sector. Since the most important narratives of public administration, i.e. the models of bureaucracy, New Public Management and New Governance, all fail to address the quest for policy integration adequately, I propose "Strategic Public Management" (SPM) as holistic administrative approach. Strategic Public Management addresses the issue of policy integration more adequately than any other administrative narrative because of two reasons: The concept seeks to combine the advantages of bureaucracies, NPM and New Governance to a hybrid pattern of governance and it advocates to strengthening the strategic capacity in the public sector. Strategic Public Management (or a similarly hybrid administrative approach) could be for the challenge of policy integration what New Public Management was (and to a certain degree still is) for the quest for efficiency.

B2 Sharma

Reverse integration of environmental concerns into sectoral policies through simulation of greener development plans: a situational analysis from india

Integration of environmental concerns into sectoral policies is a well-accepted strategy across regions, nations and societies. However, clashing and competing objectives often diffuse its desired directional impact. It is common to observe policies and regulation restricting the use of plastics and non-biodegradable materials mooted by the ministries like environment and urban affairs cohabiting with special task groups on plasticulture mooted by the ministry of Agriculture. Likewise initiatives of the ministries of health, environment and labor-welfare are easily frustrated by farm-subsidies on use of chemicals and pesticides. Liberalization supported by the ministries of finance, commerce and industries smoothen the way for dumping of inferior technologies with severe implication in terms of occupational health and safety or environmental impact in the name of foreign-investment, employment, regional-development and globalization. Policy statements unless translated holistically into action projects, seldom make desired impact in real life and one often sees large-scale disposal of treated sewage just upstream of the intake for a drinking scheme or for that matter, a road constructed to carry out forestry operation doing more damage to vegetation. A so called clean hydropower project could sometimes wield greater global warming potential than an

equivalent thermal power generation plant in its neighborhood while an innovative short-cut tunnel in the hills cut down air-emissions from vehicular traffic to a half. This paper seeks to analyze such situations to simulate Zero Impact Development Initiative for the mountain state of Himachal Pradesh in India clearly outlining clean development opportunities. Examples include re-engineering of an energy intensive lift-supply drinking water project into a net energy-generating project to introduction of three-dimensional forest farming for simultaneous development of ecology and economy. A simulated re-cast of the development plans as usual will practically demonstrate the process of reverse integration of environmental concerns into sectoral plans and policies.

B2 Luken, Hesp

Developing and transition economy efforts to achieve policy integration for sustainable development

All countries, including developing and transition economies, need to integrate sectoral policies to enhance the positive impact of industry on sustainable development. This article assesses the extent to which recent changes in industrial, environmental and technology policies in seven countries (Chile, China, the Czech Republic, Pakistan, Tunisia, Turkey and Zimbabwe) have more closely aligned industrial development with the aims of sustainable development. The assessment found that the seven countries did not make great advances in policy integration in support of sustainable development in the 1990s. The countries undertook only limited efforts to coordinate policy domains and to implement cooperative programs and projects. Only three countries attempted to find convergence among policies in support of sustainable development and none of these three countries attempted to align their coordination and cooperative measures in support of a coherent vision for sustainable development. With regard to the effectiveness of policy domains, two countries appear to have relatively effective policy domains and two countries appear to have relatively ineffective policy domains. With regard to the actual contribution of industry to sustainable development, there were only two countries where industry made substantial contributions to socio-economic development while reducing its potential adverse impact on the environment over the period 1990-2000.

B2 Orhan

Centralised regulation, involvement of local people, leadership of key policy actors or all? Conditions of successful environmental policy integration in turkey

Traditional organization model of bureaucracy is based upon a top-down hierarchy, specialization and division of work and complex and interdependent nature of environmental problems pose a major challenge to this model. Since environmental problems are related to a number of policy areas and sectors, integration of policy areas and sectors, co-ordination of environmental problem solving efforts and the co-operation of actors have been major policy prescriptions for the solution of environmental problems. Policy-makers and policy-documents, like the Brundtland Report, have highlighted policy integration as a solution to environmental problems. Yet again, environmental policy was developed as a separate area of public policy and sectoral policy integration become a difficult task. As a result most of the studies in environmental policy reported failures in policy integration and prescribed policy integration as a panacea for complex and interdependent environmental problems. However, policy analysis is not only about keep reporting failures of implementation and prescribing similar policy recommendations. Policy analysis should focus on successful examples of integration and identify the conditions of success. In this paper, two successful cases of environmental policy integration in Turkey, namely Ankara Air Pollution and Izmit Integrated Environmental Protection Projects, will be analysed and conditions of policy success will be identified. As these cases suggest, though they are necessary factors, strategies of centralised regulation and existence of a legal and institutional framework are not sufficient and do not guarantee sectoral policy integration. Involvement of local actors and most important of all existence of strong policy actors play a decisive role in the process of policy integration and environmental policy success.

B2 Ball

Cultural and organizational issues for sustainable development in local authorities

The drafters of agenda 21 recognized that many of its objectives could only be delivered with the support and cooperation of local authorities. Thus integration and coordination of policy at local government level (using a process called local agenda 21) is crucial to sustainability. In many cases such cooperation is difficult because local authorities are divided up into a range of competing departments. Although there is considerable literature on local agenda 21 in the UK, there seems to be significant problems in implementation and many authors suggest potential cultural and organizational problems. We carried out detailed action research in one local authority to try to gain more insight into such problems. The study was divided into three stages with time for reflection between the different stages. The first stage involved attending meetings in one local authority of the members-officer group who were trying to integrate sustainable development into the organization. Interviews with members of this group were also carried out. This part of the study highlighted a number of issues including the existence of sub-cultures, different parts of the organization having different understanding of the term sustainable development, monitoring and measuring progress and resistance to change. The second stage widened the scope of the study to place the authority in the appropriate organizational type in a taxonomy which included, transactional, community leader or business authority. The third and final stage was to repeat some of our research with two other Scottish Local Authorities to triangulate our findings. A wide range of recommendations emerge. These include the development of

a clear vision, linking more closely environmental, economic and social issues (including cross departmental working), developing an effective communication strategy and dealing with overlaps from other initiatives such as community planning.

C2 Wilkinson, Volkery, Jacob, Bartolomeo, Hertin

Ex-ante sustainability appraisal of national-level policies: a comparative study of assessment practice in seven countries

It has long been acknowledged that to promote sustainable development effectively, environmental concerns should be integrated into decision-making procedures on a wide range of issues. Environmental Impact Assessment (EIA) has been developed throughout the 1970s and 1980s to analyse the ecological implications of projects like roads and industrial developments. Through the emergence of Strategic Environmental Assessment (SEA), this approach was applied to the higher strategic level of plans and programmes in areas such as land use, transport, waste, energy and water management. Only more recently, however, have similar procedures been widely used to in the design of national and international policy initiatives outside the area of infrastructure planning, for example new regulations, taxes and international treaties. This paper reviews the procedures for sustainability appraisal of generic policies through seven qualitative case studies: the United States, the European Union, Britain, Canada, Australia, Italy, and the Netherlands. Drawing on existing evaluations as well as interviews with government officials involved in the assessment, the case studies provides a comparative analysis of institutional frameworks, appraisal processes, scope of analysis, and methodologies as well as an evaluation of their effect on policy output. The paper identifies two dominant models of sustainability assessment: single-issue environmental appraisal procedures applied to selected initiatives and the inclusion of sustainability concerns into traditional regulatory impact assessment covering a wide range of policies. The research shows that while the environmental dimension of policy appraisal has been strengthened in recent years, some of the procedures have been poorly implemented, and environmental concerns still play a small role in policy appraisal. Exploring the barriers to ex ante sustainability appraisal, the paper concludes by discussing the hypothesis put forward by Dalal-Clayton and Sadler (2004: 179) that the critical constraints for national level policy appraisal are not technical or methodological, but political, institutional and procedural.

C2 Opoku, Jordan

How well is the EU's impact assessment procedure performing: policy coordination and sustainable development outside Europe

The achievement of sustainable development is a cross-cutting policy issue par excellence necessitating policy coordination. This is especially true considering that the European Union's (EU) Sustainable Development Strategy specifies that all EU policies must actively support the sustainable development of other countries, particularly developing countries. Therefore, in search of sustainable development the impacts of policies both inside and outside the EU have to be considered. Achieving policy coordination represents a persistent problem for all political systems but is especially difficult for the EU due to its high degree of institutional complexity and fragmentation. In pursuit of greater policy coordination, all new policies being developed by the European Commission since 2003 have undergone a two tiered Impact Assessment (IA) process. This is intended to facilitate the flow of information among networks of interested parties so that likely trade-offs in achieving competing policy objectives can be identified. These networks are anticipated to act as a 'bottom-up' tool for coordination with little central steering from the Commission. This is in keeping with the EU's desire to operate a more networked style of governance. This research evaluates 41 of the extended impact assessments to ascertain how well they consider potential impacts of EU policies beyond its borders, particularly in developing countries.

C2 Keskitalo

Institutional learning in IA? What we assume on the communicative process

Communication and interaction between different groups is increasingly being seen as a requirement for the efficient integration of environmental aims. One sign of this is the extension of the global change-focused, policy relevant field of Integrated Assessment (IA) to beyond natural science, modelling-focused activities include direct interaction with stakeholders such as decision-makers and citizens. A survey of the literature on Integrated Assessment projects shows, however, that the understanding of communication and deliberation in these integration processes has so far been relatively unproblematised. Interaction between stakeholders and scientists is often described as a relatively straightforward process, characterised by an open and unbiased exchange of information and learning. This paper argues that such an understanding differs from real life speaking processes, for which characteristics include that communication is driven by interests developed outside the interaction process—a fact that results in limited learning in shorter communication processes that do not sufficiently include or take account of the every-day context external to the process. The paper argues that these differences between ideal and constrained communication situations can be illuminated through contrasting Habermasian and Foucauldian understandings of interaction. It argues that in order to accomplish science-stakeholder interaction and impact knowledge and learning, a much deeper understanding and process of communication is needed, that takes into account the constraints on peoples' actions, their motivations and institutionalised patterns of adaptation to change.

C2 Bleischwitz, Latsch

Assessment criteria for a sustainability impact assessment in europe

Public economics usually emphasizes the task of “setting the framework conditions” for markets. In formulating such setting, however, research has to deal with imperfect markets, uncertainties, and unknown impacts of any regulatory reform. Against this background, the EU undertakes efforts towards ‘regulatory impact assessment’ and ‘sustainability impact assessment’. The following article derives assessment criteria for any sustainability impact assessment from different strands of economics such as innovation research, new institutional economics and evolutionary economics. It starts from some observations on framing activities, stating that economic policy can be conceptualised as institutional reform rather than a one-off activity. It then elaborates criteria. Beginning with the established notions of ‘relevance’, ‘effectiveness’, ‘efficiency’ and ‘adaptation flexibility’, the article introduces explicit sub-criteria and guiding questions for thorough analysis. Those criteria (C) are (C1) problem identification, (C2) decentral solutions & compensation, (C3) target setting, (C4) target’s implementation, (C5) cost reduction, (C6) positive side effects, (C7) negative side effects, (C8) freedom and flexibility, (C9) evaluation and review, (C10) participation und transparency, (C11) control. Some thoughts are made towards an application. The paper is geared towards impact assessments of cross-cutting approaches. The paper concludes with some remarks on the role of those within sustainability strategies.

D2 Aksoy

Conserving genetic resources: linkages between local, national, and international levels

The conservation and management of plant genetic resources have been a significant issue with the international recognition of the threats to biodiversity and the increase in economic benefits from exploitation of natural resources through advances in biological technologies. The adoption of the Convention on Biological Diversity (CBD) in 1992 at the United Nations Conference on Environment and Development in Rio has been a crucial step in addressing these concerns. The CBD obligates countries party to the Convention to conserve, sustainably use, and guarantee access to genetic resources, in return for a fair and equitable sharing of the benefits arising out of the utilization of these resources. This paper will analyze the linkages between international, national and local levels in the conservation of genetic resources in Turkey, a centre of origin and diversity of several crop plants. At the international level, the paper will look at two different international institutional frameworks, namely the CBD and the neoliberal economic regime fostered by the International Monetary Fund (IMF) and the World Bank (WB), which direct national agricultural policies towards liberalization through arrangements such as stabilization and structural adjustment programs. Turkey is a party to the CBD, and has been in a process of agricultural restructuring under IMF supervision and WB assistance, which makes it a promising case to analyze the linkages between different level factors. The paper will use data collected by interviews with farmers who conserve crop genetic diversity through the cultivation of landraces, and policy makers and public officials involved in the policies to conserve plant genetic resources and IMF/WB directed agricultural policies. The paper will argue that the nature of policies adopted at the national level can best be understood by looking at the interplay between international conventions/agreements and national policy making, as well as limitations of and possibilities offered by domestic structures.

D2 Axelrod

Chilling international cooperation: constraining new institutions with old institutional rules

Unlike domestic laws, international institutions exist independently of each other and may conflict. They do not benefit from a Supreme Court’s unified interpretation or a legislature’s ability to alter existing laws through new legislation. Following Victor and Raustiala (2004), I recognize that negotiators therefore enter a constrained bargaining space – rather than the generally assumed tabula rasa – when considering new international institutions. While negotiators could explicitly override existing provisions, a desire for legal certainty leads many to avoid any possible conflict with old treaties. Parties skeptical of the NEW institution’s value may then take this opportunity to persuade negotiating partners that the bargaining space is smaller than originally thought. Rather than Risse’s (2000) conjecture that negotiators persuade others about their ideal spot within the bargaining zone, this type of persuasion attempts to convince others that the actual zone is smaller than they thought. As such, international institutions often have the unintended consequence of providing a strategy that constrains future action. I expect that negotiators avoid most carefully those existing institutions with the strongest enforcement provisions. Such institutions are generally more important to their members, hence the focus on enforceability. In addition, international regimes with these enforcement mechanisms are most likely to produce legal uncertainty in the event of conflict with other institutions. For verification, I have collected negotiating documents from the Convention on Biological Diversity, Cartagena Protocol on Biosafety, and the World Trade Organization. These documents, and preliminary interviews, confirm that parties are often careful to avoid conflict with existing commitments, and the more institutionalized GATT/WTO are actually cited as reasons for weakened environmental rules. However, we also note the influence of the less institutionalized ILO on WTO expansion. This finding leads us to believe that path dependence is a more robust explanation for the availability of this blocking strategy.

