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Green Innovation Policy in Norway: How can it be evaluated?

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PREFACE

ProSus is a Strategic University Programme integrated with the Centre for Development and the Environment at the University of Oslo. The programme was established by the Research Council of Norway, Division for Strategic Priorities, under the programme "Environment, Energy and Sustainable Development". The financial base is a six-year allocation from the Ministry of Education and Research.

The principal goal of ProSus is to produce and actively inform of new knowledge in support of an improved realization of national targets for sustainable development. The mandate for the current operation (2000-2005) has three objectives:

> Monitoring and evaluating Norway's follow-up of the Rio Declaration, Agenda 21 and the guidelines of the United Nations Commission on Sustainable Development (CSD). The programme focuses on the political, social and economical goals of the UNCED process (United Nations Conference on Environment and Development), and regularly report on the Norwegian progress with regards to declared targets and values.
>
> Conducting strategic research on the obstacles and possibilities for a more rational and efficient realisation of a sustainable development. The activities are conducted in a co-operation with other research institutions nationally and internationally, and in dialogue with NGOs, business and unions.
>
> Disseminating information on alternative strategies for governance, instruments and normative perspectives on the future aiming at a sustainable society locally, nationally and globally. The activities are co-ordinated with networks focusing on research and communication efforts.

In addition to writing books and journal articles, ProSus is continuously publishing reports and working papers. The publications help bring the research results across in an efficient and direct manner to key actors and decision-makers in the work to promote sustainable development. All publications are quality assured by one or more senior researchers, and give a running update on the results from the core programme SusLink at ProSus.

An overview of the prioritised projects at ProSus and all publications are available on our website, www.prosus.uio.no. All questions on the activities at ProSus or ordering of publications can be directed to our Head of Information, Kirsti Svenning: +47 22 85 87 95 / kirsti.svenning@prosus.uio.no .

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ABSTRACT

The paper begins with an overview of the "normative-empirical" approach to evaluation research. The approach is then applied to the task of evaluating policy integration between two high-profile national policy priorities: the pursuit of sustainable development and initiatives to promote "innovation". The first step of the approach is to identify the programmes to be implemented (and, in this case, integrated), and to conduct an explication of the normative premises underlying the programmes. An initial analytic framework is constructed by cross-classifying dimensions of "processual" vs "substantive" norms, and "de-coupling" vs "re-coupling". The normative premises of the policy areas – the nature of their "mandates for change" – are then mapped so as to bring forth the relative "weightings" of each. The mappings are then related back to the fourfold table, and conclusions are drawn for a research design to evaluate policy integration between the two issue areas in Norway.

INTRODUCTION: EVALUATION AS NORMATIVE-EMPIRICAL RESEARCH

The use of evaluation as approach and method in academic political science has little prominence. A review of seven major "handbooks" of political science published between 1975 and 1999 reveals no significant reference to the approach as an independent method.[1] The only area where evaluation has played a noticeable methodological role is in the sub-field of applied "policy analysis". The tradition here is, however, relatively strong, connected mainly to the study of policy implementation in the United States, Scandinavia and the Netherlands. A key methodological text in this area is Vedung (1997), and there have recently appeared two major collections of the most significant contributions to the field across a broad spectrum of topics and approaches (Rist 1995 and Nagel 2002).[2] The approach is also strongly promulgated by The Policy Studies Organization in the United States (subtitled "The International Association for Decision Makers"), and is often featured in major journals on policy analysis.

The common logic underlying nearly all of these studies is that policy implementation is a central feature of public administration, and that it is the responsibility of policy analysts to improve our understanding of both how implementation works, and the degree to which programmes and policies actually achieve their declared goals. But whereas there is considerable disagreement and competition on the first point (among different "schools" of explanatory policy analysis), discussions of different evaluative approaches and methods are relatively seldom. In general one can say that modern political science has been very self-conscious about distancing itself from its normative roots in classic theory, and this has contributed to a certain "nervousness" around issues of values and objectivity. For many positivists, behaviourists, logical-empiricists and rational-choice analysts in political science, "evaluation" sounds too much like "values" and applied science; directions which the mainstream of "academic" political science would prefer to keep at arm's length. It is hardly an accident, for example, that the majority of evaluative studies in the area of environment and development are carried out by disciplines *other than* political science.

Be that as it may, the position taken here is that there is clearly enough relevant "discourse" within the sub-field of policy analysis to nourish the development of a systematic and well-disciplined "school" of political evaluation. The key to such a development is not to avoid either values or normative political theory, but to combine the two with established standards of empirical enquiry. This is particularly important in the area of sustainable development – where conflicts over values and principles are rife – but it is also a vital aspect of democratic performance in general. It is central concern of democratic governance that democracies should be *both* legitimate and effective. Most

[1] The works consulted were *The Handbook of Political Science* (Greenstein and Polsby, 1975 and subsequent years); *The International Handbook of Political Science* (Andrews, 1982); *The Dictionary of Political Analysis* (Plano, Riggs and Robin, 1982); *Bridges to Knowledge in Political Science: A Handbook for Research* (Kalvelage, Meland and Segal, 1984); *Political Science Research: A Handbook of Scope and Methods* (Jones and Olson 1996); *A New Handbook of Political Science* (Goodin and Klingemann, 1996); and *The Blackwell Dictionary of Political Science* (Bealey, 1999).

[2] Additional recent, and highly relevant, contributions are: Mayne and Zapico-Goñi (1997), Riper and Toulemonde (1997), and Bemelmans-Videc et al. (1998).

arguments for democracy are addressed to the first characteristic, claiming that democracies are *per se* the most legitimate form of authority. Many (hardly all) are also willing to argue that, in the long run at least, democracies are also the most effective form of governance. Such arguments usually build on one or another version of a "mobilization-of-competence" position, namely that complex societies require highly integrated systems of personal and institutional interaction, and that it is only by including as many actors as possible in the decision-making process that one can maximize the effectiveness of the overall performance. Combinations of both positions are currently prevalent in the debate over the legitimacy and effectiveness of the European Union.

Evaluation is an approach that rather uniquely cuts across both types of argument. On the one hand, evaluation is necessary for supporting democratic legitimacy since it is vital that voters feel that programmes related to electoral majorities are being carried through. Democracy must be *perceived* to be implementing the goals, programmes and policies that politicians have promised. Such perceptions may, however, be more symbolic than instrumental. Democracies *may appear to be* working to follow up political commitments; but the *actual degree of instrumental output and change* may be another story all together. Evaluation is thus also necessary to verify, and ideally improve, the instrumental effectiveness of the implementation process.

Both tasks – guaranteeing legitimacy and documenting instrumental effectiveness – require *external objective* evaluation. "Form follows function", and it goes without saying that *political neutrality* is necessary to monitor the follow-up of political commitments; and *methodological objectivity and discipline* are necessary to document effectiveness. Some journalists *may* be neutral enough to perform the first task (most are not), but even the best and most neutral journalist will lack the professional ethos and methodological schooling of a scientifically trained evaluator.

While the second of the two tasks indicated (monitoring effectiveness) is a common declared goal among professional evaluators, the first task (guaranteeing legitimacy) is not a goal – or at least not a *declared* goal.[3] Indeed the essence of conflict associated with most programmatic or institutional evaluations is the *degree of association or compliance with the contracting party*. Anyone who has either conducted or been subjected to a "conditional evaluation" (an evaluation where the result will directly effect the continuation of the activity under evaluation), knows that the degree of "sympathy" between the contractor and contractee is a key issue affecting the results of the evaluation. The notion that an agent would contract an evaluation which seriously undermines the legitimacy of the agent itself is simply not part of the normal evaluation "game". It *is* a part, however – and *must be* a part – of the evaluation of democratic societies and their political programmes. Hence the very basic initial premise that, if evaluations of democratic performance in general, and of national strategies for sustainable development in particular, are to be effectively carried out, the evaluating unit must have a mandate guaranteeing political neutrality. Whether or not the unit manages to live up to the mandate and manifest it in practice, is, of course, another question.

Given that such a mandate has been both issued and maintained, how can it be applied in practice to democratic performance? As an approach within the Department of

[3] Vedung (1997: Ch. 6) provides an important introduction to this problematic in his treatment of "accountability" as a major purpose of evaluation, but his emphasis is more on the instrumentality of purpose rather than the broader normative issue of democratic legitimacy.

Political Science at the University of Oslo, "academic freedom" enabled the development of a programme of "normative-empirical analysis". During the period 1981-92 (roughly), numerous projects related to different aspects of democratic performance were carried out at the institute, all operating on a dual normative-empirical track. The basic steps of the approach were quite simple – though up to that time there were virtually no "paradigms" from the discipline to build on. The established practice of evaluating policy and programme implementation in political science was very careful *not* to engage in normative discourse on the nature of the programme or policy in question. The task was to see if the implementation phase of governance achieved the ends outlined, not to critically assess those ends at the outset.