D2 Jungcurt, MMeyer

Ambiguity and contradiction: strategic instruments for international agreements

International Agreements in different issue areas frequently overlap in their functional scope. Within this overlap provisions are astonishingly vague and often outright contradictory. Consider for instance the requirement to disclose the origins of genetic resources in patent applications requested under the Convention on Biological Diversity (CBD), but so far not included in the relevant provisions of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs). This conflict between CBD and TRIPs impedes inter alia a clear allocation of receipts and royalties from new and existing uses of genetic resources. This in turn gives rise to conflicts over the international distribution of revenues and has substantial consequences for the incentives to invest into conservation of genetic resources and future research. An apparent explanation for the lack of a better alignment of overlapping agreements is that the issues at stake are inherently complex and prone to mistakes. Alas, we find this hardly convincing, because ambiguity and contradictions may serve to the advantage of the negotiating parties. In a stylized model, we show that ambiguity and contradictions may serve two purposes: First they facilitate selling the agreements at home (ratification and public acceptance), because ambiguity allows—at least temporarily—a more favorable interpretation. Second, they may be used as bargaining tool, because it allows one party to cave in at a certain issue, while at the same time pursuing it under another agreement. This option is particularly interesting for the more sophisticated party. We conclude that diverging interests of domestic political actors and domestic political institutions explain part of the empirical phenomenon. Moreover, we show that it may be to the disadvantage of the less sophisticated party to have the same issues negotiated and settled under different agreements. Developing countries are advised to pool negotiations in order to prevent falling prey to contradictions later on.

E2 Brand

Networks in renewable energy policies in germany and france

The aim of this paper is to discuss the transformation of the energy sectors of Germany and France, with a main focus on obstacles and success conditions for renewable energy sources. The networks of actors struggling for these aims in both countries and the obstacles they face are analyzed, using the examples of the introduction of political instruments to support renewable electricity and biofuels and their success so far. Though both countries are obliged to change actual emission trends under the Kyoto Protocol the performance of the two analyzed ways to reduce CO₂ emissions varies considerably between both countries: Whereas biofuels perform very well in both countries and the goals set by the EU directive on biofuels are most likely to be reached, the success of renewable electricity policies in both countries differs extremely. Although France has also introduced a minimum payment system for renewable electricity which was one of the main success conditions in the leading wind energy countries Germany and Spain, the growth of installed capacity remains slow. My main argument is that biofuels perform so well because a crucial driving force for their development in France comes from the pressure exerted by the agricultural lobby longing to reduce dependence on subsidies for food production. In contrast, the network opting for renewable electricity remains weak in France compared to Germany. Secondary interest groups like the approximately 120.000 German employees in the renewable energy sector do not yet exist in France. So it is basically the EU directive on the promotion of electricity produced from RES that helps the network struggling for the introduction of renewable electricity in France to defend renewable interests which so far is not sufficient to promote further growth of the sector.

E2 Szarka

Wind power, discourse coalitions and policy integration

The aim of this paper is to work towards a synthetic vision of policy to support renewables based on the notion of 'policy integration'. Drawing on analysis of the literature and informed by field-work in the wind sector in Denmark, France and the UK, it explores the extent to which policy learning over the medium term has brought us closer to policy models that integrate economic, environmental and societal desiderata in a manner congruent with the sustainable development aspirations espoused by the European Union and its constituent states. Thus the first section clarifies the policy integration concept by reference to the introduction of environmental and societal dimensions into energy policy-making on the basis of a proposed 'transition to sustainability'. The second section moves to the micro-level of electricity generation from renewables. It considers policy integration in relation to wind power along three dimensions: 1) increases in production capacity, 2) increases in institutional capacity and 3) increases in societal capacity. The conclusion pulls these strands together, and proposes avenues for further enquiry into whether a 'systemic' approach could be developed not only in relation to technical and economic dimensions of policy-making but also as regards the integration of the societal dimension.

E2 Bechberger, Reiche

The spread of renewable energy feed-in tariffs (refits) in the EU-25

The aim of this paper is to discuss on the one hand why a spread of REFITs took place in the European Union and on the other hand whether this instrument was a driving force of a greening of energy policies. At first we will explain in our paper the function of REFITs. Then we will show which countries within the enlarged EU-25 have introduced this instrument. After that we will identify the factors which led to the diffusion of REFITs and to the decline of

quota systems which are beside tenders the main instrumental competitor of REFITs. Furthermore we ask for the influence of REFITs in success or failure of renewable energy development. Therefore we analyse the specific construction of successful REFITs in combination with the general political framework such as the natural conditions for RES, availability of fossil resources, use of nuclear power, the economic (level of energy prices, for example), technological (i.e. grid capacity), and cognitive environment. Finally we look at the possibilities for a uniform corpus of regulation for RES electricity valid for all EU Member States after 2005 and if this could be a REFIT system.

E2 Bunting

Wind Power Policy in Australia: An Uncertain Future

This paper draws on research analysing the forces shaping the deployment of wind power in Australia. It draws mainly on a contextual historical approach to explain the fortunes of wind power. It demonstrates how a small opening for wind power is exposing a range of institutional barriers, and analyses attempts by wind power proponents to bring about institutional change. With its vast supplies of fossil fuels, Australia has long relied on cheap energy supplies to attract energy-intensive industries. Despite Australia's very high per capita greenhouse emissions, the government is following the USA in refusing to ratify the Kyoto Protocol. Nevertheless, the Australian government has developed greenhouse policies for the energy sector. Although the main focus has been on reducing emissions from coal, mechanisms have been introduced to support the introduction of renewable energy. The main mechanism is the Mandatory Renewable Energy Target (MRET), which should lead to an additional 9500 GWh of renewable energy per year by 2010. The MRET has led to many wind farms being planned. While MRET has created a market for wind power, it is small and short-term. Because the government has refused to expand the target, the wind industry is taking a cautious approach to investment. There have been some changes to supporting institutions such as in planning and noise standards; however, these fall under the jurisdiction of state governments. Responses have been mixed. Communities affected by wind farm proposals are also becoming more hostile, and planning policies are failing to facilitate a compromise. The electricity industry, which in the past has rejected wind power due to its cost and intermittency, has started to consider how it can integrate wind power. Its response, however, has been cautious and conservative.

F2 Bauknecht

Electricity policy integration: the role of market regulators

Electricity policy in most countries is guided by three objectives: Economic efficiency (low electricity prices), environmental protection and security of supply. This paper analyses the integration of these objectives through electricity market regulation. In the late 1980s, the general move towards privatisation and competition started affecting the electricity supply industry (ESI). Most countries that have liberalised their ESI have set up a regulator. Yet the portfolio of tasks regulators have been assigned vary widely. While some focus on ensuring non-discriminatory access to the electricity network to promote competition in generation and supply, others have much broader competencies, overseeing the ESI as a whole rather than just the network part and taking into account environmental and security of supply objectives. As opposed to other EU member states, Germany is only now – six years after the market has been liberalised – setting up a regulator. Its tasks will, however, be mainly restricted to regulating rules and charges for network access. The German regulator is all about promoting competition, while environmental and security of supply objectives do not play a role. The paper argues that in order to achieve the three objectives of electricity policy, market regulation should not be restricted to economic aspects. The paper first elaborates on the strong interdependencies between economic grid regulation, environmental policy instruments and sustainable development of the sector as a whole. It will then give an overview on the German discussion on ESI regulation, explaining the competencies of the new regulator and how its narrow focus is being justified. It will finally contrast the German set-up with the international discussion, focusing on the development in the UK, where the electricity regulator has been in place for almost 15 years and where its initial objective to promote competition has been widened significantly to include environmental objectives.

F2 Midttun

Green Electricity Markets: Market Design, Entrepreneurial Discovery And Political Legitimacy

Following deregulation of the principal energy markets, and EU's failure to impose harmonised taxation on polluting emissions, one trend in European energy and environmental policy has been towards market based greening of energy supply. Through well constructed market designs, it is thought possible to correct undesired market behaviour. Such designs provide the "right" incentive structures to the market actors, governed by a consistent regime where regulators specify efficient rules and workable procedures and also have sufficient control to implement them. Moving from introducing a new mechanism into an already existing market, as in the case of taxation, to constructing a totally new market by political design, however, implies a radical stepping up in policy complexity. Many elements of the rational market design vision can therefore be questioned and arguments can be developed for an alternative learning- and innovation oriented understanding. In other words, moving from the rationalist vision of market design to a more process oriented vision of market evolution. Based on empirical studies of emerging experiences in European green electricity markets, the paper explores the challenges to the "rational" deregulation and market design approaches confronting the static efficiency premises with a dynamic efficiency

approach. The paper also brings in the question of institutionalisation and political legitimacy as a critical challenge to market design. The paper is organised in three sections: A first section elaborates on the three analytical perspectives: Static efficiency, dynamic efficiency and institutional legitimacy. A second section gives a brief overview of experiences in three green electricity markets: the Dutch green certificate market, the Swedish green electricity certificate market and the UK Renewables obligation certificate market, The third section presents a discussion and draws some analytical conclusions about the challenges facing design of green electricity markets in Europe.

F2 Nilsson

Environmental policy integration as learning: the case of Swedish energy policy

Environmental policy integration (EPI) can be viewed as a type of policy learning. This paper presents a conceptual framework and empirical analysis of EPI that helps us identify patterns of EPI in terms of learning and reframing in sectoral policymaking and understand the external, proximate and internal conditions that have enabled or constrained such learning. In a case study of Swedish energy policy, several questions will be addressed through this framework: who are the key actors that are advancing the policy agenda and what are their roles? Does learning occur mainly as incremental technical learning or can we detect more profound normative changes and reframing taking place? Or are actors merely become better at advancing their own fixed agendas (political learning)? What are the key mechanisms behind learning? How can differences in learning across issues and across institutional contexts be explained? The case study shows that processes of policy learning have led to significant policy change in policy over the last decade. These have been enabled by an evolution in the characteristics of the policy network, as well as changes in the institutional context. However, EPI is slow, indirect, and partial. Further measures are needed to advance EPI and learning in national sector policy, including the further development of policymaking rules in central government.

F2 Djourdjini, Yotova

Social capital for energy efficiency: the need of partnership for policy integration and implementation in the case of Bulgaria

Climate change is one of the most complex and controversial issues of the contemporary global environmental change agenda, so the international community pays great attention to it. The efforts to cope with climate change resulted in variety of actions, in particular - agreements like the UN Framework Convention on Climate Change (UNFCCC) of 1992 and the Kyoto Protocol of 1997 being the most important from point of view of practical steps undertaken internationally. The Bulgarian Parliament ratified the UNFCCC in 1995 and the Kyoto Protocol in 2002 which put the country's policy to address climate change on stable ground. The process to meet the commitments and obligations under these international agreements - as multi-level, multi-actor and cross-sectoral in its very nature, is also a kind of "green policy" integration because it relates to almost all types of societal activities and requires collaboration between diverse interested parties. In the paper, review of (i) what is being done within this process in Bulgaria, (ii) what are the results and (iii) the problems is made so that to analyze whether or not it is successful. Documents like National Communications to the UNFCCC, National Action Plans on Climate Change, etc. as well as related projects/activities (Bulgarian National Capacity Self-Assessment for Global Environmental Management Project) are discussed to answer such questions and to look for ways how to better proceed in the future. Special attention is paid to characterize the main interested parties, with emphasis on the Non-Governmental Organizations, and their role in the process of policy development and implementation.

G2 Behrle, Marschinski

Beyond greening: explaining the effectiveness of the world bank as an international environmental organization

The World Bank as the principle global development agency has also become a major player in global environmental governance, as measured by its lending to the sector and the number of environmental specialists it has currently employed. After the heavy critique of the 1980s, regarding its financing of multiple projects that led to spectacular environmental disasters, the Bank formally initiated a process of profound makeover, leading – among other things – to the establishment of the Environment Department, enhanced safeguard policies, and an increased environmental lending portfolio, as well as a decreasing number of environmentally harmful projects. In our research effort, which is part of the larger MANUS research project, we treat the World Bank as an international environmental organization and analyze the effectiveness of its new, proactively environmental activities along the five dependent variables 'influence on international cooperation' and 'business actors', 'capacity building', 'knowledge', and 'discourse'. Although we find evidence for a significant influence on international cooperation and capacity building, the overall picture suggests that the greening of the World Bank has been only partially successful for now. Notwithstanding a genuine effort towards environmental reform and critical internal reviews, the mainstreaming of environmental concerns and the actual implementation at the project level has fallen short of their objectives. In an attempt to explain this apparent lack of capacity for institutional change, we characterize and discuss the World Bank along a second set of independent variables, namely 'autonomy', 'inter-connectedness', 'leverage', 'soft power', 'bureaucratic maneuverability', and 'representativeness'. On the basis of a series of interviews with experts from the

Environment Department, we conclude that bureaucratic maneuverability offers the highest explanatory power: the number of employees and significant degree of decentralization, the ever-broadening mandate leading to the dilution of precise goals and a goal congestion, and, finally, a lack of transparency in internal decision making and resource allocation, has hampered a sufficiently widespread integration of the Bank's ambitious environmental strategies within the organization.