As outlined in Box 1, the new approach aimed to devote equal attention to the normative and empirical aspects of analysis, and to combine these in an overall assessment. Over the years the approach led to numerous publications in both English and Norwegian, including several graduate theses and doctoral degrees. In 1991, the senior author of the present paper was asked to head a sub-programme for the Research Council of Norway devoted to the clarification of alternative models of production and consumption: models that would reduce environmental degradation and enhance global equality. In the context of the times (one year prior to the Rio Earth Summit), it was gradually decided that the sub-programme should focus more specifically on the issue of "sustainable development"; and that its principal task should be to apply a normative-empirical approach to Norway's national efforts to realize the international commitments made in Rio.[4]

The analysis presented here reflects the overall approach by, first, stipulating and clarifying the relationship between innovation and sustainable development. The focus here is on the issue of "de-coupling" (and its complement, "re-coupling"), in relation to a need for both processual and substantive norms evaluating policy integration. This is followed by an overview of the relative "mandates" for the two goals within the European Union. The purpose here is to clarify the normative status of the goals, so as to establish processual and substantive benchmarks for achieving integration. An initial step in this direction is taken by relating the major lines of EU policy development to both earlier work done on Environmental Policy Integration (EPI), and the conceptual distinctions outlined in the following section. The concluding section then presents a brief assessment of the current status of governing mechanisms for integrating environmental concerns and innovational goals in Norway.

[4] The name of the sub-programme was changed in 1996 from the "Project for an Alternative Future" (PAF) to the Programme for Research and Documentation for a Sustainable Society (ProSus). The Programme is now established as a "Strategic University Programme" at the Centre for Development and the Environment (SUM), University of Oslo: http://prosus.uio.no.

Box 1: Basic steps of normative-empirical research

1. Identification of a specific practical discourse where questions of democratic norms were at issue: these could be questions of equality, freedom, participation, rights, or whatever, and the discourse could be related to any aspect of political performance: national or local democracy, institutions, workplace democracy, women's rights, etc.
2. Connection of the specific issue in question to one or more academic discourses related to the problematic.
3. "Translation" of the practical-discourse problem into a normative-theoretical discourse problem: clarifying the implications of the problem within a normative-theoretical context
4. Formulation of empirical criteria, drawn from the field of the practical discourse, by which the normative problem could be addressed and clarified
5. Determination of the relevant empirical methodology necessary to an objective analysis of the normative problematic
6. Execution of the empirical analysis, with conclusions for *both* the practical discourse and the normative-theoretical discourse.

INNOVATION AND SUSTAINABLE DEVELOPMENT

The issue of policy integration

The current Dutch presidency of the European Union has highlighted "eco-efficient innovation" as a key aspect of EU environmental strategy.[5] The focus of the Presidency is primarily on a strengthening of the environmental component of the Lisbon process ("environment as opportunity" for greater economic competitiveness in Europe). The focus mirrors, however, a more general concern with the relevance of environmental concerns for national policies and actions plans for promoting innovation. This issue has recently been highlighted as a sub-theme of the OECD-sponsored project on "Monitoring and Implementing Horizontal Innovation Policy" (MONIT).[6] The relationship between innovation and the environment has been given separate treatment by two of the MONIT research teams (Finland and Norway), and has been identified within the MONIT conceptual scheme as an aspect of sustainable development. The approach within MONIT is thus broader than that of the EU Presidency, as indicated by the following position statement:

> Sustainable development and environmental policy have often been seen as opposed to an innovation-driven growth policy. But environmental policy contains a number of innovation policy options. This concerns for example how governments design regulation regimes, how these are implemented and communicated vis a vis the private sector, how they are supported by R&D programmes, how foreseen developments are taken into consideration in a framework for transition management and the like. The focus here [of the MONIT sub-projects] should be . . . to generate empirical illustrations on how governments design the link between innovation and environmental policies and how adaptations may be made to increase the role innovation policy components. (MONIT website: see footnote 2)

The research programme ProSus in Oslo has had responsibility for the environmental component of the Norwegian MONIT project (Ruud and Larsen 2004). In the course of the project it has emerged that the relationship between innovation and environmental concerns is both conceptually and normatively diffuse. A close reading of the above statement, for example, leaves a decisive impression of vagueness. What is being "integrated" into what? And how will we know a successful ("cohesive") national plan for *either* innovation or sustainable development when we see it? In terms of EU strategies, is the goal one of integrating environmental concerns into innovation policy: "environment as opportunity" for the Lisbon process? Or is it rather one of integrating innovation into sustainable development: "innovation as eco-efficiency" within the Gothenburg process? Or is the idea purposefully left vague to accommodate the "happy" (and highly illusive) medium of "win-win": innovation that *simultaneously* promotes economic competitiveness and sustainable development?

Answers to these questions are difficult to produce. While there is considerable discussion of the issue of environmental policy integration (EPI) (Collier 1994; Liberatore 1997; Lenschow 2002; Lafferty and Hovden 2003; Nilsson and Persson 2003), most treatments focus on the integration dynamics between traditional environmental policy and the driving forces of leading economic sectors (industry, energy, transport, agriculture). Neither the broader agenda of sustainable development (integrating the

[5] The "Presidency's Priorities" are available at the website of the Dutch EU Presidency: http://www.eu2004.nl. The relevant section is "Environment", pp. 16-17.
[6] Information on the MONIT project is available at: http://www.oecd-monit.net.

"social dimension"), or a concern with innovation are prominent in the EPI literature. As for the discourse on innovation, this has only recently taken on the challenge of policy integration in general, and only *very* recently reflected an interest in the integration of innovation and the environment.

The purpose of the present paper is to address these issues within the context of evaluative research and methodology. As both a normative and technical problem, the general goal of "policy integration" is particularly amenable to evaluation metascience (Vedung 1997; Rist 1995; Nagel 2002). Policy analysis and implementation have been crucial research areas for developing evaluative standards within the social sciences, and the high salience of policy-integration as a key feature of recent UN, EU, OECD and national strategies for change serves to heighten the relevance. We begin, therefore, by reviewing what appears to be a relatively simple question, but which, in practice, proves to be both highly complex and highly controversial. What is "policy integration" ("cohesion", "balance") all about? How are we to judge whether integration – in *any* policy domain – actually exists? And, if it can be said to exist, how does it happen? How can policy integration between SD values and innovation be achieved through governance?

Decoupling, Recoupling and Evaluative Norms

By way of both illustrating and focusing the problem, we address the issue in terms of what the OECD has identified as a "key challenge" of sustainable development: *de-coupling*. De-coupling signifies that necessary environmental protective measures should be pursued regardless of economic growth patterns and business cycles (OECD 2001a). With de-coupling as a major goal for sustainable development, the specific task for adapting government practice to sustainable development becomes one of developing more consequential steering mechanisms for relieving pressures on natural life-support systems.

We have already made several initial attempts to clarify the nature of de-coupling as a goal of policy integration for sustainable development (Lafferty 2002, 2004; Lafferty and Hovden 2003; Ruud 2002, 2004). Building further on this work, we will expand the discussion of de-coupling to include the concept of "re-coupling". This is necessary, we believe, to highlight the particular challenge of integrating the dual goals of sustainable development and innovation.

As a point of departure, re-coupling is simply a logical instrumental necessity for de-coupling. If we succeed in breaking the causal chain between economic "drivers" and environmental degradation, it is only reasonable to assume that the "de-coupled" relationships must be somehow re-joined. Though some believe that the pursuit of improved living standards can take place in perfect balance with nature, this is not the view of the Brundtland Report. The second "key concept" of the Brundtland definition of sustainable development is specifically concerned with: "the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet

present and future needs" (WCED 1987: 43).[7] The de-coupling of *non*-sustainable development thus necessarily implies a re-coupling *for* sustainable development. And it is in this "policy space" that the relationship between innovation and SD concerns becomes crucial. Within the normative-functional framework of sustainable development, innovation must be green – and greening must be innovative.

This perspective provides us with a rationale for assessing the relationship between SD and innovation with respect to *instrumental standards* of governance. How can policy integration between the two goals be achieved as a governing *process*? We will make the argument, however, that a need for instrumental standards of policy integration must be supplemented by *substantive standards*. It is not enough, in this view, to evaluate the mechanisms of SD governance as process; we must also evaluate integration in terms of both "outputs" (policies) and "outcomes" (products).[8]

While the differentiation between "process" and "outputs"/"outcomes" is relatively straightforward, the difference between the latter two requires some elaboration. Vedung identifies "outputs" with specific initiatives (policy instruments) designed to achieve sub-goals of an overall programme; with "outcomes" seen as the actual effects of policy on target groups. The difference can be poignantly illustrated for the present discussion by looking at another key notion of the SD discourse: eco-efficiency. Both the OECD and The World Business Council for Sustainable Development (WBCSD) have identified eco-efficiency as a principal standard for de-coupling. It is also a standard which succinctly reflects the second key concept of the Brundtland definition, indicating the prescription of the WCED to change the "quality" (nature, mode) of economic growth.

Ruud (2004) has demonstrated, however, that eco-efficiency must be viewed in a more complex light. As generally understood (and increasingly practiced), the idea emerges as a necessary – but not sufficient – criterion for SD achievement. An emphasis on relative gains through isolated technological improvements does not, for example, always result in absolute gains for environment and development. A differentiation between eco-efficiency and *eco-effectiveness* is thus advised. Whereas the former focuses on technological improvements within a relatively narrow scope of production and consumption, the latter aims to reflect actual impacts and ultimate change within a broader framework of both eco-systems and potential "rebound effects" (Ruud 2004). Increased eco-efficiency may appear as a positive "output" of the policy-implementation process; but we need clear *substantive standards* if we are to assess overall effectiveness as an "outcome".

The implications of these preliminary perspectives can be summarized in terms of four "normative modes" for the integration of environmental concerns and innovation policy (Table 1). The modes serve as a simple frame of reference for highlighting different standards for prescribing and assessing the implications of different degrees of environment-innovation integration. In what follows we will try to clarify these implications by, first, outlining the "policy mandates" for the two policy areas in question.

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[7] "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs" (WCED 1987: 43).

[8] For the differentiation between "outputs" and "outcomes", see Vedung ??; and for the differentiation between "process", "policy" and "products", see Lafferty (2001: 268-301). Nilsson and Persson (2003) have also adopted a similar approach to that proposed here. We return to their recent work in the concluding discussion.

Table 1: Normative modes for the integration of environmental concerns and innovation

		Integration steered by:	
		Processual norms	Substantive norms
Goal of integration	De-coupling	Environmental protection: Major emphasis on end-of-pipe regulation and prevention of pollution. Innovation as ameliorative environmental technology.	Ecological communalism: Major emphasis on limiting growth. Reliance on self-sustaining life-styles and communal values. Innovation as sustainable life-styles in self-sustained communities.
	Re-coupling	Ecological modernization: Major emphasis on improving national eco-efficiency of existing sectoral practices through "win-win" solutions. Plays down zero-sum conflicts of interests and trade-offs. Innovation as a "greening" of existing production-market relationships.	Sustainable development: Major emphasis on achieving overall eco-effectiveness in a global context. Assigns "principled priority" to maintaining and enhancing natural life-support systems. Innovation as a radical transformation of the quality of economic growth.

Mapping the Policy Mandates

Achieving change for sustainable development requires a strong consensus on the nature and seriousness of environmental degradation as a reflection of existing values and systems. Agreement as to causal relations and political legitimacy are vital prerequisites for effective action. We need only mention the extensive efforts of the Intergovernmental Panel on Climate Change (IPCC) to achieve a consensus on the causes and effects of greenhouse gasses to indicate the scope of the problem. Discussions as to the validity of the panel's findings still continue at the margins of scientific discourse; and politicians continue to play traditional party-political "games" with climate policy, despite the enormous resources that have gone into the documentation and dissemination of the causal framework.

The case for pursuing sustainable development through a better integration of environmental considerations in sectoral policies requires, therefore, stronger political support than that which can be derived from the posited causal relationship alone. While the latter can be said to reflect the "realist" school of ethical thinking, in which scientific data and arguments are mobilized to create moral pressure for change; there is also the possibility of mobilizing arguments under the banner of "consensual ethic" (Lafferty 1996). Indeed, one could argue that the pursuit of sustainable development in democratic regimes requires that *primary* consideration be given to consensual ethics. Given further that the task defined here is one of integrating SD values and innovation (Table 1), we

must try to delineate the nature of the "mandates" for pursuing and reconciling each of these goals.

The mandate for policy integration for sustainable development

With respect to sustainable development, we can trace the goal of policy-integration to the Brundtland Report itself. Here it is important to point out that the Brundtland Report is, in fact, that only document that sets down baseline conditions for "sustainable development". The Rio Declaration, Agenda 21 and the entire follow-up process of the UN Commission on Sustainable Development (UNCSD) anchor their principles and policy instruments in the Brundtland understanding.

In Chapter 12 of *Our Common Future* – appropriately titled "Towards Common Action: Proposals for Institutional and Legal Change" – we find the following:

> The ability to choose policy paths that are sustainable requires that the ecological dimensions of policy be considered at the same time as the economic, trade, energy, agricultural, industrial, and other dimensions – on the same agendas and in the same national and international institutions. That is the chief institutional challenge of the 1990s. (WCED 1987: 313)
>
> Sustainable development objectives should be incorporated in the terms of reference of those cabinet and legislative committees dealing with national economic policy and planning as well as those dealing with key sectoral and international policies. As an extension of this the major central economic and sectoral agencies of governments should now be made directly responsible and fully accountable for ensuring that their policies, programmes, and budgets support development that is ecologically as well as economically sustainable. (WCED 1987: 314)

These ideas are then followed up more specifically as a series of "objectives" in Chapter 8 of Agenda 21, entitled: "Integrating Environment and Development in Decision-Making". The statements chosen are from the two most relevant sub-sections of the chapter: (A) "Integrating environment and development at the policy, planning and management levels", and (D) "Establishing systems for integrated environmental and economic accounting". Though the general ideas here are well known, it is important for further discussion that we reference and highlight several of the key formulations:

> Governments, in cooperation, where appropriate, with international organizations, should adopt a strategy for sustainable development based on, inter alia, the implementation of decisions taken at the [Rio] Conference, particularly in respect of Agenda 21. This strategy should build upon and harmonize the various sectoral economic, social and environmental policies and plans that are operating in the country. (Para. 8.7)
>
> [To adopt] a domestically formulated policy framework that reflects a long-term perspective and cross-sectoral approach as the basis for decisions, taking account of the linkages between and within the various political, economic, social and environmental issues involved in the development process. (Para 8.4.b)
>
> To expand existing systems of national economic accounts in order to integrate environment and social dimensions in the accounting framework, including at least satellite systems of accounts for natural resources. The resulting systems of integrated environmental and economic accounting (IEEA) to be established in all member States at the earliest date, and should be seen as a complement to, rather than a substitute for, traditional national accounting practices for the foreseeable future. IEEA would be designed to play an integral part in the national development decision-making process. National accounting agencies should work in close collaboration with national environmental statistics as well as the geographic and natural resource departments. (Para 8.42)
>
> [To ensure] transparency of, and accountability for, the environmental implications of economic and sectoral policies. (Para 8.4.e) (United Nations 1994: 65-74, our emphasis)

[9] This section builds on work presented in Lafferty 2002 and 2004.

Finally there is the very specific recognition of the sectoral-integration challenge within the European Union. Here it should be sufficient to mention only three aspects of the current work in this area. First, there is Article 6 of the Treaty of the European Community, which explicitly states that:

> Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities referred to in Article 3 [listing the full range of Community activities] in particular with a view to promoting sustainable development.

Second there is the so-called "Cardiff Process", initiated by the Luxembourg European Council in December 1997, and elevated to a full-scale EU programme at the Council meeting in Cardiff, June 1998. The goal here is that "all relevant Council configurations" should work to develop "their own strategies for integrating environment and sustainable development into their respective policy areas". The strong nature of the mandate here is reflected in a policy evaluation from 2001, where the report concludes that:

> In summary . . . the Cardiff Process can be characterised as binding and committing. Legally, the binding nature is rather weak, but the political commitment is strong. There was a clearly expressed will at the start, which was reinforced at various levels throughout the whole process. Of significant importance are the various self-commitments of the Council configurations to further refine or revise the strategies, and the work packages delegated to the European Commission or specific working groups." (Kraemer 2001: 33)

Finally we can mention the EU "Strategy for Sustainable Development". Authored directly by the office of the President of the EU Commission, and presented to the European Council in Gothenburg in June 2001, the strategy stated that:

> The process of integration of environmental concerns in sectoral policies, launched by the European Council in Cardiff, must continue and provide and environmental input to the EU Sustainable Development strategy, similar to that given for the economic and social dimensions by the Broad Economic Policy Guidelines and the Employment Guidelines. The sectoral environmental integration strategies should be consistent with the specific objectives of EU Sustainable Development strategy. (CEC 2001: 14).