G2 Gutner

Explaining the gaps between mandate and performance: agency theory and world bank environmental reform

International organizations are expected to play a greater role in global governance while many face criticism for poor performance. Principal-agent (P-A) models offer a potentially powerful tool for analyzing the gaps between IO mandates and performance, but overlook critical factors that provide a more precise explanation. This paper applies P-A models to the case of the World Bank's efforts to integrate environmental concerns into its broader activities, as a means of explaining why environmental reform at the Bank has been such an uneven process, with forward steps often accompanied by backward or sideways steps. I argue that P-A models may be calibrated to address gaps between mandate and performance by recognizing problems of antinomic delegation, and the roles of IOs as both agent and principal. Antinomic delegation is defined as delegation consisting of conflicting or complex tasks that are difficult to institutionalize and implement, so that performance problems may not solely reflect agency shirking, but rather be traced to the more intricate challenge agents face trying to implement goals that are difficult to specify and/or juggle. In the case of the World Bank, this arises in its inter-connected challenges of being both a financial institution and a development agency, and of balancing environmental issues with other goals such as economic development and poverty reduction. The broader problem of mission creep easily contributes to the specific problems of antinomic delegation. Recognizing that multiple levels of P-A relationships are characteristic of many IOs, in turn, reveals more opportunities for agency slack that are not well addressed by the IO literature. Most of the IO literature views the aid organization as an agent to member state principals, but does not recognize the role the organization plays as a principal to recipient state agents. Focusing on both sets of relationships offers a richer picture of precisely where agency costs arise and influence the translation of environmental policies into on-the-ground actions.

G2 Görlach, Knigge, Schaper

Light at the end of the tunnel? Participation and Transparency in Export Credit Agencies' Cover Decisions

The paper will be based on the results of a project commissioned by the German development agency GTZ.[1] The aim of the project is to give a survey of environmental and social standards in the lending practices of export credit agencies (ECAs). In doing this, the main focus of the survey was on large dam projects supported with export credits, in order to find out to what extent the recommendations set forth by the World Commission on Dams were taken up in the decision whether or not to grant export credit coverage to a dam project. Based on case studies and expert interviews in 8 OECD member countries, the study placed particular relevance to the following topics: * transparency and information * environmental and social impact assessments * Definition and integration of environmental and social standards * Public participation * Public participation in the recipient. The study concludes that approaches of ECAs regarding information disclosure have been markedly different. Much concern for business confidentiality in Europe, more proactive approaches in Northern America, Japan, Australia, which are supported by arguments that NGOs find out about critical projects sooner or later anyway. Thus, proactive information dissemination can be in the own best interest of ECAs. The latest agreement on a revision of the OECD Common Approaches has brought a move towards more transparency. Yet, practical impact remains to be seen. Public participation is common practice in many ECAs, especially in the process of developing social and environmental guidelines. In many cases, participation is by now a well-established routine with ongoing exchange between ECAs' environmental practitioners and NGOs. However, participation tends to be less self-understood and institutionalised in some European ECAs. A worrying trend is the practice of slicing up large projects into smaller units, in order to deliver the project components below the threshold level where impact assessments. Could be circumvented if the decision whether or not to support a request for coverage would be based on an assessment of the entire project that is supported, and not only on the portion for which coverage is applied for.

H2 Dieperink, Driessen

The development of multidisciplinary bachelor and master's programmes and the inter-linkage between research and teaching

At Utrecht University there is experience for almost 15 years with academic environmental teaching. A few years ago the traditional programmes were transformed into a bachelor masters model. Both bachelor and master programmes are multidisciplinary in nature. We can distinguish between two bachelor programmes: * Environmental Science (BSc) * Environmental Studies (BA). These programmes are taught in Dutch. In our paper we will give an explanation of the main characteristics of the programmes, the inter-linkages between them, and the organisation. Especially we will pay attention to some multidisciplinary courses and to problem solving skills. The master's degree programme is entitled Sustainable Development. It's an English-taught Master's programmes with

highly selective entry requirements. The masters programme is intended to produce graduates who wish to work towards an environmentally accountable society. At its core is the analysis of the changes needed to achieve such a society. Much attention is paid to how these changes can be steered locally and globally in both the short and the long term, and to research methodology. In the first part of the programme, which is compulsory for all students, issues of sustainable development are discussed from a variety of standpoints. Students learn about the approaches used by both natural and social scientists and they have to work in multidisciplinary teams. In the second part of the programme, students choose a specialisation. The programme consists of three different tracks, allowing students to specialize in a natural-science or social-science profile, depending on their undergraduate education. The following tracks are offered: * Energy and Resources The focus is on issues that have to do with sustainable use of energy and materials; the approach is based in the natural sciences. * Land Use, Environment, and Biodiversity The focus is on the sustainable use of land and water; here too, the approach is based in the natural sciences. * Environmental Policy and Management The focus is on steering the social changes required to achieve an environmentally accountable society; the perspective is rooted in the social sciences The programme prepares the student for various occupations. Having earned a master's degree, one can embark upon a Ph.D. programme and go on from there to conduct scientific research. Alternatively, a master's degree provides access to academic-level positions outside the field of scientific research. In our paper we will elaborate the main characteristics of the programme and give some examples of multidisciplinary courses. The master programme on Sustainable Development has a strong link with the research programme on environmental issues. This research programme is organised in the Copernicus Institute for Sustainable Development and Innovation. The Copernicus Institute wants to contribute to the development of knowledge and techniques as well as methods and instruments in the field of sustainable development, taking note of related social debates and policy processes. It is the ambition of the institute to make a difference – in science and education and in society at large – in the exploration of a sustainable world. Within the Copernicus Institute there is specific attention for: * demand, supply and use of energy and materials; * land use, the environment and biodiversity; * social steering and innovation. The Copernicus Institute houses a wide range of disciplines, with researchers from the field of natural and social sciences. There is an input for physics, chemistry, biology, technology, economy, ecology, hydrology, soil science, geography, environmental science, innovation science, sociology, policy science, business studies, and philosophy of science. The researchers of the Copernicus Institute perform also as lectures in the teaching programmes.

H2 Laumann, Schroeder

Global perspectives for the education of environmental managers: Interdisciplinary teaching on global environmental change research

We are planning to report on our experiences with conducting a graduate seminar on global environmental change research at the Free University of Berlin in late November 2004. The seminar is designed for students in environmental management and addresses core concerns of the IHDP and its IDGEC project. It will be based on approaches from geography and political science with a focus on governance and institutional analysis. We encourage an interdisciplinary perspective drawing on a strong theoretical base in economic models and social theory but remaining solidly anchored in specific local and regional contexts. We seek to enhance the capacity of the students to comprehend the nature and dynamics of general global systems and analyze intertwined natural and societal processes across temporal and spatial scales. The seminar will be arranged around four case studies in the areas of climate change, land use, water, and urbanization. All topics represent paradigmatic cases for the complex interactions of biophysical and socio-economic drivers of global environmental change. All address problems challenging prevalent institutional approaches on different levels of scale. They inherently question disciplinary approaches and require reconciling methodological and conceptual differences to develop an appropriate perspective on the problem. Groups of four students will give presentations on various aspects of one of the case studies. They are strongly encouraged to collaborate closely in the preparation of their respective session to embrace the complexity of the subject matter in a coherent way. By the end of the semester, each group is required to hand in a joint report. Quality of work permitting, there may be scope for publication of these reports on the Internet. Furthermore the students choose to chair the session (including the coordination of the working group), provide a thematic introduction of the session, and act as a rapporteur or edit the group's report. Grading will be based on the quality of the presentation as well as teamwork skills and active contribution to discussions in all sessions.

H2 Zingerli, Zimmermann

Environmental policy for engineers and natural scientists: a teaching module

This paper presents and discusses a new course entitled "Environmental Policy for Engineers and Natural Scientists" that is currently being developed in the Department of Environmental Sciences of the Swiss Federal Institute of Technology. Its overarching goal is that students of the technical and natural sciences acquire skills for critically examining and assessing complex environmental policy issues and for expressing themselves clearly in writing and speech. The didactic concept of the course follows a blended learning approach and combines individual web-based studying with team-oriented learning. The students acquire core contents of environmental policy individually in webclasses and write a position paper on a specific topic. Their statements are moderated and used for further debate in seminar sessions. Finally, the students elaborate expert reports on a controversial environmental issue in teams.

Contents and didactic concept of the course are developed in order to serve four key learning targets, which are: acquiring a sound knowledge of the basics of environmental policy; understanding areas of tension in environmental policy; analysing and assessing environmental policy processes; and strengthening analytical, conceptual and communicative skills for negotiation in environmental policy and for developing an expert opinion. The course responds to the challenge of communication and knowledge transfer between academic education, technical and natural sciences, and environmental policy in practice.

H2 Huby, Cinderby, Owen

Integration in practice: challenges for research and policy

This paper is based on research for a project to integrate data from the natural and social sciences to inform rural policy-making in England and provide a knowledge base for furthering policy integration. One of the aims of the project is to highlight and address the methodological issues that arise in working with spatial data from sources in the social and environmental domains. The study involves researchers from both social and natural science backgrounds. All are aware that understanding and utilising data from very different sources requires a broad and flexible approach that recognises the synergies and conflicts that can arise from integrating social and natural science methodologies. In this paper we identify the stages of the research demanding fresh interdisciplinary approaches. These range from initial conceptualisation and definition of the research problem, through operationalisation and research design, data collection and selection of methods for complex analysis, to the interpretation of results in an interdisciplinary framework and the dissemination of findings to a diverse audience of potential users. At each stage we discuss the need to challenge traditional discipline-based assumptions and develop new forms of systematic interdisciplinary communication and co-operation. The findings of the paper reveal personal, practical and institutional levels at which potential barriers to integration can exist. Personal expectations, forged during training and experience within traditional disciplinary boundaries, can colour ideas about what are possible and legitimate goals to pursue. Practical difficulties may stem from limited familiarity with the language used within separate disciplinary areas, the range of information already available in a diverse literature, and the accessibility of existing primary data. At an institutional level, personnel and budgetary management structures can militate against the efficiency and effectiveness with which integrated research is developed. Lessons learned in the research context have clear resonances for the furthering of sector-integrated approaches in environmental policy.

Panel Session 3

A3 Vergragt, Szejnwald Brown

Policies for social learning: bounded socio-technical experiments

Most cities around the world are highly unsustainable, either due to social problems (poverty, inequality) or due to over-consumption and production. These problems are highly persistent due to structural lock-in and due to the dominant culture and value systems. A transition to more sustainable cities implies deep changes in technology, infrastructure, institutions, consumption patterns, lifestyles and values. Traditional policies often fail to address these issues and lack the instruments to engage in such deep change processes. New instruments and new coalitions of actors are necessary in order to bring about the necessary socio-technical and economic changes. In many places in the world the contours of these new coalitions are visible: they connect business with civil society and governance, they connect local with global issues, and they connect seemingly disconnected issues. However, many of these efforts are fragmented and many lessons learned get lost because of discontinuity and fragmentation. The central question to be addressed is how to initiate and facilitate deep change processes in cities in the direction of sustainability. These change processes, often called 'regime shifts' or 'transitions', are multilevel, multi-scale, multi-actor, and multifaceted. They are by definition difficult to manage centrally, and thus are decentralized and often bottom-up. They consist of many activities in policy making, social and technical innovation, planning, infrastructural change, social movements, etc. This paper makes the point that social learning is the essence of transition processes towards sustainability. Social learning occurs often through external crises but also through small-scale experimentation with new technologies, services, and social arrangements. In this paper we present a conceptual framework for social learning in so-called "Bounded Socio-Technical Experiments", based on Schön, Fischer, and Grin and Van de Graaf, and apply this to cases in personal mobility and green housing in cities in the Netherlands and the USA. We conclude by making the case for multi-level policies aimed at fostering learning in small-scale experiments and at connecting and diffusing this learning across different scales and local situations.

A3 Butter, Montalvo

Finding niches in green innovation policy

Technological innovation can potentially play a key role in today's environmental policy. However, the environmental innovations needed often are not market driven. Green innovation policy is needed to stimulate the development and implementation of sustainable innovations. The question is how green policy can systematically match needs across different innovations and sectors, so that operational efficiency and effectiveness are by design optimal. An important issue here is the alignment of green policy with other innovation related policies. Innovation is

a process with many inter-linked activities in diverse sectors with implicit weak links. Often policy supports a single link and the innovation chain meet several bottlenecks in other weak links. An efficient and effective policy addresses as many barriers as possible so that the entire the chain is strengthened. This paper presents a model that enables a systematic approach to assess the degree of integration of national policies by looking at the match (or mismatch) of diverse policy instruments from different institutions. The model takes into account five innovation policy dimensions: First we look at the type of innovation promoted. This is done from the perspective of sustainable innovation differentiating between system innovations, industrial ecology, singular innovations, end-off-pipe technologies and process/product adjustments. Second we explore the current state and future of the innovation trajectory. A comparison is made along the life cycle of the innovations promoted. Third we determine the generic barriers that an innovation must overcome in order to diffuse, looking at economic, institutional, organizational and technological barriers. Fourth, the technological characteristics at the micro-and meso-levels are defined and compared. Last we define a the type of actors involved in the development and promotion of innovations and the diverse rationales amongst them (e.g., research institutes, companies, governments, NGO's and intermediary organizations). The matching if these five dimensions is fundamental for the implementation of systematic innovation policies across diverse sectors. Eight innovation policy instruments from several institutions where analyzed, regarding their support for three relevant Dutch policy papers. The results show lack of integration of policies, contradictions and fragmented deployment of instruments. In addition the analysis indicates that some barriers to the innovations promoted are hardly addressed while others are over dimensioned, thus leading to a non-optimal policy effort and waste of governmental funds. Despite that the method has been applied in the Dutch context the approach to better co-ordinate diverse policy instruments towards sustainable innovation can be applied in diverse countries and institutional settings.

A3 Triebswetter, Wackerbauer

Environmental innovation in the german automotive industry: policy drivers and consequences for competitiveness

This paper examines the environmental innovation process in various branches of the German automotive industry. The focus is on the policy drivers of environmental innovation and how industry adapts and with which effects for the competitiveness of the industry. In particular, the development of integrated products and technologies is examined. According to the Porter hypothesis it was analysed whether regulation-driven innovation does stimulate win-win potentials for firms. In a regional case study approach, a sample of automotive firms in Southern Germany and their suppliers were interviewed. Essentially, integrated environmental innovation is driven by a mixture of factors internal and external to the firm: not only policy pressure, but cost pressure, competitive advantages, technological lead and customer pressure are important drivers. Policy pressure did not only comprehend sectoral policies like emission vehicle standards, but – among other things – also wider non-sectoral issues of energy conservation strategies both on a national and international level. EU Directives on future use of renewable energy as well as national goals for reaching the Kyoto protocol played an important role. Where policy formulation succeeded in establishing a dialogue with the automotive companies, it was particularly successful both environmentally and also from the competitiveness point of view of the firms.