This combination of general goals and more specific objectives can be seen as a set of minimal "external" standards for adapting "government practice" to sustainable development (i.e. standards formulated and adopted in political bodies "external" to the nation state). The importance of these standards is that they establish the democratic-political legitimacy of the policy-integration task; a legitimacy which Lafferty and Meadowcroft (2000) view as vitally necessary if sectoral integration is to be taken seriously and pursued effectively within the realm of "normal" national politics (Lafferty and Meadowcroft 2000).

Despite this relatively specific focus and broad-based support, however, the notion of policy integration for sustainable development has clearly not been adequately developed, nor systematically evaluated. Though the situation is clearly changing for the better (as demonstrated by the activity referred to below), the conclusion of the International Institute of Environmental Policy from 2001 still stands:

> Despite a progressive commitment to environmental integration, relatively little attention has been given to defining the concept. There is a confusing variety of methods for taking more account of environmental factors in the development of sectoral policies. (IEEP 2001)

As we will se below, a major reason for this is that the concept of policy integration for SD implies a relatively strong revision of the traditional hierarchy of policy objectives, with environmental concerns ranked below issues of national security, economics, finance,

labour relations, education and welfare. This indicates an apparent failure of the discussion of integration to appreciate the extent to which the concept forms part of a broader political process, with the portrayal of environmental objectives as central, if not principal. We return to this discussion below, but will first present the "case" for integrating innovation into national policy.

The mandate for innovation and policy integration

The goal of increasing levels of "innovation" in the European Union has been a key dimension of "competition policy" since (at least) the introduction of the Single Europe Act (SEA) in 1987. It was not until 1995, however, with the issuance of the "Green Paper on Innovation" that the policy was given distinct status as a key feature of the new "knowledge society and economy" which would keep Europe at the cutting-edge of international market competition. The first "Action Plan for Innovation in Europe" was adopted in 1996; and the second – "Innovate for a Competitive Europe" – is now being circulated by the Commission for comments and amendments. The Commission periodically reviews innovation policy through a series of "communications", initially in 1998 and subsequently in 2000 and 2003. The current review and revision of the action plan takes place within the context of the "Lisbon Strategy", and both the Lisbon Strategy and the Strategy for Sustainable Development will be reviewed at the Spring Summits in 2005.[10]

Within the OECD, innovation has long been treated (under different names and concepts) as an important feature of economic growth. More recently the work has reflected the emphasis within the EU of specifically connecting the innovation discourse to the issues of "competitiveness". The major thrust of the OECD work has been in promoting and monitoring innovation as an aspect of research and development, but the organisation has also focused strongly on the issue of innovation in firms. Most importantly for the present discussion, however, is the work done by the OECD on "innovation and the environment" and "technology and environment".[11] As indicated below, the European Union often makes oblique references to innovation and the environment in the key policy documents, but there has been very little follow-up with respect to either procedural or substantive integration of the two.

Finally, we can mention the joint initiatives taken by the OECD and EUROSTAT to coordinate conceptual and methodological issues related to innovation monitoring. The work is coordinated through workshops and ad-hoc "task forces", and involves revisions of the so-called "Oslo Manual" (for defining and measuring innovation on a systematic basis) and the coordination of recurring "Community Innovation Surveys" (CIS).[12] If one is looking for a reference point as to what innovation is "really" about, the concepts, indicators and statistics produced here are at least standardized.

[10] There are several EU websites devoted to different aspects of innovation, but the concept has its own "portal", so that navigating from here is well coordinated and highly informative. Visit: http://www.cordis.lu/innovation/.

[11] See the references listed in OECD 2001, p. 4 and pp. 179-180. The chapter on "Technology" in OECD 2001 (Ch. 6) is a key source for the position adopted here.

[12] The Oslo Manual – one of the so-called "Frascati family" of OECD manuals for standardizing monitoring across the OECD member states – was first produced in 1992. It was subsequently revised in 1996, and is now in the process of a third revision, to be completed by 2005. The version currently in effect is available from the OECD at: http//www.oecd.org/dataoecd/35/61/2367580.pdf

Despite these efforts at conceptual clarification and monitoring, however, it is safe to say that there currently exists *considerable* confusion and disagreement as to what "innovation" is all about. And - as with all such "essentially contested concepts" (Gallie 1956; Lafferty and Langhelle 1999, Ch. 1) – the only way one can gain semantic "closure" is to either aim for a consensus among all users, or stipulate specific instrumental criteria for applying and interpreting the idea. Relying on the latter approach, we can say – with reference to the work outlined above – that the notion of "innovation" employed here refers primarily to change that enhances competitive advantage within and among European firms. Such advantage can be measured in terms of increased market shares, gross earnings, profit margins, number of patents, etc. We will argue, moreover, that this is the *ultimate test* of whether or not innovation actually is achieved (in the EU context).

As we see it, most of the discussion as to what innovation is "really" all about has evolved through a continuous expansion of the technological, economic, social, cultural and political factors *that appear to support or enhance the "ultimate test"*. The emergent discourse as to all the possible factors affecting innovation-as-economic-advantage has led to considerable confusion as to what is what. In our view, however, there can be no doubt that the core purpose of innovation in the EU-OECD context is to enhance "economic growth" in general, and "European economic competitiveness" in particular. In the course of expanding the list of innovation-relevant factors, the idea of innovation itself has gradually become a free-floating "good"; with anything that appears to *hinder* innovation being seen as a free-floating "bad".[13] Such inherent normative criteria must, however, be "anchored" in a deeper structure of values, (if action and change are to at all assessable), and we feel that the "essential test" reflects this structure. It is the promotion of economic growth and European competitiveness – with the gradual emergence of other values directly thought to enhance such an "economic-man" model of "progress" – that constitutes the semantic core of innovation.[14]

With respect to a general integration of innovation policy within and across sectors, the signals from the EU are much "softer" than for EPI, but they follow the same type of logic. Most interesting here, however, is the fact that the relationship between innovation and

[13] Development in this direction was already signalled in the initial Green Paper on Innovation. Here we can read that: "In the context of this document, innovation is taken as being a synonym for *the successful production, assimilation and exploitation of novelty* in the economic and social spheres. It offers new solutions to problems and thus makes it possible to meet the needs of both the individual and society. There is a wealth of examples, including the development of vaccines and medicines, improved safety in transport, (ABS, airbags), easier communications (mobile phones, videoconferencing), more open access to know-how (CD-ROM, multimedia), new marketing methods (home banking), better working conditions, more environment-friendly techniques, more efficient public services, etc. According to the dictionary, the opposite of innovation is 'archaism and routine'. That is why innovation comes up against so many obstacles and encounters such fierce resistance. It is also why developing and sharing an innovation culture is becoming a decisive challenge for European societies." (CEC 1995).

[14] See Robert Lane (1990 and 1991) on the implications of alternative "models" of human behaviour. One can, of course, argue (and many have) that innovation in a personal and organizational sense is about "flexibility", "learning" and "adaptability", and that these characteristics are inherently positive and "progressive". The logic would seem to be that the new "knowledge society and economy" requires such characteristics. The question would still remain, however, as to how *much* change in these dimensions is required – to achieve what? Was, for example, the general mode of socioeconomic, cultural and political organisation in Europe so "archaic" as to warrant active rejection on these grounds alone? Or is the basic connotation relativistic; a question of positive change that can only be assessed with respect to external "competitors". Since the latter would clearly seem to be the case in the EU documents, we are left with the question as to "competition for what?" – with the only apparent answer being "increased proportions of capital".

the environment has recently been given very specific treatment – not only with respect to environmental protection, but more pointedly in connection with the promotion of sustainable development.

On the first point, there has gradually emerged – as an instrumental complement to the expansion and generalization of the innovation mandate – an emphasis on the need for greater "coherence" and "integration" within and across sectors. This is clearly expressed in the most recent "communication" on innovation by the EU Commission:

> The Communication . . . suggests several new directions for EU innovation policy development and, in particular, interaction with other policy areas. Innovation policy must often be implemented via other policies, and the Communication suggests, *inter alia*, better coordination and a pro-active follow-up by the Commission and Member States. (CEC 2003)

This line is then followed up in the second-generation draft action plan currently circulating. Entitled "Innovate for a Competitive Europe" (CEC 2004a), the draft expresses a need for institutional mechanisms to integrate innovation policy at both the national and regional levels. The language is very similar to the discourse on integration for sustainable development:

> Innovation can only develop and flourish if it is a recognised value of society, with wide support. It is to be hoped that it will also become the subject of national debates and that the economic, social and environmental challenges that it represents will be the subject of wide-ranging exchanges involving all stakeholders. To this end, Member States are invited to set up national innovation councils or something similar, to encourage dialogue between representatives of public administrations, employers, unions, research establishments and institutes of higher education, and recognised experts. The Commission will hold a European Innovation Policy Forum, bringing together representatives of the national innovation councils to discuss innovation policy, promote innovation issues in policy circles and influence the legislative process at European level. (CEC 2004a: 18-19)

Finally, we can refer to the OECD-sponsored research project mentioned above, MONIT. The statement of purpose for the project succinctly summarizes the integration goals:

> The objective of the MONIT project is to generate a new body of knowledge for OECD countries on how to improve innovation policy governance and create a more coherent innovation policy. The project will investigate the current innovation profiles in some member countries, how they have come into being, their political, cultural and economic sources, and will highlight their key modes of policy co-ordination and lessons to be learned. The aim is to identify the origins and determinants of national capabilities in developing and governing coherent innovation policy. In doing so, MONIT will help governments learn from national experiences on how to align STI policy better with the rest of the policy system, and how to better integrate IP elements in a horizontal, cross-sectoral and [cross]–institutional approach for a more coherent innovation policy. (Remoe 2002)

As for the goal of integrating innovation and the environment, the policy signals are much more perfunctory and diffuse. The issue was given very little attention in the initial phases of innovation policy development. Neither the Green Paper on Innovation or the First Action Plan ("Innovation for Growth and Employment") had anything significant to say

on the relationship.[15] More importantly, however, is the fact that the second-generation draft plan currently circulating says even less. Aside from the mention cited above (innovation as an "environmental challenge"), we find only two hints of what the environment could mean for innovation policy: (1) that environmental regulation can be either a hinder or a help for innovation; and (2) that there are positive market opportunities for greater innovation in the environmental technology and services sector.[16]

The reticence of the Commission on the innovation-environment link may, however, be partially explained by a direct reference in the draft action plan to the recently adopted separate action plan on environmental technology. Entitled "Stimulating Technologies for Sustainable Development: An Environmental Technologies Action Plan for the European Union" (ETAP), this plan – adopted in January 2004 (CEC 2004b) – moves the innovation-environment discourse in a totally different direction. Just as the innovation action plan seems to be exclusively drafted to accommodate the Lisbon Process, the ETAP is solidly anchored in the Göteborg Process. With explicit reference to Chapter 4 of Agenda 21 ("Transfer of Environmentally Sound Technology, Cooperation and Capacity Building"), the expanded role for environmental technology is clearly spelled out in the introduction to the plan:

> Sustainable development – development that meets the needs of the present without compromising those of future generations – is at the core of the European Union's (EU) objectives. In 2001, the Göteborg European Council launched the EU strategy for sustainable development. This set ambitious objectives and called for a more integrated approach to policy making in which economic, social and environmental objectives can be achieved at the same time. It therefore complemented the Lisbon strategy to make the EU "*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*". It also underlined that "sustainable development requires global solutions", thereby supporting the EU's efforts to take a leading role internationally to promote global economic and social development while protecting the environment. . . .
>
> The potential of technology to create synergies between environmental protection and economic growth was recognised by the October 2003 European Council. Environmental technologies – taken in this Action Plan to include all technologies whose use is less environmentally harmful than relevant alternatives – are key to this. They encompass technologies and processes to manage pollution (e.g. air pollution control, waste management), less polluting and less resource-intensive products and services and ways to manage resources more efficiently (e.g. water supply, energy-saving technologies). Thus defined, they pervade all economic activities and sectors, where they often cut costs and improve competitiveness by reducing energy and resource consumption, and so creating fewer emissions and less waste. These potential benefits can also be of great importance for developing countries. With sufficient technology transfer they can provide these countries with affordable solutions for reconciling their

[15] The Green Paper makes sporadic references to the environment, touching, for example, on environmental regulations as reasons for innovation, or, more obliquely, the potential for innovation within the environmental-protection sector. Mention is made of a pilot project ("Growth and Environment") set up at the request of the European Parliament which provided loan guarantees for "projects with beneficial effects for the environment". (CEC 1995: 30).
The "First Action Plan for Innovation in Europe" had even less to say on the issue. Here we find only a single mention of a possible innovation-environment link – but it is a mention that points towards things to come. In a brief concluding reference to a need for "fleshing out" the plan in relation to "various priority sectors or fields", it is stated that: "Situations vary widely according to the country, the sector and the technology. The action plan will therefore need to be adapted to certain fields or sectors designated as priorities. These might include environmental protection and sustainable development, the services sector, rural development, aspects related to demand and consumers, the audio-visual sector and better exploitation of space and dual-use technology". (CEC 1996: 9) It is this "signal" that is strongly reflected in the current draft action plan, and, most specifically, in the separate "Environmental Technologies Action Plan" (ETAP) of 2004 (CEC 2004).

[16] It should also be mentioned here that the draft action plan now circulating makes it absolutely clear that the major purpose of innovation in the European Union is to "close the gap" between the United States and Europe in levels and rates of economic performance. Anyone looking for less commercial signals as to the purpose of innovation will look in vain.

> desire for strong economic growth with the need to do so without increasing the pressure on the local, or the global, environment.
>
> This Environmental Technologies Action Plan (ETAP) therefore aims to harness their full potential to reduce pressures on our natural resources, improve the quality of life of European citizens and stimulate economic growth. As such it is an important means to implement the EU Sustainable Development Strategy and to pursue the Lisbon Strategy, while also helping developing countries. It is based on the recognition that there is significant untapped technological potential for improving the environment while contributing to competitiveness and growth. (CEC 2004b: 2)

The plan goes on to outline numerous policy instruments for realizing these goals, with innovation, and references to the other EU efforts on innovation, as an integral part of the plan. Though the goal of promoting "sustainable growth" is maintained throughout (as it is in the Brundtland Report), the goal of "de-coupling" is also endorsed. With a reference to developing countries that is clearly applicable to developed countries, we read that:

> Investment in environmental technologies has the potential not only to increase employment and economic growth within the EU, but also to promote sustainable development at the global level, particularly in developing countries. With economic growth, addressing detrimental social and environmental impacts from production activities is becoming increasingly urgent in many developing countries. At the same time, environmental technologies can promote innovation and competitiveness, as well as decoupling economic growth from environmental degradation, by leapfrogging traditional, polluting and resource-intensive production patterns and switching to increased eco-efficiency in the use of natural resources. (CEC 2004b: 23)

Summarizing the implications of the policy documents, we can say that the EU is solidly committed to a major policy effort to improve European economic competitiveness through innovation. There is also a growing awareness that innovation policy must be integrated within and across sectoral directorates and ministries, and at the regional, national and local levels of government. Finally, there is a more recent commitment to joining innovational efforts with environmental concerns; a commitment which is very ambivalent as to how a balance between the two tasks should be achieved. This ambivalence is most crucially manifest in the political challenge to reconcile (balance, integrate) an increasingly obvious conflict of priorities within and between the Lisbon and Gøteborg strategies for European development.

FROM PROGRAMMATIC GOALS TO STANDARDS FOR POLICY INTEGRATION

Having reviewed the policy mandates from the European Union on the pursuit and integration of environmental and innovational goals, we can now briefly relate these goals to the dimensions presented in Table 1. On the issue of processual vs. substantive norms, we find a strong emphasis on the need to achieve greater integration (coherence) in both policy areas. As distinct policy processes this implies an instrumental need for steering mechanisms to achieve integration. Someone, somehow must be given responsibility for achieving integration. In the language of policy implementation, this implies specific institutions and procedures.

But, given recent critiques of environmental policy integration (Lafferty 2002; Lafferty and Hovden 2003; Lafferty 2004; Lenschow 2002; Nilsson and Persson 2003), the achievement of integration also implies relative standards and priorities. Integrating new policy demands *into* existing policy areas requires some sort of substantive norm or principle for realizing integration in practice. Given that the political system essentially involves "the authoritative allocation of values" (Easton 1965), some means must be at hand for authorities to determine "who gets what, where, when and how?". Such means can only be provided (in a democracy) by transparent norms for specific allocations and the resolution of policy trade-offs. Win-win solutions in the pursuit of sustainable development are a blessing when achieved, but such solutions are in general very difficult to realize, and, when realized vis à vis the environment, usually achieved as a sub-optimal solution for long-term environmental degradation.