B3 Volkery, Jacob, Bregha, Pintér, Swanson

Coordination, Challenges and Innovations in National Sustainable Development Strategies - Based on a 19-country analysis

Integrative approaches to political decision-making have been an ever-present challenge in the pursuit of better government. Since the World Conference on Environment and Development (WCED) in 1992, one manner in which strategic and coordinated action for sustainable development at the national level has been pursued is through national sustainable development strategies (in the following SDS). Current thinking views SDS as representing a transition from the traditional fixed plan towards operating an adaptive system that can continuously improve. It is this type of process that nations at the 2002 World Summit on Sustainable Development (WSSD) were asked to formulate, elaborate and begin implementing by 2005. To contribute to the growing body of knowledge on national sustainable development strategies, 19 developed and developing countries were studied to identify the key challenges, approaches and innovations in the strategy process. These were featured to create a pragmatic toolbox for policymakers and public managers. Specific aspects researched included leadership, planning, implementation, monitoring and review and cross-cutting aspects such as coordination and participation. Country-level research was conducted on an independent basis using publicly available documents and literature, complemented where possible by feedback from government representatives and other experts. Despite some true progress made, the findings indicate that nations are still at the early stages of learning toward effective strategic and coordinated action. Few countries are acting truly strategically. Many challenges remain in the continuous cycle of strategic management. Key coordination challenges that emerged from the study include: * Coordination with the national budget expenditure and revenue generating process; * Coordination with the sub-national and local sustainable development action; and * Coordination with other national-level strategy processes. These challenges are discussed in detail in this paper, along with the innovative approaches and tools observed in the 19 countries used to address these coordination challenges.

B3 Berger, Pohoryles

Policy integration and capacity-building in regional sustainable development: comparative analysis of experiences in europe

The main objective of the article is to explore the need for policy integration and capacity-building in sustainable development policy-making on the regional level. This will include, on the one hand, an analysis of the management of cross-cutting issues in policy-making which transcend the boundaries of established policy fields and which do not correspond to the institutional responsibility of individual departments or stakeholders. Policy integration is of particular importance for sustainable development policy-making which has the aim to integrate various policies in an effort to move towards a more integrated policy-making concept. Therefore, integrated policy-making refers to both, horizontal policy integration (between different policy fields) and vertical policy integration (between different tiers of government as well as stakeholders). On the other hand, there may well be a gap between the need for coherent and integrated policies and the capacity to achieve it. Therefore, the article will investigate the various institutional and stakeholder capacities which are necessary to achieve sound policy integration for sustainable development. The article will put its emphasis on the regional level for sustainable development policy-making. In recent years, the regional level has become of increasing importance for sustainable development because of its spatial dimension, its role in multi-level governance, and its role in policy implementation. The article will present the outcomes of the work in the REGIONET project (Regional Sustainable Development in Europe) which was funded under the EU's 5th Framework Programme for Research. Through seventeen country studies and various international workshops, the project could gain a comparative and comprehensive overview of regional sustainable development in Europe. Some conclusions: * There is a re-shaping of the meaning of 'regions' in the context of regional sustainable development. * Policy integration: a strong focus is given to the environmental dimension; slow and unspecific development of departmental cooperation. * Structural Funds and inter-regional cooperation increase the capacity-building in the regions; evaluation methods are not only aid for decision-making, but also important for participation and capacity-building. * Current trend: intersecting 'spheres of governance' instead of top-down; the major challenge is to integrate the different objectives of the stakeholders in the regions.

B3 Rezessy, Antypas, Szeker

Environmental policy integration in hungary: an overview of current status and challenges

This paper examines the integration of environmental concerns and priorities into national level sectoral policies of Hungary, focusing on the energy, transport and agricultural sectors. The paper starts with a general discussion of issues in environmental policy integration (EPI), including the origins of the concept, definitional challenges and basic instruments available to policy makers for doing EPI. Next, it examines the importance of environmental issues in sectoral policies in Hungary by taking a closer look at the major policy documents, at the institutional setup and at the fiscal practices in energy, transport and agricultural sectors. The selected sectoral case studies provide illuminating examples of adequate integration of environmental concerns in some policy sub-sectors (for instance the supply side of energy) co-existing with apparent exclusion of environmental issues in others (for instance transport development). The authors attempt to explain the reasons why EPI has proved 'easier' with regard to some issues and hard to achieve in other sectors. Barriers to horizontal policy integration are discussed and the importance of understanding 'sectoring' as an obstacle to the achievement of integrated policy making is emphasised. The paper concludes that while sectoral policy making has yielded some positive results from an environmental perspective in fields such as energy efficiency, there is significant room for improvement when it comes to real integration of environmental concerns into sectoral policies. Finally, some concrete recommendations on how to better integrate environmental concerns in the sectors in the scope of our paper are given.

C3 Lafferty, Larsen, Ruud

Institutional provisions for environmental policy integration in norway. The case of the 'environmental profile of the national budget' and the 'national environmental monitoring system'

Norwegian environmental public policy implementation is based on the principle of sectoral responsibility. This implies that specific ministries and directorates have the responsibility to implement and enforce political decisions made by the Norwegian Parliament. Such sectoral responsibility is clearly necessary for an active and effective greening of sectoral policies. But we should not lose sight of the fact that an overly strong emphasis on sectoral responsibility can also create potential barriers for an overall greening of policy across sectors. Environmental policy – and particularly policy for sustainable development – is inter-departmental and interdisciplinary by nature. While sectoral policy operates with a vertical image of governmental responsibility, environmental and SD policy is inherently horizontal. In earlier attempts to clarify the conceptual nature of EPI (Lafferty and Hovden 2003 and Lafferty 2004b), we have distinguished between the vertical (VEPI) and horizontal (HEPI) dimensions as potential benchmarks for evaluation. As an initial attempt to focus discussion on the quality of governing mechanisms for EPI, we have assigned "scores" on each benchmark. The purpose of the present paper is to use this work as a reference for a more inductive empirical approach. What kinds of institutional provisions are currently in place (in Norway), and to what degree do they reflect the interdependent standards for Horizontal and Vertical Environmental Policy Integration: HEPI and VEPI? The first case investigated is the reporting procedures established (in 1989) for the

'Environmental Profile of the Norwegian State Budget' (EPSB). With this governing mechanism, the goal has been to identify expenditures that are "environmentally motivated". By requiring all ministries to document the levels and types of "green" expenditures, the goal was to provide a basis for policy-integration assessment. The second case investigated is what we have termed the 'National Environmental Monitoring System' (NEMS). This mechanism was first outlined in 1997. To our knowledge, the system represents a very promising effort to develop a functioning framework for monitoring (and eventually managing) a more holistic greening of Norwegian society within and across sectors. Consequently, the NEMS may represent a significant effort to strengthen EPI in Norway. The analysis indicates, however, that the promises remain just that: well thought-out systems in theory, but without the necessary administrative and political follow-up to realize the potential for strengthening EPI. The paper concludes with a discussion of the lessons learned from the two assessments, and points towards specific procedural routines which could serve to enhance stronger environmental policy integration.

C3 Rave

Greening subsidies in germany – interlinkages to selected policies

It has increasingly been recognised that environmental objectives need to be incorporated more effectively into all stages of policymaking in non-environmental policy sectors (Environmental Policy Integration). By now experiences have been made and studies have been conducted in various policy sectors. They provide valuable information about the obstacles and difficulties that occur as well as some of the progress that has been made. However, little attention has been dedicated to the role of policy instruments in greening policy sectors. This paper aims to fill this gap by tracing and comparing the role of subsidies in selected German policy sectors. Subsidies are an interesting policy instrument to study: They have been used quite extensively in many of the "target" sectors while little attention has been given to the environmental consequences of many support schemes for a long time. Other than many recent studies listing environmentally harmful subsidies this paper approaches the issue from an historical and institutional point of view. Drawing on a broad range of existing literature we aim to highlight the evolution of policy patterns and the conditions for their occurrence. Following the introduction we give a short overview on the concept of subsidy. The subsequent section provides an analytical framework which helps to structure the complexity that arises when relating various subsidies to their potential effect on the environment. We differentiate between sources and mechanisms for potential greening of subsidies and subsidy structures. Then we elaborate on two case studies, energy policy and regional policy, with a particular focus on the role of subsidies. We identify various trends and adaptation pressures and explain if and how they enabled or restricted greening initiatives. Relating back to our analytical framework we highlight similarities and differences between the case studies.

C3 Moutchnik

Running at least twice as fast as possible. Politicization of environmental management standards.

"Well, in our country", said Alice, still panting a little, "you'd generally get to somewhere else – if you run very fast for a long time as we've been doing." "A slow sort of country!" said the Queen. "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that" Lewis Carroll, *Trough the Looking-Glass*, 1872. The last decade of the 20th century witnessed rapid growth in the adoption of EMStandards within enterprises of all types and sizes all over the world. Such factors as the improvement of environmental awareness in the society, technical and technological innovations, increasing of quality and environmental requirements, political and economic integration of different countries have combined to produce this trend and have made the ISO-approach popular. Today is the ISO 14001 an essential part of the management in the most of the transnational corporations and their numerous suppliers, as well as in some small and medium sized companies primary with an adverse environmental impact. The diffusion of EMStandards is taking place now mainly in the public administrations, municipal authorities and other political institutions. The standards are therefore widely accepted not only by business, but also by politics. This paper focuses on the role of EMStandards in the interaction and interdependency of business and politics. It examines the diffusion processes of standardized environmental management practices and points out the political factors, that transform a voluntary environmental initiative of enterprises into a mandatory one. Empirical case study will allow to analyze the politicization of EMStandards as a new research field of the environmental studies and it will show the ways for companies to keep the run in a continual improvement of their overall environmental performance "at least twice as fast as possible", that is afforded nowadays – just like in the case of the Carroll's Queen – by the state authorities.

C3 Stead, Meijers

Policy integration in practice: some experiences of integrating transport, land-use planning and environmental policies in local government

There is widespread acceptance that integrating decisions across different sectors of policy is crucial for sustainable development. This is certainly the case in the area of transport, land-use planning and environment policy and is exemplified in various high-level reports on transport and sustainable development. Despite these calls for policy integration, however, information about policy integration in practice, the experiences of policy-makers with policy integration in this field and the mechanisms or tools for policy integration that could help to lead to more integrated policy are all difficult to find. This paper attempts to shed some light on these issues and reports on some recent

experiences of policy integration in local government in Denmark, England and Germany. The main focus of the paper is on methods and instruments that help to promote policy integration, including impact assessment techniques and policy targets and indicators. The material is based primarily on in-depth interviews carried out with key actors involved in policy making in the selected case study areas. The paper reflects on how different methods and instruments can affect policy integration, focusing particularly on the integration of transport, land use and environment policies. The methods and instruments covered in this paper include various impact assessment techniques, methods and instruments based on targets and indicators, and public participation techniques.

D3 Kallis, Briassoulis

Integration of EU water and development policies: vision or plausible expectation?

The paper examines the current state and future prospects of integration between EU water and development policies (agricultural and regional) in the light of past experience and recent policy developments (Water Framework Directive and reforms of the CAP and the Structural Funds). The focus is on the southern EU Member States and the problems of water scarcity faced in rural areas which accounts, among others, for their sensitivity to desertification. Research is based on secondary analysis of EU policy documents and of the pertinent literature. Concepts of integration in water resources management are first reviewed, and the need for and the characteristics of integration between water and development policies are examined. A set of criteria for analyzing policy integration is then presented. These include: substantive integration; integration of goals; integration between actors and policy networks; and, procedural integration. Next, the main features of the EU water, regional and agricultural policies are presented and compared. The analysis of the current state of integration between EU water, regional and agricultural policies follows on the basis of the selected criteria. Positive signs and problems with respect to progress towards policy integration are identified. Finally, the question whether, in a dynamically changing socio-political and policy context, it is plausible to expect that the integration of the three policies will materialize and bring the desired results – namely, contribute to sustainable development in general and to combating desertification in Southern EU regions in particular is addressed. Substantive and procedural requirements to promote policy integration are suggested. Theoretical reflections over the nature of policy integration and the relation between its substantive and procedural aspects conclude the paper.

D3 Thiel, Lane

Environmental policy integration and the multi-level and multi-sectoral reality of water use development in the algarve, portugal.

The paper evaluates which actors were able to introduce the consideration of environmental protection, into the construction of the Odelouca dam in the Algarve, Portugal. Even the European Commission implicitly acknowledges that the dam infringes the Habitat Directive. The paper concludes that the European Commission through introducing the Habitat Directive, the EIA directive and the complaint procedure opened scope for the environmental NGOs to question the legitimacy of the actions of the national and European authorities. However, physical development relying on and increasingly necessitating the dam and a cross-sectoral, cross-level community of actors promoting it accomplished its currently ongoing realisation. Finally, the paper makes concrete suggestions for strengthening the physical manifestation of conservation claims and it asks if the Environmental Policy Integration principle is the best-suited instrument for the accessible assessment of the implications of human interactions with the environment.

D3 van der Brugge

Complex adaptive systems and transition management

As our world becomes increasingly complex through its interconnectedness across different levels of scale, it can be argued that the model of complex adaptive systems (CAS) has a better fit with the real world as it stresses the non-linear relationships between scale levels in hierarchical and heterogeneous networks of adaptive agents (Holland, 1995). Consequently, the theory of CAS can be useful in deriving new governance principles for complex problems. The societal application of CAS principles is especially promising in the case of transitions, in which penetrating innovations thrive through the system and eventually change the 'deep structure' of the system, e.g. a fundamental change in the way a societal system is organized to operate, shifting from one relative stable system state to another. The jump between two relative stable system states of a particular societal system requires a multitude of interrelated system innovations. System innovations are organization-exceeding, qualitative innovations, realized by a variety of agents within the system, which fundamentally changes both the structure of the system and the relations between the actors (Rotmans et al. 2003). The resulting emergent patterns reinforce and constrain in turn the development of new operations and thus contribute to changes in the 'deep structure'. Coordination and integration of system innovations is thus one of the main tasks of Transition Management, which aims at giving a certain direction to the transition. In order to further develop a comprehensive model of transitions and the governance principles of transitions management, we combine the theoretical concepts of complex adaptive systems with empirical case study material. The case study is the transition to integrated water management in the Netherlands (Van der Brugge et al., Forthcoming). The transition is analyzed in terms of system innovations and actor strategies over the past three decades in order to reveal the mechanisms of transitions in societal systems.

E3 Schuchmann

A new model for the solution of resource use conflicts in coral reef areas. From integrated coastal management to integrated coastal governance in Palawan, Philippines.

The concept of integrated coastal management (ICM) has received considerable impetus in the late 1980s and early 1990s by the preparatory process for UNCED and then by the Agenda 21 and its ocean and coasts' chapter 17. ICM is a multi-space, multi-sector and multi-level approach. It acknowledges the interrelationship among the terrestrial and marine side of the coast, among single resource uses and its conflicts as well as among the jurisdiction of different levels of government. In order to be sustainable, integrated management must also be a multi-actor approach and consider the integration of all those who are concerned. This requires a conceptual shift to integrated coastal governance (ICG). ICG is a partnership arrangement in which government, the community of resource users and external agents (NGOs, academe etc.), and other stakeholders share the responsibility and authority for the management of coastal resources. The paper analyses the role of political institutions for local ICG in promoting or hindering conservation and sustainable use of coral reef resources in rural coastal areas in Palawan, Philippines. The Philippines has gained a store of experiences from several decades practising modern state management of the marine environment. National and international discourses about integrated, community-based and collaborative management approaches have influenced the legal and policy framework for the local governance of coral reef resources. In spite of considerable success, the implementation of these institutions did not prevent the ecological and social degradation in Palawan. There is a major reason for the failure: Due to an imbalance of power among the stakeholders, civil society and especially resource users are not adequately represented in the established local governance bodies and procedures. As long as they do not provide an effective arena for communicating and resolving resource use conflicts, the ecological and social degradation will continue. Action is urgently needed: Coral reefs are one of the most productive and diverse ecosystems of the world, with vital ecological and social functions. Southeast Asia and especially the Philippines are an epicenter of coral species and global marine biodiversity and the growing coastal population is highly dependent on reefs as a source for food and income.

E3 Höfer, Mez

Sustainability in the life-cycle of renewable primary products- case report: governing the maritime transport of liquids

Coast and birds blackened by mineral oil are an icon for the risks involved in the transport of mineral oils for which rules have been developed since the end of the 19th century. Regulation of the maritime transport of other bulk liquids, such as chemicals, has been developed in the 1970s. Today, more than a third of the so called chemical tanker fleet capacity is already used for vegetable oils and figures are rising. Marine environmental protection became an issue when floating vegetable oils coated birds and European coastline in the early 1990s. This contribution presents a case study on a revision of an international instrument to cope with the risks involved in the transport of renewable primary products and to introduce chapter 19 of the 1992 United Nations Conference on Environment and Development into transport regulations. The presentation will demonstrate how comparatively strong rules for environmental protection could be introduced for a fully globalised business under the involvement of several United Nations bodies. A story will be told: It starts with principles decided by the 1992 Earth Summit and NGOs' critique on the scientific principles of hazard evaluation. It will end up with the final approval of a new regulatory system. The actors and stakeholders, the instruments and successful strategies involved will be identified. The case study will show the complexity of policy instruments and the social effects in developing countries even when amending one specific piece of international law. The case report also identifies how international environmental policy requiring a joint effort of particular interests and disciplines could be hampered by highly specialized authorities and budget restrictions at the national level.

E3 Campe

A tanker for the tankers? The international maritime organization's efforts to integrate shipping safety and fighting marine pollution

Roughly 90% of all traded goods reach their destinations by ships that travel through waters governed by different laws and conventions. Tanker accidents as well as operational discharges of oil, sewage and ballast water pose major threats to a vital marine life. Originally founded to facilitate the safety of shipping, since 1967 the International Maritime Organization (IMO) is also requested to fight marine pollution resulting from ships. In this paper, I discuss how an agency initially responsible for safety issues today also deals with the prevention of marine pollution, therefore acting as an international environmental organisation. This study is part of the MANUS research project that tries to explain the effectiveness of intergovernmental environmental organizations along a set of independent ('autonomy', 'inter-connectedness', 'leverage', 'soft power', 'bureaucratic maneuverability', and 'representativeness') and dependent ('influence on international cooperation', 'capacity building', 'knowledge', 'discourse', and 'business actors') variables. Interviews with senior IMO staff members as well as an international stakeholder survey have been conducted for this paper. As a first conclusion, it turned out that while the IMO accomplishes to foster co-operation by preparing meetings and drafting conventions, it has little leverage to sanction member states that fail to implement international agreements. These mixed results of the IMO's efforts to prevent marine pollution can partly be explained by it being deeply rooted in the sea farers' world. It has especially well

developed contacts to the shipping industry. In addition, its lack of environmental experts can be perceived as a disadvantage. Finally, the IMO disposes of a very dense bureaucracy that rather hampers innovation and change.

F3 Yotova, Djourdjin

Implementation of the UNFCCC in Bulgaria: an analytical review

Climate change is one of the most complex and controversial issues of the contemporary global environmental change agenda, so the international community pays great attention to it. The efforts to cope with climate change resulted in variety of actions, in particular - agreements like the UN Framework Convention on Climate Change (UNFCCC) of 1992 and the Kyoto Protocol of 1997 being the most important from point of view of practical steps undertaken internationally. The Bulgarian Parliament ratified the UNFCCC in 1995 and the Kyoto Protocol in 2002 which put the country's policy to address climate change on stable ground. The process to meet the commitments and obligations under these international agreements - as multi-level, multi-actor and cross-sectoral in its very nature, is also a kind of "green policy" integration because it relates to almost all types of societal activities and requires collaboration between diverse interested parties. In the paper, review of (i) what is being done within this process in Bulgaria, (ii) what are the results and (iii) the problems is made so that to analyze whether or not it is successful. Documents like National Communications to the UNFCCC, National Action Plans on Climate Change, etc. as well as related projects/activities (Bulgarian National Capacity Self-Assessment for Global Environmental Management Project) are discussed to answer such questions and to look for ways how to better proceed in the future. Special attention is paid to characterize the main interested parties, with emphasis on the Non-Governmental Organizations, and their role in the process of policy development and implementation.

F3 Odingo

The importance of adaptation studies and adaptation policies in responding to climate variability and climate change in east africa

Global climate change is a reality to be reckoned with even in the tropical latitudes of the East African countries of Kenya Uganda and Tanzania. Although regional aspects of climate change are still poorly understood, IPCC assessments point to increased occurrence of extreme events such as droughts, floods and cyclones, as well as accompanying soil loss, landslides and similar destructive forces. The IPCC scientific assessment results for these regions also indicate expected regional increases of temperature with attendant impacts, and these are likely to be accompanied by already discernible shrinking mountain glaciers, and attendant water shortage to be experienced in the near future. In East Africa the already observed impacts of climate variability and climate change have also included increased frequency of flooding, droughts and cyclones. Impacts are also being observed on agriculture (food security), forestry, coastal zone and marine ecosystems, human settlements, human health, energy and industry. The UNFCCC emphasised the importance of adaptation strategies especially for developing countries such as those in East Africa. Many such countries cannot afford the stresses and strains associated with climate change. Nevertheless there are low cost options to be found in adaptation strategies. Farming communities for instance can adapt to reduced crop yields during droughts. The global risks associated with climate change include the risks of water shortage, malaria, hunger, and the risks of coastal flooding. Each of these risks is ever present in the region, and in the absence of funds for mitigation allocated by regional governments or available from other sources, close to 100 million inhabitants in the region have no choice but to adapt appropriately to handle the inevitable climate change risks. What needs to be done is well understood at the UNFCCC level. There the global community has undertaken to deal with climate change risks, but while nations are still arguing about the appropriateness of the Kyoto Protocol, adaptation is the only course available to many developing countries such as those in East Africa which have no funds to pay for mitigation activities. What is required in each of the three countries is to build national capacity for adaptation while at the same time pressing for increased mitigation compliance from Annex 1 countries. As climate change begins to take effect increase in disasters linked to the multiplication of extreme events become more evident. Disasters such as floods and droughts divert scarce development resources to disaster response expenditures. The East African region is vulnerable to climate related disasters linked to local climate variability also related to the El Nino phenomena. Adaptation capacity building should be targeted at increasing the resilience of the local population to risks arising from climate related disasters. The aim would be to improve rural and urban capacities to respond to long term climate change, and to move towards sustainable development in the spirit of the Kyoto Protocol. The way forward for the region would be the encouragement of national adaptation action plans for the vulnerable localities in the region. The ultimate aim would be to reduce vulnerability to undesirable impacts of climate change. Special efforts would be directed at collecting data on vulnerability of specific populations, and traditional available adaptation strategies used by the vulnerable populations.

F3 Jinnah

Domestic Implementation of the Kyoto Protocol: Potential for WTO Conflict.

The Kyoto Protocol provides general terms dictating that members adopt policies aimed at the promotion of sustainable development; however the Protocol does not stipulate the specific methods by which members should design and implement these policies. Lack of harmonization in domestic implementation of the Protocol's commitments makes it more likely that trade conflicts will arise. Though a review of the relevant literature, this

paper discusses the potential arenas for conflict between domestic implementation of the Protocol and member obligations under the WTO. For the purposes of this paper, domestic implementation policies fall into two broad categories (1) implementation of the Kyoto Protocol's flexibility mechanisms, and (2) implementation of policies required by Kyoto Protocol Article 2:1(a). With respect to implementation of the Protocol's flexibility mechanisms, this paper focuses on credit allocation, and investment concerns. With respect to domestic implementation of the Protocol's sustainable development requirements (Article 2), this paper discusses how various implementation strategies may create conflict of obligations under the WTO. The specific strategies discussed include government subsidies, product regulations, energy efficiency standards, eco-labeling, carbon taxes, procurement policies, and border tax adjustments. I conclude that while careful domestic implementation of many of these policies may rule out some possibilities for conflict, it is difficult to assess how effective (in terms of problem solving) these policies will be. Furthermore, I conclude that while the Kyoto Protocol is relatively "WTO proof", it weakens regime requirements in terms of problem solving, as well as disharmonizes domestic implementation strategies. In doing so, it displaces the risk of non-compliance onto individual states and effectively removes the protective MEA framework, under which conflict is less likely to occur. Lastly, this paper discusses some options presented in the literature regarding ways in which synergies between the two regimes may be encouraged and discusses areas for further research.

F3 Gupta

Transdisciplinary methodological tool for evaluating when climate change is dangerous

Although a global regime has been developed to deal with climate change, decisions regarding when climate change becomes dangerous have been postponed in the political arena because impacts are not uniform globally, and scientifically, because the issue of what is dangerous has until recently not been seen as a scientific question by the Intergovernmental Panel on Climate Change. Thus the research question that this paper deals with is: How can a methodological approach be developed to define when climate change is dangerous? In order to address this question, three projects have been developed thus far, and this paper intends to present the results of two years of research. The methodology developed is a participatory integrated assessment, justified by the argument that the above research question can only be dealt with in terms of post-normal science and/or public interest science. It consists of a macro level design and a micro level design. The macro level design consists of an iterative set of science policy dialogues within countries, within regions and then between regions at a global level. Thus far, such dialogues have been organized in two countries (the Netherlands and Brazil), and three regions (Asia, Africa and the OECD countries). The micro level science-policy design consists of five steps involving a focus on climate change impact indicators, short-listing of such indicators, clustering such indicators in terms of their communicative value, identifying threshold levels of acceptable and not acceptable impacts, and then back-calculating to greenhouse gas concentration levels. This method, when applied in the Netherlands, yielded some interesting results and some consensus knowledge among the stakeholders who participated. We were able to identify 23 key indicators for the Netherlands, identify threshold levels, cluster the indicators, and were able to develop advice for the Netherlands Government, which is presently president to the European Union.

G3 Fritz

Negotiating environmental issues in free trade agreements. The case of new zealand

Negotiating environmental issues in multilateral, regional or bilateral free trade agreements always requires a comprehensive approach because particularly in this area, negotiations are influenced both by external factors such as global crises, MEAs (Multilateral Environmental Agreements) or WTO provisions and internal aspects such as domestic law or pressure exerted by interest groups. Governments negotiating FTAs (Free Trade Agreements) have to pursue a double-edged diplomacy in order to serve interests both on the international and domestic level. This is especially challenging in asymmetric negotiations, which is always the case for a small country like New Zealand. It could be assumed that the smaller nation's bargaining power is generally very low. But as research in this area has already shown, there are other ways to achieve national interests in negotiations such as having issue power instead of mere structural power. The fact that New Zealand negotiates most of the time with developing countries changes the scenario, particularly in terms of environmental issues included in FTAs. Developing nations are often very suspicious about these issues because they think that this could be a hidden mechanism for protectoral measures. Domestic pressure, consumer demands in New Zealand's major exporting destinations (EU and U.S.) and the government's own priorities necessitate a maintenance of high environmental standards, particularly in terms of biosecurity. It is thus crucial to safeguard these interests in other FTA negotiations and to set environmental issues on the agenda as well. In addition, FTAs should be in accordance not only with WTO provisions but also with obligations under MEAs. The interaction of external and internal aspects in international negotiations can lead to different outcomes concerning the actual agreements. Both the degree of domestic influences and external developments can change a government's policy strategy and negotiating tactics and can finally affect the extent to which environmental issues will have to be dealt with in FTAs. Case studies will include negotiations between New Zealand and Thailand, China, Chile/Singapore (P3), AFTA-CER and the South Pacific (all depending on the progress of negotiations). Negotiations on the WTO level concerning environmental issues will be taken into

account, too. The theoretical framework for the analysis will be based on a synthesis of Foreign Policy Analysis (two-level games approach) and Negotiation Analysis (asymmetric negotiations).