By cross-classifying a need for processual vs substantive norms, with a differentiation between "de-coupling" and "re-coupling", we arrived at the four types of environment-innovation constellations identified in Table 1: *environmental protection*, *ecological communalism*, *ecological modernization* and *sustainable development*. The logic of the fourfold categorization allows us to make a number of preliminary observations as to the normative framework being developed.

First, we feel that the two dimensions capture significant aspects of the latent trade-offs implicit in the parallel developments of SD policy and innovation policy in Europe. Both policy tracks attribute great importance to the values and goals being pursued by each, and both declare a clear need for better policy integration. As it now stands, however, there has been virtually no open discussion as to the *relative importance* of the two tracks. The differentiation along the principal axis – from "environmental protection" to "sustainable development" – provides a value hierarchy that is in line with the constitutional situation within the EU. By this we mean that the goal of sustainable development has a stronger principled status than the goal of innovation. This is manifest in two ways: (1) both sustainable development in general and environmental policy integration in particular have stronger legal status in the EU treaties; and (2) whereas sustainable development is the overarching value/goal of the Gøteborg Strategy, innovation is only one aspect of the Lisbon Strategy, *and* it is an aspect on a par with "sustainability" in the Lisbon process.

Second, the framework clearly reflects – through the differentiation between "processual" and "substantive" norms – a fundamental aspect of both policy-

implementation research and policy-evaluation methodology. Equally important, however, is the fact that the same differentiation is clearly manifest in the EU policy discourses themselves, where (particularly in the different action plans), goals and initiatives reflecting "means" and "ends" are indiscriminately mixed. What the framework clearly indicates, however, is that changes in process do not necessarily result in changes in substantive outcomes; *and* that positive changes in substantive outcomes can be achieved without pursuing the processes designated.

Third, that there exists an implied, but not adequately expressed, presumption that de-coupling involves re-coupling. Given that one only reads of the former in the policy documents, it is important to explain the implications of not only disconnecting drivers from pressures on natural resources and eco-systems, but also of finding ways (or not) of surplus-generating development. The importance of such a distinction is particularly clear with respect to the Environmental Technologies Action Plan (ETAP), where it is, on the one hand, often assumed that end-of-pipe initiatives require no compensatory growth-maintaining initiatives; or, on the other, that achieving eco-efficiency is the same as achieving eco-effectiveness.

Finally, there are interesting implications in the framework for relativizing the meaning and valence of innovation. Most importantly this comes from an understanding of the potential of innovation which provides a very different context for understanding and promoting innovation as a policy goal. Instead of viewing any kind of innovation as potentially positive for value-creating competition, the framework points out that innovation can serve other ends than increased economic growth through increased market/profit shares. Innovation in the mode of "environmental protection" can contribute significantly to de-coupling, without being commercially competitive. Innovation can also contribute to apparent "ecological modernization", without contributing to "sustainable development" (due to "rebound effects"); and innovation can contribute to "ecological communalism" by developing life-styles, learning mechanisms and organizational forms that seem to point backwards rather than forwards – yet they are perceived by many as the most "progressive" solution vis à vis environmental degradation. Such perspectives are extremely important for assessing the overall costs and benefits of innovation in a much broader normative context.

Stipulating normative standards for policy integration

In previous studies we have identified benchmarks for governing mechanisms to achieve environmental policy integration (Lafferty 2002; Lafferty and Hovden 2003; Lafferty 2004). These benchmarks involve the horizontal (HEPI) and vertical (VEPI) dimensions of integration initiatives within governments. The focus is, in other words, on the responsibilities and activities of governing institutions: ministries, agencies, intra-governmental committees, and other bodies deriving their authority from national, regional or local constitutional mandates. In addition to these institutional-procedural benchmarks, we have also proposed a definition of EPI which directly addresses the issue of "substantive norms". The most recent formulation of this definition (slight changes have been made in the course of debating and developing the idea), is as follows:

Environmental policy integration implies:

> the incorporation of environmental objectives into all stages of policymaking in non-environmental policy sectors, with a specific recognition of this goal as a guiding principle for the planning and execution of policy;
>
> accompanied by an attempt to aggregate presumed environmental consequences into an overall evaluation of policy, and a commitment to minimise contradictions between environmental and sectoral policies by giving principled priority to the former over the latter. (Lafferty 2004: 201)

With respect to the first part of the definition, we have elaborated on VEPI as follows: Vertical environmental policy integration indicates the extent to which a particular governmental sector has taken on board and implemented environmental objectives as central in the portfolio of objectives that the sector continuously pursues. VEPI involves the degree to which a sector has been "greened"; the extent to which it has merged environmental objectives with its characteristic sectoral objectives to form an environmentally prudent decision-making premise in its work. This "greening" does not presuppose an overarching primacy for environmental goals at the cabinet level. Each sector is left free to develop its own understanding of the concept and its implications. The dimension thus focuses on the degree of EPI within the steering domain of the individual department or ministry. This may lead to significant EPI in the sector itself, depending on the level of ministerial commitment and the ability of sectoral officials to balance internally derived environmental priorities with external demands for "normal" sectoral policy outputs, *and* to discover, employ or foster effective means of governance.
The following have been proposed as an initial set of benchmarks for VEPI:[17]

> A *scoping report* providing an initial mapping and specification of sectoral activity which identifies major environmental/ecological impacts associated with key actors and processes – including the governmental unit itself.
>
> A *forum* for structured dialogue and consultation with designated principle stakeholders and citizens.
>
> A *sectoral strategy* for change, putting forth the basic principles and goals for the sector.
>
> An *action plan* to implement the strategy, with stipulated priorities, targets, timetables, policy instruments, and designated responsible actors.
>
> A *green budget* for the integration and funding of the action plan.
>
> A *monitoring programme* for overseeing the implementation process, its impacts and target results, including specified cycles for monitoring reports and revisions of the sectoral strategy and action plan.

These steering mechanisms identify institutions and procedures deemed necessary to achieve a minimum of *processual integration* of environmental concerns in sectoral governance. It is important to stress that the term "vertical" is here used in the functional sense of governing responsibility for given sector (transport, energy, agriculture, etc). This should not be confused with the notion of "vertical governance" across different domains of constitutional responsibility (regional, national, local).

The importance of this differentiation becomes clear when we consider the second dimension of EPI: *horizontal environmental policy integration* (HEPI). In its most essentialist form, HEPI involves the question of integrating environmental concerns

[17] The list reflects general models of policy implementation (see, for example, Sabatier 1999; Parsons 1995; and Hill 1997); as well as more recent publications on the specific issue (OECD 2001a: Ch. 3, and OECD 2001b: Ch. 4; Wilkinson 1998; IEEP 2001, Ch. 4; EEA 2001, Ch. 4; Lafferty and Meadowcroft 2000); and detailed assessments and project reports (Hertin et al. 2001, Fergusson et al. 2001, and Kraemer 2001).

within governments: that is, *across* sectoral policy and responsibility. If determining "who gets what, where, when and how?" is the essence of a political system, the relevance for HEPI is to substitute "environmental interests" for "who"; and to insist on at least equal treatment for the environment vis à vis other competing interests. This entails, of course, the negotiation of conflicts between environmental objectives and other societal objectives; between different sectors pursuing alternative environmental objectives; and between the alternative possible consequences of specific environmental initiatives. Assessing the degree of HEPI is a question of assessing both the basic mandate for environmental privilege – when and where it is be regarded as "trump" – as well as the detailed specifics for realising the mandate in and through the workings of public administration.

A list of HEPI benchmarks has proposed as follows:

> A *constitutional mandate* providing provisions for the special status of environmental/sustainable-development rights and goals.
>
> An *over-arching strategy* for the sectoral domain, with clearly enunciated goals and operational principles, and a political mandate with direct backing from the chief executive authority.
>
> A *national action plan* with both over-arching and sectoral targets, indicators and time-tables.
>
> A *responsible executive body* with designated responsibility (and powers) for the overall coordination, implementation and supervision of the integration process.
>
> A *communications plan* stipulating sectoral responsibility for achieving overarching goals, and outlining how intra-sectoral communications are to be structured and made transparent.
>
> An *independent auditor* with responsibility for monitoring and assessing implementation at both governmental and sectoral levels, and for proposing revisions in subsequent generations of strategies and action plans.
>
> A *board of petition and redress* for resolving conflicts of interest between environmental and other societal objectives, interests and actors.

Also these benchmarks should be seen as indicating "baseline" requirements for achieving (and evaluating) horizontal, cross-sectoral integration of environmental/ecological goals. They imply both processual and substantive norms, and each set of benchmarks is both sequential as implementation strategy and cumulative as potential outcome. Whether or not the outcome is more in the direction of sustainable development than of environmental protection – or perhaps not beneficial to either! – is a question of the degree of political and administrative commitment accorded to the substantive norms.