G3 Ashford

Integration of governance in national law with international environmental law and trade regimes

Those that argue that the industrialized state – whether developed or developing – is currently unsustainable emphasize toxic pollution, climate change, resource depletion, and problems related to the loss of biodiversity and ecosystem integrity. Two major trends relevant to environmental protection have changed the nature of approaches to improving environmental quality in both developed and developing countries: (1) changes in the technical conceptualization of the environmental problem and (2) changes in governance by which national environmental law must now be integrated with international environmental law and trade regimes. The description of the technical challenge has evolved from: (1) dispersing pollution and waste to (2) ‘end-of-pipe’ pollution control to (3) industrial ecology involving waste and material exchange and consolidation and alternatively (4) pollution prevention and cleaner technology to (5) system changes and sustainable development. National legal and political approaches to different environmental problems vary significantly, both conceptually and in emphasis. Some nations are more advanced in some areas, e.g., in toxics but not in others, e.g., climate change. Some nations emphasize ‘end-of-pipe’ approaches, while others focus on systemic changes encouraging shifts from products to product services. With the increasing participation of nations in multilateral environmental treaties and in international trade, there are significant additional governance challenges regarding both horizontal integration (involving the integration of approaches to toxics, climate change, resources and energy, and biodiversity/ecosystem integrity) and vertical integration (between national, international and trade law). Recent decisions in trade law – such as in the General Agreement on Tariffs and Trade (GATT), the Biosafety Protocol, and the Sanitary and Phytosanitary Measures (CITES) – present unresolved policy and governance issues. If progress is to be made, the policy agenda must shift from the coordination of the currently-fragmented legal/political base to policy integration. Vigilance is needed to choose the right time horizon for policy implementation. This paper will discuss policy approaches to governance that integrates problem types, the governmental entities in control, and temporal concerns in environmental governance.

G3 Zelli

International regime conflicts on environmental issues

The paper addresses one of this year’s Berlin Conference’s major focuses, namely problems of regime integration and joined-up policy-making on the horizontal level. It intends to contribute to existing institutions theory by developing a comprehensive analytical framework for the analysis of a particular dimension of the increase in institutional intersections, namely for the study of conflicts between international regimes in the empirical domain of environmental protection. Based on the examination of several cases of conflicts between environmental regimes and free trade regimes, as well as drawing on various literatures including the theoretical and empirical findings of the few pioneering projects on institutional interplay (Institutional Interaction Project, UNU Inter-linkages Initiative), the paper conceptualizes inter-regime conflicts in two steps. First, starting from Keohane’s definition of international regimes, it develops a definition of regime conflicts which does not only refer to the contradiction of rules, but also allows for the inclusion of regime conflicts which exceed the legal level. Second, it identifies distinctive criteria (including the degree of conflict manifestation [latent, manifest], conflict arenas [internal, external], actors involved [bureaucracies, member states, etc.], policy fields of conflicting regimes [single-issue conflicts, cross-issue conflicts] as well as their geographical intersections), thereby differentiating between various types of regime conflicts. Furthermore, a second typology distinguishes between different solution strategies for regime conflicts. Building on these typologies, sketches for relationally framed assumptions will be presented at the end of the paper. These hypotheses could help gain explanatory knowledge about the impact of international regime conflicts on the effectiveness of the involved regimes. Potential independent variables include some of the typological criteria (e. g. the degree of functional or geographical intersection), but also other regime properties such as the respective degree of legalization. The application of this analytical framework might prove useful when it comes to uncovering supportive conditions for the strengthening of involved environmental regimes.

G3 Kulkarni

Market friendly means of promoting sustainable exports: how successful are ecolabels in promoting sustainable exports from developing countries to developed countries. Lessons from the indian leather footwear industry?

This paper tries to understand whether importers in the North are able to push exporters in the South towards sustainable production, with the help of a case study of the Indian leather industry. After providing a short description of the global leather footwear industry, the first section provides insights into the competitive advantages of different countries, characteristics of developing country exporters and the difference between large and small European buyers of Indian leather footwear. The subsequent section provides an insight into the different chains of influence that exist in trying to make international trade more sustainable with the help of a broad understanding of the means, their effectiveness, their constraints and a few examples of such chains of influence. Section four studies whether

ecolabels are in a position to be suitable indicators of sustainability. Further it delves into understanding the perspectives of consumers, producers and regulators on whether ecolabels are useful in promoting sustainable exports. The explanation of how ecolabels conflict with brand dynamics is quite interesting. The policy measures provide clear options for targeting sustainable production. Suggestions include use of eco-elasticity indicator, toolbox approach to environment policy, introducing comprehensive sustainability labels, maintaining a level of mandatory legislations as well a constructive effort to increase transparency in supply chains. The appendixes include the research methodology adopted for the paper, the reason for choosing Europe as destination for the research, a brief about types of ecolabels and a small description of integrated product policies.

I3 Jörgensen

The USA and Germany: Potentials for mutual trans-Atlantic Policy-Learning at sub-State Level in the area of governance for ecological sustainability

The paper focusses on governance for ecological sustainability at the sub-national level of policy-making in the federal systems of the USA and Germany. It draws on decentral innovation capacities for the greening of political-administrative structures and policies and explores potentials for mutual trans-Atlantic lesson drawing. It firstly refers briefly to the challenges of ecological sustainability in the 21. Century and the role different government levels in the USA and Germany play in respect to this issue area. The article will shortly draw on the question of comparability and similarities of the U.S. states and the German Bundesländer. Then the focus will shift to the main topic and reflect on policy responses to ecological sustainability as they have been developed in the USA and Germany. A perspective which until now has been largely neglected. Only recently scholars began to draw their attention to sub-national state level responses to ecological sustainability in the U.S. states (Rabe 2004) and in the German Bundesländer (Jörgensen 2002a, 2002b). The article provides insights into the innovativeness of the U.S. states and German Länder in respect to the greening of sectoral policies and horizontal coordination of environmental policy integration. Secondly it refers to frameconditions for national policy-transfer on both sides of the Atlantic. What kinds of diffusion mechanisms support intra-national mutually lesson drawing and diffusion? Based on the empirical findings of the trans-Atlantic comparison and the illustration of already existing forms of mutual trans-Atlantic lesson drawing future perspectives for mutual learning potentials will be discussed.

I3 Keilbach

Transatlantic Food Fights in an Era of Globalization: Struggling to Define Menus, Rules and Choices

What explains the current status of disorder, conflict and difficulties in arriving at mutually agreed upon international policy for agriculture? Why are transatlantic tensions mounting over issues related to the trade in food products? The recent disputes between the European Union (EU) and the United States (US) over genetically modified food products (GMs) reveal that international trade conflicts are becoming more complex. While many actors in the US advocate the spread of GMs and argue that given the exponential rate of population growth, our future may be dependent on the success of the promise of GMs delivering plentiful, more nutritious, and safe food, actors in the EU have argued that information about the impact of GMs on human health and the environment is relatively scarce, and the promise to deliver the goods is uncertain. This chapter uses the case of the recent GM trade dispute between the EU and the US to identify problems and potentials for harmonizing standards within the context of an enlarged transatlantic relationship. While a coordinated international food security regime would be optimal, because the diverging regulatory approaches across the Atlantic stem from ideological differences rather than from economic considerations, harmonization of policies will prove difficult.

I3 Kern

Climate Change Policy in the European Union and the United States. Federal and Sub-federal Initiatives in Multi-level Systems

When it comes to climate change policy, the United States and the European Union would appear to represent completely opposite poles: while the European Union is considered a pioneer, the United States is regarded as a laggard. However, this transatlantic perspective neglects some important factors, namely national differences within the European Union and within the United States. It is the main thesis of this paper that states matter when climate change policies in the United States and the European Union are compared. The institutional design of the American political system and, in particular, the country's rather unique form of federalism, allows the US states to take the lead and push the federal government to join them. In terms of climate change policy, the following questions arise in this context: Do state initiatives in the area of climate change policy show a similar pattern? Will the states take the lead in climate change policy? And what does this mean for the comparison of climate change policy in the European Union and the United States? The paper compares climate change initiatives in European Union and the United States at both federal and sub-federal level. It starts by considering climate change policy in multi-level systems. The subsequent sections describe climate change policy in the European Union and in the United States in detail. Finally, three different perspectives are presented: First, from the international perspective, the status of the Kyoto Protocol demonstrates the severe consequences for an international regime when its most important player disappears. Even if the Europeans go ahead and implement their climate protection plans (including the emissions trading system), the climate change problem simply cannot be solved without radical change in the United States.

Second, from the federal perspective it can be concluded that European leadership in the climate change area is a direct consequence of the absence of any serious activity at federal level in the United States. Thirdly, from the sub-federal perspective, it seems that the US states have started to take the lead after years of federal government inaction. However, the adoption and implementation of a comprehensive climate change policy in the United States will depend on actions and initiatives at federal level. State initiatives should not be viewed as a substitute for a comprehensive national policy that includes mandatory measures.

Panel Session 4

A4 Kivimaa, Mickwitz

Greener technologies through greener policies? Environmental policy integration into Finnish technology policies

The integration of environmental principles into other policies is perceived important by many so that environmental problems, such as the global warming, can be combated as effectively and efficiently as possible. Policy integration can be an effective way to achieve political goals, but it can also be a way to diffuse attention and to obliquely resist the political goals one is declaring support for. Some methods for assessing environmental policy integration have been developed but only a few empirical assessments demonstrating the current state of policy integration have been carried out. This paper examines the integration of environmental policy principles in the field of technology and innovation policy. We begin by exploring the discussions on what environmental policy integration actually means and what it could be with respect to technology policy. Subsequently, the integration of environmental conditions into Finnish technology policies is assessed empirically. The integration is examined at all levels including overall policy strategies and individual policy instruments, such as R&D funding and technology R&D programmes. The funding procedures and the actual decisions as well as programme outputs are looked at to provide concrete evaluation of the extent of environmental policy integration. Moreover, the trends in policy development and the implications for environmental policy are discussed. The findings show that overall the actors of the Finnish technology policy have grasped the idea of environmental protection, and environmental policy integration can be perceived especially in the strategy level and in some technology programmes with a focus on environmental technologies. However, the integration is thus far not overarching and, while positive environmental impacts in research projects are encouraged, no assessment of the negative ones are required in funding applications.

A4 Lafferty, Ruud, Larsen

Environmental policy integration: how will we recognize it when we see it? The case of green innovation policies in Norway

Taking the definition of environmental policy integration (EPI) and benchmarks proposed by Lafferty (2004) as a point of departure, the paper outlines an approach that allows for an evaluation of EPI with respect to green innovation policies in Norway. EPI has a horizontal and a vertical dimension. While the horizontal dimension refers to cross-sectoral strategies for environmental protection, the vertical dimension refers to a 'greening' of sectoral policies. A 'constitutional mandate', an 'over-arching strategy' for the sectoral domain, a 'national action plan' and a 'responsible executive body' are proposed as 'baseline' requirements for achieving (and assessing) horizontal, cross-sectoral integration of environmental goals. With regard to the vertical dimension the combination of a 'sectoral strategy' for change and an 'action plan' are the proposed key initiatives. Using the benchmarks as evaluation criteria, the paper discusses to what degree Norwegian innovation policy and environmental policy are integrated. The discussion is illustrated with efforts undertaken by the Government as well as the Ministry of Environment and the Ministry of Trade and Industry. The paper presents a fourfold perspective on stylized modes of combining environmental concerns and innovation. The modes delineated along two dimensions: (1) whether the integration is steered by "processual/instrumental" or "substantive" norms and values; and (2) whether the goal of integration is related to a simple de-coupling of economic and social drivers from environmental degradation, or also is related to an active re-coupling of drivers to assure more sustainable production and consumption. The findings indicate that vertical environmental policy integration is actively promoted in Norway, but that specific and direct efforts in the direction of green innovation are practically non-existent. The same holds true for the horizontal dimension. This does not necessarily mean that green innovations are not being promoted at all in Norway. But whatever integration effects that are being realized are not the result of an active and goal-directed policy by the Norwegian Government and ministries studied. There is, therefore, a clear potential for achieving a more effective implementation of green innovation in Norway.

A4 van Humbeeck, Dries, Larosse

Governance for linking innovation policy and sustainable development in Flanders (Belgium)

This working paper on 'integration of innovation policy and sustainable development policy' deals with the structural mismatch of industrial lock-in of the Flemish innovation system in material and energy intensive production systems. The way out in 'system innovation' demands a long-term horizon of transition to a new less resource intensive and more knowledge intensive economy. The establishment of the Environmental Technology

Platform (MIP) by the Flemish government can be a decisive institutional lever for changing the governance structure for the 'management' of this process in more coherent sense, in particular in achieving greater coherence between supply (stimulating excellence in research and innovation) and demand (procurement policies etc.). MIP can become an instrument in fostering the development of visions and cooperation among different actors in the relevant innovation system. Whether this will materialize, depends however on a set of conditions that still have to be fulfilled. This working paper was prepared for OECD-TIP, in the context of the MONIT project. MONIT (Monitoring and implementing horizontal Innovation Policy) aims at improving Innovation Policy governance and creating a more coherent horizontal Innovation Policy. MONIT offers a stimulating environment to advance explorative research and international policy learning for Third Generation Innovation Policy in Flanders. We therefore hope this paper can contribute to policy discussions on the governance structure for this type of new policy.