Focusing more specifically on this particular issue, we are confronted with one of the most difficult issues of democratic governance: the actual achievement of change. Policy in a democracy is about the determination and pursuit of collective-choice goals. The implementation of policy is a "game" consisting of interdependent initiatives and ploys to get specific "target-groups" (individuals and collective actors within culturally determined constellations of institutions and procedures) to change their behaviour in specific directions. The effectiveness of the initiatives and ploys (policy instruments) chosen in reaching goals will depend on the interaction between general characteristics of operational effectiveness (the "medium") and the degree of will, commitment, drive and general moral force pushing the key actors towards a successful realization of goals (the "message"). Why and how the latter acquires impetus and direction has to do with the

quality of norms and authority that permeate the transactions, negotiations, intimidations and bargains that effect change.

We have earlier identified such norms and authority with the idea of "trump" in card games (Lafferty and Hovden 2003: 9-11). Some values most be accorded "principled priority" when confronted with other values that do not serve the policy goals if change is to be effected in one rather than many other alternative directions. The governing mechanisms of policy implementation are in this view regulated by priority principles that serve to guide judgements among implementers as to alternative paths of action. At any one time any single policy process (in a democracy at least) will be confronted with alternative "trump" principles. These can, for example, be to the ultimate advantage of free-market competition (the capitalist state); social welfare (the social-democratic state) or the environment (the ecological state). The goal of sustainable development is often expressed as a "balance" between all three, but, as we have argued elsewhere (Lafferty and Hovden 2003), the normative message of the SD discourse clearly implies that the ecological dimension – understood as the preservation of vital life-support systems for present and future generations – must be given "principled priority". How this priority is expressed in the legal-political structure of a political system, and how it is applied in specific decision-making situations, are crucial issues in the design of governance for sustainable development.[18]

[18] The issue could be stylized as a normative paradigm with reference to Kant's concept of "regulatory principles" within a "canon of judgement". Given basic rules of procedural democracy (Dahl 1997), it is presumed that a "trump" regulatory principle could be moderated by specific pre-defined conditions within a "canon of judgement" for SD decision-making. Such a principle could be operationalized as a variation of the "precautionary principle" (see, for example, O'Riordan et al. 2000).

CONCLUSION: EVALUATING THE INTEGRATION OF ENVIRONMENTAL CONCERNS AND INNOVATION IN NORWAY

On the basis of the above discussion, we can conclude with a brief outline of some of the major implications for an evaluation of policy integration in Norway.

1. The task to be evaluated is the goal of simultaneously pursuing national policies for sustainable development and innovation. The first step in such an evaluation is a clarification of the normative status of the policies themselves. Knowing the level of "urgency" behind a policy initiative – as either pressing pragmatic task or moral obligation – is a vital prerequisite for establishing evaluative criteria.

2. In terms of "legal" and political obligation, it is clear that the goal of pursuing sustainable development has a stronger position than the goal of innovation. While the former has been repeatedly endorsed through international agreements and commitments, the latter derives primarily from either policy declarations by the European Union, or more general intellectual and interest-based arguments as to why innovation is increasingly necessary for market competition and economic growth. Furthermore, as indicated above, even within the EU context, it is clear that the goal of sustainable development rests on a stronger normative mandate than innovation. As cited above, Article 6 of the Treaty of the European Union is explicit in declaring that "environmental protection requirements *must be integrated* into the definition and implementation" of Community policies, and that this should be done "in particular with a view to promoting sustainable development". As there is nothing similar with respect to innovation, it is clear that the integration of environmental concerns has greater immediacy and "lexicographic" (ranked) normative status than innovation.

3. The case for "principled priority" for environmental concerns is perhaps even stronger for Norway. Norway has consistently been a key actor in promoting the SD agenda on the international level. Though the follow-up at home has been considerably less impressive (Lafferty et al. 1997, 2002), the strong international profile adds considerable normative weight to SD as a national task of "overarching" importance. (It can only be assumed that Norway *might* have played a similar role in promoting SD in the EU – but this has, of course, not been possible.) The international commitments are, moreover, reflected in the relative weightings of the two policy domains in domestic politics. While there is National Strategy for Sustainable Development, there is no national strategy for innovation. Both issues have their own national action plans, but whereas the National Action Plan for Sustainable Development (NAPSD) clearly enlists innovation in the service of SD, the Plan for a Comprehensive Innovation Policy (PCIP) has nothing of substance to say as to the role of innovation in promoting SD.[19]

[19] An English version of the SD action plan is available at: http://www.odin.dep.no/filarkiv/206401/nat_action.pdf. The innovation action plan is currently only available in Norwegian: http://odin.dep.no/filarkiv/190462/fraidetilverdi-031022.pdf. In the SD action plan it is stated that: (1) ""Business has a crucial role in working to achieve sustainable development. The ability of business to innovate in the direction of more sustainable production processes and a willingness to take social responsibility will ultimately be decisive for reaching key political goals." (National Action Plan for Sustainable Development 2003: 40-41, our translation).

4. The evaluation task is thus to assess the degree and type of integration between policy initiatives for sustainable development and policy initiatives for innovation, with the latter understood as a subservient goal to the former. In the context of furthering our understanding of EPI, this means a focus on the trade-offs (and possible synergies) between the environmental/ecological dimension of SD and initiatives to further innovation. It should also be recognized, however, that the issue of integrating innovation policy with the other two dimensions of SD – economic and social concerns – can also be a matter of trade-offs and controversy; and that the SD dimensions should take precedence here also. In short, the normative analysis indicates: (a) that the environmental/ecological dimension (understood as threats to the capacity of natural life-support systems to satisfy essential human needs) should be considered "trump" over the other dimensions of SD; and that (b) all three SD dimensions should be considered "trump" over innovation. The prospect that innovation is crucial to economic growth (value creation), and therefore trump over both existing economic and welfare conditions, constitutes a first threshold of a "canon of judgement" for resolving trade-offs; with the relationship between innovation concerns and environmental/ecological concerns viewed as a second, more demanding, threshold.

5. The benchmarks for VEPI and HEPI can be used as processual standards for evaluating the existence of institutions and procedures that are either designed to – or have the capacity to – effect environmental-innovational integration. At present, there is reason to claim: (a) that existing procedures and institutions for effecting policy integration for sustainable development are both insufficient and non-connected (Hovden and Torjussen 2002; Torjussen 2002; ProSus 2003); and (b) that procedures and institutions for effecting policy integration between either environmental concerns more narrowly, or SD concerns more generally, and innovation are non-existent (Ruud and Larsen 2004).

6. The preliminary assessments put forth in point 5 require a more comprehensive and integrated evaluation of the SD-innovation relationship. By relating the results of such an evaluation to the categories identified in Table 1, it should be possible to map degrees of integration with respect to "environmental protection", "ecological modernization" and "sustainable development". Such a mapping can then be used as a point of departure for identifying barriers and prospects for change in relation to each type of integration, adding thereby considerable more substance to the discussion of "de-coupling" and "re-coupling".

7. Finally, the evaluation carried out under point 6 should provide a crucial discourse for discussing the implications – limits and possibilities – of "innovative de-coupling". At present advocates of communalistic and culturally transcendent solutions to non-sustainable development find *very* little to discuss with advocates relying on technological innovation to alter the quality of growth. A greater attention to their interests and solutions within the dimensions configured in Table 1 could provide a more fruitful dialogue for learning and change.

REFERENCES

Andrews, W.G. (1983), *International Handbook of Political Science*, Westport, Greenwood Pub. Group.

Bealey, F. (ed) (1999), *The Blackwell Dictionary of Political Science*, Malden, Blackwell Publishers.

Bemelmans-Videc, M.-L., Rist, R.C. and Vedung, E. (eds) (1998), *Carrots, Sticks and Sermons: Policy Instruments and Their Evaluation*, New Brunswick, Transaction Publishers.

CEC (2001), Commission of the European Communities, *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*, Commission's Proposal to the Gothenburg European Council, COM(2001)264 final, Brussels.

CEC (1995), Commission of the European Communities, *Green Paper on Innovation*, Brussels.

CEC (1996), Commission of the European Communities, *The First Action Plan for Innovation in Europe: Innovation for Growth and Employment*, Brussels.

CEC (2003), Commission of the European Communities, *Innovation Policy: Updating the Union's Approach in the Context of the Lisbon Strategy*, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, COM(2003) 112, Brussels 11.3.2003.

CEC (2004a), Commission of the European Communities, *Innovate for a Competitive Europe: A New Action Plan for Innovation*, Brussels 2.4.2004.

CEC (2004b), Commission of the European Communities, *Stimulating Technologies for Sustainable Development: An Environmental Technologies Action Plan for the European Union*, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, COM(2004) 38, Brussels 28.1.2004.

Collier, Ute (1994), Energy and Environment in the European Union, Aldershot, Ashgate.

Dahl, R.A. (1997), "Procedural democracy", in R.E. Goodin and P. Pettit (eds.), *Contemporary Political Philosophy: An Anthology*, Oxford, Blackwell, pp. 109-27.

EEA (European Envioronment Agency) (2001), Environment in the European Union at the Turn of the Century, Copenhagen.

Easton, David (1965), *A framework for political analysis*, Englewood Cliffs, N.J., Prentice Hall.

Fergusson, M., Coffey,C., Wilkinson, D., and Baldock, D. (2001), *The Effectivess of EU Council Integration Strategies and Options for Carrying Forward the "Cardiff" Process*, Vols. 1 and 2 (Annexes), London, Institute for European Environmental Policy.

Gallie, W.B. (1956), "Essentially contested concepts", *Proceedings of the Aristotelian Society*, Vol. 56: 167-198.

Greenstiein, F. and Polsby, N. (eds), (1975), *Handbook of Political Science*, Reading MA, Addison-Wesley.

Goodin, R.E. and Klingemann, H.-D. (eds.) (1996), *A New Handbook of Political Science*, New York, Oxford University Press.

Hertin, J., Berkhout, F., Moll, S. and Schepelmann, P. (2001), *Indicators for Monitoring Integration of Environment and Sustainable Development in Expertise Policy*, Final Report, Brighton, SPRU, University of Sussex.

Hill, Michael (1997), *The Policy Process in the Modern State*, Englewood Cliffs, Prentice Hall.

Hovden, E. and Torjussen, S. (2002), "Environmental policy integration in Norway", in Lafferty, W.M., Nordskag, M. and Aakre, H.-A. (eds), *Realizing Rio in Norway*, Oslo, ProSus, pp. 21-42.

IEEP (2001), International Institute of European Environmental Policy, *Manual of Environmental Policy*, London.

Kalvelage, C., Melone, A.P. and Segal, M. (1984), *Bridges to Knowledge in Political Science*, Pacific Palisades, Palisades Publishers.

Kraemer, R. A. (2001), *Results of the "Cardiff-Proceses" – Assessing the State of Development and Charting the Way Ahead*, Report to the German Federal Environmental Agency and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Research Report Number 299 19 120 (UFOPLAN), Berlin, Ecologic.

Jones, L.F. and Olson, E.C. (1969), *Political Science Research: A Handbook of Scope and Methods*, Longman.

Knutsen, Jørgen K. (2001), "Energi og Miljø: Fra Separasjon til Sektorintegrasjon En Studies av Emnergipolitisk Styring og Miljøansvar på Departementsnivå i Danmark og Norge", Graduate thesis in Political Science, Department of Political Science, University of Oslo.

Lafferty, William M. (1996), "The politics of sustainable development: Global norms for national implementation", *Environmental Politics* Vol. 5, p. 185-208.

Lafferty, William M. (ed) (2001), *Sustainable Communities in Europe*, London, Earthscan Publications.

Lafferty, William M. (2002), "Adapting Government Practice to the Goals of Sustainable Development", ProSus Working Paper 1/02, Oslo, ProSus, University of Oslo.

Lafferty, William M. (2004), "From environmental protection to sustainable development: The challenge of decoupling through sectoral integration", In W.M. Lafferty (ed.), *Governance for Sustainable Development: The Challenge of Adapting Form to Function*, Cheltenham, UK: Edward Elgar.

Lafferty, William M. and Hovden, Eivind (2003), "Environmental policy integration: Towards an analytical framework", *Environmental Politics*, Vol. 12, No. 3, pp. 1-22.

Lafferty, William M. and Langhelle, Oluf (1999), *Towards Sustainable Development*, London, Macmillan Press Ltd.

Lafferty, William M. and James Meadowcroft (eds) (2000), *Implementing Sustainable Development: Strategies and Initiatives in High Consumption Societies*, Oxford and New York, Oxford University Press.

Lane, Robert E. 1991. *The Market Experience*, New York and Cambridge, Cambridge University Press.

Lane, Robert E. 2000. *The Loss of Happiness in Market Democracies*, New Haven, Yale University Press.

Lenschow, Andrea (2002), *Environmental Policy Integration: Greening Sectoral Policies in Europe*, London, Earthscan Ltd.

Liberatore, Angela (1997), "The integration of sustainable development objectives Into EU policymaking: Barriers and prospects", in Susan Baker, et al., *The Politics of Sustainable Development*, London, Routledge, pp. 108-126.

Mayne, J. and Zapico-Goñi, E. (eds) (1997), *Monitoring Performance in the Public Sector*, New Brunswick, Transaction Publishers.

MoE (2001), Ministry of the Environment Sweden, *Environmental Integration Into EU Sectoral Policies: A Presidency Synthesis Report on Progress and Achievements*, Report of the Swedish EU Presidency to the European Council, Gothenburg, EUM 2001/851/I, Annex, Stockholm.

Nagel, S. S. (2002), *Handbook of Public Policy Evaluation*, London, Sage Publications.

Nilsson, M. and Persson, Å. (2003), "Framework for analysing environmental policy integration", *Journal of Environmental Policy & Planning*, Vol. 5, No. 4, pp. 333-359.

OECD (2001a), *Policies to Enhance Sustainable Development*, Paris.

OECD (2001b), *Sustainable Development: Critical Issues*, Paris.

O'Riordan, T., Cameron, J. and Jordan, A. (2001), *Reinterpreting the Precautionary Principle*, London, Cameron-May.

Parsons, Wayne (1995), *Public Policy*, Cheltenham, Edward Elgar.

Plano, J.C., Riggs, R.E., and Robin, H.S. (1982), *The Dictionary of Political Analysis*, 2nd ed., Santa Barbara, ABC-Clio.

ProSus (2003), *Skisse til Nasjonal Agenda 21: Kommentarer og anbefalinger fra Program for forskning og utredning for et bærekraftig samfunn*, ProSus Working Paper 1/03, Oslo, ProSus.

Remoe, S. (2002), "MONIT: Joint conceptual paper", Oslo, STEP Centre for Innovation Research.

Rieper, O. and Toulemonde, J. (eds) (1997), *Politics and Practices of Intergovernmental Evaluation*, New Brunswick, Transaction Publishers.

Rist, R. C. (1995), *Policy Evaluation*, The International Library of Comparative Public Policy, Vol. 3, Cambridge, Cambridge University Press.

Ruud, A. (2002), "Industry and environmental responsibility: From proactive to reactive public policies", in W.M. Lafferty, M. Nordskag, H.-A. Aakre (eds), *Realizing Rio in Norway: Evaluative Studies of Sustainable Development*, Oslo, ProSus.

Ruud, A. (2004), "Partners for progress?: The role of business in transcending business as usual", in W.M. Lafferty (ed), *Governance for Sustainable Development: The Challenge of Adapting Form to Function*, Cheltenham, UK: Edward Elgar.

Ruud, A. and Larsen, O.M. (2004), *Cohesion of Environmental and Innovation Policy in Norway*, ProSus Report 05/04, Oslo, ProSus.

Sabatier, Paul (ed) (1999), *Theories of the Policy Process*, Boulder, Westview Press.

SEPA (1999), Swedish Environmental Protection Agency, *Samordning och målkonflikter: Sektorintegreringens möjligheter och problem*, ("Coordination and Goal Conflicts: Prospects and Problems With Sectoral Integration"), Stockholm.

Statskonsult (2001), *Sektorvise Miljøhandlingsplaner* ("Sectoral Environmental Action Plans"), Notat 2001: 2, Oslo.

Torjussen, Solveig (2001), "Styring for en Bærekraftig Utvikling: En Evaluering av Offentlige Tiltak for Sektorintegrasjon i Norge fra 1987 til 2001", Graduate thesis in Political Science, Department of Political Science, University of Oslo.

United Nations (1994), *Agenda 21: Programme of Action from Rio*, New York, United Nations Department of Public Information.

Vedung, E. (1997), *Public Policy and Program Evaluation*, New Brunswick NJ, Transaction Publishers.

WCED (1987), *Our Common Future*, Oxford and New York, Oxford University Press.

Wilkinson, David (1988), "Steps towards integrating the environment into other EU policy sectors", in Timothy O'Riordan and Heather Voisey (eds), *The Transition to Sustainability: The Politics of Agenda 21 in Europe*, London, Earthscan Publcations, pp. 113-129.