A4 Nel, Kotzé, Snyman

From fragmentation to collaboration: strategies to improve inter-sector coherence in environmental authorisations in south africa

Environmental authorizations are one of the most widely used command and control tools adopted by South African authorities to regulate behaviour. The entire authorization effort is however fundamentally disjointed and fragmented in terms of a number of parameters. The most important of these include fragmentation: * between environmental media (Air, land, water, biota, conservation etc.); * between the three spheres of government (National, provincial and local spheres); * along sectoral divisions of line functions within similar spheres of government; * along geographical divides at the provincial and local spheres that are exacerbated by a regional division of national competencies that do not correlate with provincial and even local authority areas of jurisdiction; * where geographical divisions underline disparities in access to skills and availability of resources to environmental governance at especially the provincial and local spheres of governance; * of the policy and policy implementation interface; * fragmentation of the governance loop, i.e. from policy, through legislation, investigation, decision making and post decision follow-up; * of the typical phases of the typical project execution model. This paper focuses on the discontinuities caused by fragmentation of a particular environmental policy instrument, environmental authorizations. In South Africa, environmental authorizations are the most frequently used command and control instrument at the operational level. Different mandates cause vertical discontinuities between different spheres of government, while discontinuities are caused horizontally by autonomous line functions of the national, provincial and local sphere executives that protect allocated mandates. Various efforts are made at the policy and planning levels to make governance in general and environmental governance in particular more coherent. These strategies include inter alia: provisions for co-operative governance, use of integrative framework legislation, including integration tools such as Integrated Environmental Management (IEM), Integrated Development Plans (IDPs), Integrated Environmental Management Plans (IEMPs) and Integrated Environmental Implementation Plans (EIPs). Provision is also made for policy alignment by means of inter alia the Committee for Environmental Co-Operation (CEC) and the inter-ministerial committee at national and provincial spheres. However policy implementation in general and environmental authorizations in particular remain fundamentally fragmented and disjointed. The spectrum of strategies available to improve coherence of authorization processes may oscillate between maintenance of the fragmented and disjointed status quo on the one hand, to the so-called one stop environmental authorization shop on the other. Two very critical policy issues that require more debate in South Africa before any final solutions to improved coherence in authorizations processes are designed, adopted and used may inter alia include the following questions: * What is the most appropriate solution to address the inefficiencies caused by operational and behavioural fragmentation? The one extreme may entail maintenance of some fragmentation in jurisdiction and mandate that may be supported by some improvements to increase coherence in service delivery. The other extreme may be a strategy that will culminate in a single environmental organ of state that is charged with all environmental authorizations; * How should increased coherence of the fragmented and disjointed authorization be facilitated? This paper explores the various parameters that may impact on finding realistic and sustainable solutions to the questions posed above. The paper concludes with a proposed model that describes a scenario based process to continually increase the level of coherence in one of South Africa's most widely used environmental policy instruments, the plethora of environmental authorizations. The proposed model is based on the findings of empirical research that was conducted to find innovative solutions to the inefficiencies caused by incoherent decision-making and authorization processes in South Africa.

C4 Bauler

Policy relevance of indicators for sustainable development

After a decade of frenzy into developing indicators for sustainable development (ISD) at different institutional levels, it could be time to start assessing what exactly ISD achieved in terms of their usefulness for policy-making. The paper proposes a contribution to identify the determinants for such an assessment of ISD. Meant originally (Agenda21 - chapter 40) as a means to improve "information for decision-making", assessing sustainable development (SD) with ISD proved a difficult task not the least because of the series of counter-productive principles attached to SD (multi-dimensionality, participation, temporal and geographical scales, uncertainties...). As a response, the many trade-offs inevitably operated during the construction of ISD participated to develop the many

different types of applied statistics into tools for decision-making grouped as the generic category of ISD. Such diversity in the translation of goals, objectives, targets and opportunities of ISD are a further difficulty to develop relevant determinants for an assessment of the policy relevance of ISD. Among the proposed criteria for 'institutional usability', applying Clark's (2002) approach based on the users' perception of saliency, credibility and legitimacy to ISD, appears to be among the most promising ones. In order to account for the 'open' decision-making context implied by SD, modes of institutionalizing ISD could be seen as a further important determinant to assess, and eventually improve, policy relevance of ISD.

C4 Ziegler

The indicator syndrome – a methodological study of sustainability indicators, agenda 21 and agenda 20

The paper addresses one of the conference's major focuses, namely the one on problems of regime integration and joined-up policy-making on the horizontal level. It intends to contribute to existing institutions theory by developing a comprehensive analytical framework for the analysis of a particular dimension of the increase in institutional intersections, namely for the analysis of conflicts between international regimes in the empirical domain of environmental protection. Based on the examination of several cases of conflicts between environmental regimes and free trade regimes, as well as drawing on various literatures including the theoretical and empirical findings of the few pioneering projects on institutional interplay (Institutional Interaction Project, UNU Inter-linkages Initiative), the paper conceptualizes inter-regime conflicts in two steps. First, it identifies distinctive criteria (including the degree of conflict manifestation [latent, manifest], conflict arenas [internal, external], actors involved [bureaucracies, member states, etc.], functional overlaps of conflicting regimes [single-issue conflicts, cross-issue conflicts] as well as their geographical intersections [single-level conflicts, multi-level conflicts]), thereby differentiating between various types of regime conflicts. Furthermore, the paper introduces a second typology of solution strategies for regime conflicts and maps regularities and patterns between certain conflicts and certain strategies. Building on these typologies, a second step comprises the generation of a set of relationally framed hypotheses in order to gain explanatory knowledge about the impact of international regime conflicts on the effectiveness of the involved regimes. Potential independent variables include some of the typological criteria (e.g. the degree of functional or geographical overlap), but also other relative regime properties such as the respective degree of legalization. The application of this analytical framework might prove highly useful when it comes to uncovering supportive conditions for the strengthening of involved environmental regimes.

C4 Blazejczak

The balanced scorecard approach to integrating sustainability policies

Indicators of sustainable development abound. There is, however, a pressing need for frameworks consistently organizing such indicators and applying them as a management tool for policy integration. In recent years the Balanced Scorecard (BSC) has been developed and implemented as an instrument of strategic management in many companies. The BSC goes beyond a system of indicators as it supports the development of a strategy as well as the consistent integration a variety of measures with respect to that strategy. Meanwhile, the BSC has been adapted for sustainability objectives of firms and for non-profit organizations. The paper evaluates the potentials of the BSC to support the management of a society's sustainability strategy such as the Sustainability Strategy of the German Federal Government. Firstly, the BSC approach is briefly outlined and the challenges in the implementation of a sustainability policy are discussed with regard to the German Federal Government's Sustainability Strategy. It is shown that the BSC approach is applicable to support a society's sustainable development. Subsequently it is investigated which of the key elements of the BSC approach are present in the German Federal Government's Sustainability Strategy. It is concluded, that it incorporates many of these elements. However, as the Sustainability Strategy lacks a comprehensive assessment of cause-effect relations, the full potentials of the BSC approach to integrate the strategic objective – sustainability – into all policies and to initiate and support strategic learning, can not be fully exploited. It is therefore to be recommended that research is initiated for generating knowledge about cause-effect relations and trade-offs of sustainable development.

D4 Gazit

Checks and balances in the israeli water system

The management of the Israeli water system was formulated during a period noted by the high level of trust placed in centralized state planning and management. Hence, this system is noted for the degree of its centralization, and by the high level of integration of water resource planning. Yet, this system has failed to protect the main water resources. This paper argues that the main reason for this failure is the differential checks and balances system implicitly instituted in Israel. The differential checks and balances on water allocation between sectors resulted in excessive exploitation of water reservoirs due to the power of the agricultural lobby in the checks and balance mechanisms. The result has been an erosion of the checks and balance mechanisms. It is argued that instead of eroding these mechanisms they should have been restructured so that they would better represent the multitude of interests and concerns that pertain to water management in the 21st century.

D4 Fischhendler, Feitelson, Eaton

The short- and long-term ramifications of linkages involving natural resources: the u.s.-mexico transboundary water case

Issue linkage is often recommended as a strategy to enhance cooperation. Lately it has been suggested that this strategy could also be applied to the management of transboundary natural resources. The present study examines the viability of this suggestion. It argues that in the case of natural resources such a linkage may have short- and long-term implications. Essentially, by constraining the options available to the various parties, such linkages limit the ability to adapt management regimes to changes in the environment. Thereby, they limit the ability to address environmental stresses and crisis. These negative implications may be redressed by mechanisms that will allow the parties to adapt the linkage to new conditions and by tactics that reduce the political cost of a linkage strategy. The study focuses on the negotiation process concerning U.S.-Mexico transboundary water, which was based on a long-term spatial linkage combining the waters of the Colorado River and those of the Rio Grande. This spatial linkage was advanced by a short-term issue linkage, in which the Mexican supported the establishment the United Nations in return for the U.S Federal Government's willingness to accept the spatial linkage. These linkages were found to have both short and long-term adverse implications. The short term implications were delays in negotiations, inconsistency in the legal doctrines held by the different parties during the negotiation and a threat to sovereignty. The main long-term implications identified is the current inability of Mexico to adapt the linkage in response to the ten years drought along the Rio Grande, as manifested in the inability of Mexico to meet its water obligations to the U.S. along the Rio Grande. This has resulted in a controversy between Mexico and the U.S. and between the Mexican federal government and the Mexican border states. It is suggested that flexibility provisions be included when linkages involving natural resources are advanced, so that the necessary adaptations in regimes management will be allowed for without necessitating a renegotiating of the treaty.

D4 Adelegan

The history of environmental policy and pollution of water sources in Nigeria (1960-2004): The way forward

Water pollution has continued to generate unpleasant implications for health and economic development in Nigeria and the third world in general. However, despite the public and international agencies policy focus on this problem, the situation in Nigeria seems degenerating and therefore demands increased attention. Right from the inception of British Rule in the 1900s in Nigeria, the colonial economic development policies and plans contain little or no stringent rules to conserve the natural resources or to limit pollution. Thus the formative years of institutional environmental regulation in Nigeria could be said to have been characterized by the absence of clear scientific criteria and standards on toxic wastes and on pollution levels. Hence, in December 1988, as part of the emerging coordinated approach to environmental issues, the Federal Environment Protection Agency (FEPA) was established due to discovery of an Italian ship in May 1988 of some imported toxic chemical wastes. So far, there are no clear formulated policies in Nigeria aimed at coordinating and monitoring the relationship between environmental management and sustainable development. Presently, the environmental protection legislation in Nigeria is poorly enforced. Hence, policy makers need to understand the extent to which resource and environmental conditions impinge upon macroeconomic performance.

E4 Watson, Bulkeley, Hudson

Vertical and horizontal integration in the governance of UK municipal waste policy.

Tackling environmental problems demands the development of new modes of integrating policy regimes and institutional structures. Putative moves from government to governance, characterised by the diffusion of state power and duties from hierarchical state structures into multi-level and cross-sectoral networks, promise to open up opportunities for the vertical and horizontal integration of environmental policy. However, the relationship between vertical and horizontal modes of policy integration in the context of changing modes of governance, and their effectiveness in promoting sustainability, is deeply complex and requires empirical interrogation. Our research explores the relationship between governance and sustainability in the management of municipal waste in the North-east of England, through analysis of policy documents and interviews with government officers and other stakeholders in the region's waste policy networks. Recent years have seen something of a transformation of UK municipal waste policy, with performance in recycling and landfill diversion improving substantially, driven by a marked tightening of vertical integration, as national government has translated EU imposed demands into binding targets and other statutory requirements for local authorities. Associated policy statements promote, rhetorically at least, the cross-sectoral and inter-agency partnership characteristic of governance. However, the modes of vertical integration deployed have served to embed, rather than destabilise, existing axes of horizontal fragmentation. We argue that the modes of vertical integration used have failed to promote the horizontal integration required to move beyond the limits of institutional structures historically developed in response only to the needs of local waste disposal, to maintain long term performance improvements in sustainability by developing the policy and institutional structures to enable integrated resource management. Finally, we reflect on the implications of this case study for understanding the relationships between modes of integration and effective progress in moving towards sustainability.

E4 Schiller

Interlinkages between the vertical integration of waste policy and its horizontal progression.

The project is going to examine the waste policy of Germany and the UK that is led by EU directives which are not yet connected to the sustainable resource use strategy (of the Commission). Comparing these two waste policies in relation to the EU framework reveals quite different patterns of regulation: Whereas in Germany a network with a monopolistic corporative association was formed after public protest demanded political action, British regulation created a market for waste recycling only after binding EU directives had been ruled. While German waste policy has been successful enough to disrupt the internal market (for secondary raw materials such as paper) the British waste policy is struggling to fulfil the minimal standards set by the EU. However, both regulations could fail in regard to sustainability on their own terms. Although to some extent successful, the network in Germany has resulted in few gains in resource productivity. This is complicated by the vertical (re)integration of waste policy into the EU to secure an internal market. In opposition to this British waste policy was prompted by the EU and the chosen regulation induced reflexivity among market actors. Thus, highly innovative instruments are conceived by economic actors and, not surprisingly, it has been called for input taxes to support secondary material markets (recyclates). However, the British waste market seems not to raise enough investments neither to progress waste policy endogenously nor to incorporate all aspects of waste policy. Still, the situation is much different from Germany where the network regulation led to public misperceptions of waste policy. Furthermore, the still progressive German waste policy is dependent on approval from EU institutions which tend to prefer economic regulation and do (yet) not consider resource efficiency. In terms of methodology, it is largely D. Braun's ideational approach that is applied.

E4 Whitelegg, Ömer-Rieder

Are policy niches better than co-ordinated strategies? A comparison of horizontal policy making in austrian environment, transport and innovation policy.

Co-ordinated and coherent policy making is growing in importance as policy makers become aware of the limitations of single goal policy making. As a result, the number and variety of co-ordination mechanisms has grown considerably over the last decade. Coordination and coherence within innovation policy has been the focus of many of these initiatives. This is due to the fact that innovation policy is a horizontal policy area with a large number of interfaces with different policy areas. In 2000, the OECD decided to organise a working group to look at the way in which different countries deal with co-ordination in and between innovation policy making and to analyse the successes and failures in moving towards greater coherence. This paper analyses and assesses the conclusions from the Austrian case studies on transport and the environment undertaken with the framework of the working group. These two case studies look in detail at the ways in which the policy areas of transport and environment interact with innovation policy. The case studies follow the same methodology and start by describing the policy making structures and the main actors involved in the policy areas. They also take a look at the main interests and topics that are driving policy making within the policy area as a backdrop to understanding how the interactions between different policy areas occur. The case studies then take an in depth look at the formal coordination mechanisms that exist between the two policy areas. These can be anything from interdepartmental working groups to R&D programmes where the cooperation of different policy areas is a necessity in defining their goals. The case studies then look at the informal interactions and how these support the aim of coherent policy making. The conclusions focus on the main barriers and success stories to coherent policy making in Austria. Austrian policy making system is comprised of many separate, but highly competent, policy niches. The main argument of this paper is that coherent policy making should involve increasing their interaction, not developing top-down strategies, as is often suggested.

E4 Bongardt

Environmental policy integration through diagonal policy-processes – the european dimension of the greening of german transport policy

The European Union has become an essential factor in national policy-processes. Either decision-making is located on European level or national decisions are corresponding with existing European law: Supranational actors and the need of negotiations between member states are influencing policies, institutions and political conflicts in different ways. Even though, European integration research hardly asks, to which degree policies are connected between levels as well as between sectors. In this context, the paper describes, how environmental policy on European level influences policy-innovations in national (German) transport policy. It looks at two-dimensional decision processes and addresses the problem of “diagonal policy-making“ to environmental policy integration in the transport sector. The label “diagonal process“ is a useful concept, as policy-processes proceeding through different levels and sectors cover vertical as well as horizontal interrelations. These complex, diagonal processes will be explained by two case studies: One case is the Commissions proposal of a Regulation concerning the liberalisation of regional public passenger transport markets (COM 2002/107). The other example is the implementation of a Directive on the assessment of the effects of certain plans and programmes on the environment (2001/42/EC). On the basis of these case studies, two general pathways of diagonal processes will be outlined: In the first case the environmental and the transport sector are connected on European level and multi-level governance takes place in the transport arena. In contrast to that, the second case is an European environmental regulation establishing links to transport policy mainly

on national level. The paper will consider and illustrate, which differences between these two pathways exist. Finally, the paper addresses the question how change of national Transport Policy in terms of an adoption of environmental objectives takes place and how far this leads to environmental policy integration in institutions and in the value systems of political actors.

G4 Scholtz

Co-operative approaches to environmental governance

International environmental governance is not institutionalized in one international organization as various institutions and agencies deal with regulatory issues pertaining to the environment. The differentiation between the various organizations results in a fragmentation in relation to the international governance of the environment. One may attribute the institutional fragmentation to inter alia the fact that an international environmental organization is absent to regulate international law. Further fragmentation is evident as an integrative approach is not followed in relation to the governance of relevant media, such as air and water. The existing international fragmentation cascades down to national environmental governance. The regulation of the environment is dealt with by various national departments which also do not govern the various media in an integrated manner. This situation is not different in South Africa which is characterized by a federal system and three spheres of government. The Constitution of the Republic of South Africa, 1996 as well as the National Environmental Management Act No. 107 of 1998 makes provision for co-operative governance in order to promote co-operation between all spheres of government as well as organs of state. It may be assumed that international and national fragmentation of environmental governance impedes the promotion of sustainable development. It is accordingly the purpose of the proposed presentation to investigate the mechanism of co-operative governance as a possible solution to fragmentation on the national level. Relevant principles of international environmental law will furthermore be assessed as to ascertain in which manner these principles may provide guidance in finding a solution to the problem. It is accordingly the objective of the proposed paper to investigate possible solutions to the problem of international fragmentation as international law impacts on the municipal law of a country. In order to dilute answers to the problem the relevance of an international environmental organization will also be discussed. The implementation of co-operative governance in South Africa will furthermore be used as an example of the pursuit of a coordinated approach on the national level. The usage of co-operative governance will, however, provide valuable lessons that may also be of use on the international plane.

G4 du Plessis

Legal mechanisms for cooperative governance in south africa: successes and failures

South Africa's democracy is 10 years old. The Constitution of the Republic of South Africa, 1996 explicitly provides for cooperative governance between the different line functions and spheres of government. The new dispensation, however, inherited a fragmented bureaucracy, which divides government departments amongst the different environmental media (water, soil, environment, minerals etc.). The fragmentation of departments dealing with different elements of the environment resulted in fragmented application of environmental policies and legislation. Even 10 years into the new dispensation, these departments are still struggling to rid them of past practices of non-cooperation and turf wars. The National Environmental Management Act of 1998 provides for integrated environmental management and prescribes certain sustainability principles that government should take into account in decision-making. The Department of Environmental Affairs and Tourism (DEAT), which is the responsible department for the enforcement of this Act, is however not regarded as a lead agent. Its role, vis-à-vis the other departments, is not clearly spelled out. The Act provides for cooperation between government departments with the institution of a committee for environmental cooperation between departments and spheres of government involved in environmental issues. Several inter-ministerial committees on both national and provincial levels are sometimes also involved in addressing environmental issues. Despite these mechanisms, fragmentation still occurs and departments are taking responsibility for their own decision-making on matters regarding the environment. The Department of Minerals and Energy's (DME) legislation, for example, indicates a strong trend in monopolizing issues regarding the environment within its own departmental sphere, excluding the final decision-making from the other departments. The DEAT, on the other hand, is proposing legislation (for example environmental impact legislation) which will provide it again with a say in energy and mining issues pertaining to the environment. This tug of war is in contrast with the Constitutional mandate of cooperative governance. To prevent this, parliament has introduced a positive obligation on government departments to draft cooperative agreements, for example, in the National Nuclear Regulator Act of 1999. Although government departments do not always cooperate, applicants for development sometimes initiate informal gatherings to ensure cooperative governance in environmental matters creating new mechanisms to ensure the enforcement of environmental policies and legislation. In this paper the different legal mechanisms creating opportunities for cooperative environmental governance in South Africa are investigated in the light of their successes and failures.

G4 Emeseh

The limitations of law in promoting synergy between environment and development policies in developing countries: a case study of the petroleum industry in nigeria

Since the Stockholm Conference, there has been an increasing use of law as a tool for promoting synergy between environment and other sectoral policies at both the international and national levels. One area which has recorded a marked increase in legislation has been the integration of environment considerations into development projects in order to address the apparent conflict between environment and development policy. However, the existence of several laws has not been matched by a corresponding positive impact on the environment in several developing countries. Using both qualitative and quantitative research methodology, the paper uses the petroleum industry in Nigeria, as a case study, to answer the questions whether this is merely a problem of law enforcement or whether there are wider issues of policy involved. The paper argues that while ineffective laws and/or inefficient enforcement is largely the apparent cause, yet, this is not just a failing of the enforcement process but rather a much wider issue of the ability of law to effectively promote synergies in policy across sectors without the supporting institutions and environment necessary for this. Inefficient enforcement is itself a result of several factors which include issues of coherence of policy across sectors, governance and accountability, international trade and investment policies and laws, accountability and governance of multi national corporations, poverty, organization and capacity of civil society and non governmental organizations, amongst others. Consequently, mere strengthening of legislation or institutional capacity of enforcement agencies will not suffice to ensure that law is an effective tool for promoting integration. There needs to be coherence in policy in the overall governance structure both at the national and international level.

H4 Klein

Environmental studies – an interdisciplinary approach

In recent years, more students have chosen to channel their interest in the environment into an undergraduate major in environmental studies. Undergraduate programs in environmental studies have often had heavy emphasis in the studies of the natural and physical sciences. Although studying the environmental sciences as an undergraduate may be necessary, the ability to develop solutions to environmental problems remains limited unless the student has a broader understanding of the social, economic, and political systems in which the environment exists. The Illinois College Environmental Studies program is an interdisciplinary program which, when designed, acknowledged that environmental issues are a result of complex human interactions. The program was thus designed to integrate several social science disciplines into a program of study that also has heavy emphasis in study of natural and physical sciences. The program designers believe that only through such an interdisciplinary approach is it possible for students to develop solutions to important environmental problems. This paper will discuss the interdisciplinary program design of Illinois College's environmental program along with the rationale of the design.

H4 Jörgensen

Interdisciplinary Environmental Studies at Free University of Berlin

By fall 2002 the Freie Universität Berlin launched the interdisciplinary Master's program „Public and Private Environmental Management“ which builds upon the long-term interdisciplinary cooperation of the departments of Political Science, Law Science and Business Administration in environmental studies at the Freie Universität. Goal of the MA is to prepare students for professional careers in public and private organisations such as industrial enterprises, consulting firms, trade associations, government agencies, environmental nonprofit organisations, think tanks, foundations or research institutions. Students are taught in analytical skills and interdisciplinary knowledge to understand the causes of environmental problems and to develop responses. The teaching program addresses traditional focal points of environmental protections such as soil protection, water protection etc. and draws attention to complex issue areas of global change such as climate change and the loss in bio-diversity. It is linked with research areas such as: * Development of appropriate environmental policy responses including institutional and procedural innovations; * Implementing sustainable development; * Environmental policy integration; * Implementing new environmental policy approaches in the context of the existing legal system and their valuation with regard to legal requirements, effectiveness and efficiency; * New forms of environmental governance, e.g. relations between environmental regulation and environmental innovations in enterprises; * Eligibility, steady-ness and impacts of environmental policy measures; * Study of legal instruments in the multi-level-system of environmental policy in Germany, the European Union and the international system, * Structures of international and European environmental policy, legal frameworks and economic aspects. The paper reflects on experiences with the interdisciplinary Master's of Art Program “Public and private Environmental Management” and the Minor “Environmental Management” both based at the Free University Berlin. It addresses forms and driving forces behind interdisciplinary teaching, interlinkages between research and teaching and the internationalization of the study program.

H4 Domask

Engaging Practitioners in the Education Process

Borrowing from the official description of the special teaching panel, this paper is based on the premise that “the ground has to be paved for communication between academia and non-university experts and practitioners from the state, industry and non-governmental organizations.” My primary argument is that building and using relationships between academics and non-university experts is a critical element for (1) effectively reaching and teaching students

(2) strengthening faculty expertise in their own disciplines and in related disciplines and (3) developing an academically solid interdisciplinary educational program. This first section of this paper will begin with my own experiences as professor for four years in a program centered on the concept of experiential learning. In this program, students earn credit for participating in the three-day per week seminar (including guest speakers and off-campus visits to organizations) and for a two-day per week internship at a relevant institution. The course also includes a three-week overseas component (to South Africa or Brazil). While most university programs are not set up in a way that such a program could be implemented, the second section of the paper presents a number of different methods and approaches that could be used to foster linkages with non-university experts and stakeholders. Such methods include adding off-campus visits to relevant organizations, inviting additional guest speakers to class, using teleconferencing technology for classroom dialogue with organizations internationally, and providing assignments that require students to communicate with or meet with practitioners. The third and final section of the paper will discuss how these approaches to connecting the academic setting with practitioners and stakeholders enhance teaching effectiveness, strengthen and broaden faculty areas of expertise, and foster a truly interdisciplinary program (without requiring professors to teach outside their own areas of expertise).

I4 Schreurs

An Enlarged European Union and the Environment: Implications for EU-US Relations

The United States and the European Union have diverged sharply on a number of international environmental agreements. The EU championed the fight to save the Kyoto Protocol. The US rejected it. The EU became a strong advocate of the Biodiversity Convention and the Cartagena Protocol on Biosafety. The US has voiced its objections to these agreements. Considerable attention has been focused on the reasons for why the EU and the US have diverged in their responses to these and other major international environmental agreements. There has been little work, however, on how the enlargement of the EU may influence EU environmental positions and the ability of the EU to fulfil its environmental commitments. This paper examines what an enlarged EU may mean for EU environmental leadership and the relationship between the EU and the US.

I4 van Deveer

Implications of an Expanded EU for US-EU Relations.

The paper seeks to outline an expanded notion of "Transatlantic Relations," arguing that the inclusion of more actors, issues, higher stakes and transnational networks in these relations constitutes a qualitative change from the great power interstate politics that generally characterized post World War II US-European relations. It assesses the utility of international relations theory in understanding these enlarged relations, arguing that insights from the study of comparative politics and Europeanization are needed to better understand discordance and tension in contemporary transnational relations. The paper concludes by outlining important dynamics and implications of the changing nature of transatlantic politics.

I4 Schaper

Export Promotion, Trade, and the Environment: Negotiating Environmental Standards for Export Credit Agencies across the Atlantic

This paper is concerned with an example of transatlantic harmonization of policies in a practical perspective. Studying environmental standard-setting for export credit agencies provides an interesting perspective on how conflicting environmental policy positions emerge and are mediated across the Atlantic. In this issue area, the European Union plays a somewhat limited role; therefore, this paper will focus on one of the most relevant national players in Europe, Germany. Differing regulatory cultures that have produced differing means to provide export credits, nevertheless, provide a direct link to the project's theme of different institutional structures and policy cultures. It is exactly these differing regulatory cultures that have turned export credit agency policy harmonization into a contentious issue. At this point, the U.S. case study still needs refinement. I have scheduled a number of interviews with key policy-makers and activists for late July and early August. The outcome of these interviews will certainly impact the current draft case study. In setting environmental standards for export credit agencies, Germany and the United States assume counter-intuitive roles. The United States unilaterally implemented high standards in the mid-1990s and sought harmonization of these standards within the OECD to its own level. In 2001, OECD negotiations resulted in non-binding "Common Approaches" to environmental screening that fell short of U.S. demands – due largely to Germany's opposition to certain provisions in the U.S. proposal. The consequences were high environmental standards for U.S. exporters seeking export credits, and lower standards for their foreign competitors; thus putting U.S. exporters at a disadvantage vis-à-vis their competitors in accessing developing- and transition-country markets. I argue that roles were distributed this way because of diverging domestic institutions and domestic power distributions. Rules proposed by the United States provided for a poor institutional fit in countries which also had less incentives than the United States to arrive at a substantial international agreement on the issue. This case underscores that domestic politics and national interest drive international environmental politics. Norms and values matter and certainly help particular negotiating parties that can invoke them on their behalf, but they first need to overcome hard material interests that may leave little room for "good" policy.