

Chapter 11

MOVING OUT OF THE NICHE: INTEGRATING SUSTAINABLE DEVELOPMENT AND INNOVATION POLICY IN AUSTRIA

Brigitte Ömer-Rieder

Department of Regional Studies, ARC Systems Research GmbH, Seibersdorf, Austria

Katy Whitelegg

Department of Technology Policy, ARC Systems Research GmbH, Seibersdorf, Austria

This chapter discusses links between sustainable development and innovation policy in Austria. It looks at the way in which the two policy areas interact and the kind of mechanisms that facilitate communication between them. Following an overview of sustainability policy and the actors involved in its implementation, the chapter focuses on two case studies that play an important role in policy co-ordination between the two areas, based on an assessment of key documents and a series of interviews with policy makers and experts. The first case study concentrates on the research, technology and development (RTD) programmes in the area of sustainable technologies and the second focuses on the Austrian Sustainability Strategy as a policy co-ordination mechanism. The two case studies are assessed as part of the attempt to understand better the way in which innovation policy and sustainability policy interact. Although the two case studies are very different, they give useful insight into barriers and problems at the interface of the two policy areas.

Introduction

Over the last decade, policy makers in many European countries have concluded that the current segregated approach to policy making is no longer adequate to address the complexity of the issues they face. Segregated policy areas cause a number of problems for policy making. Not only do policies from neighbouring policy areas overlap, unco-ordinated policies may even pursue contradictory aims. Another problem occurs when cross-cutting areas that do not traditionally belong to a single policy area are not adequately addressed by any ministry and no responsibility is taken for them.

The trend towards increasing coherence and co-ordination in the policy-making process has been most pronounced in areas of policy making that are inherently cross-cutting. In areas such as sustainable development or science and technology policy there has been strong pressure to develop more appropriate co-ordination measures. A number of recent studies and workshops have supported the search for coherence in the area of innovation policy (Edler *et al.*, 2003; Boekholt and Arnold, 2002; Arnold and Boekholt, 2003; Smits and Kuhlmann, 2002). Although there is no such thing as a model of optimal

policy coherence, the authors agree that there are ways of conceptualising policy making for innovation policy that can improve the overall functioning of the system.

The problems inherent in politico-administrative systems in general and innovation in particular in most OECD countries are characterised by Edler *et al.* (2003, p. 5) as:

- A high degree of departmentalisation, sectoralisation of the political administration, and low inter-departmental exchange and co-operation.
- Heterogeneous, unlinked arenas: often corporatist negotiation deadlocks.
- Failure to restructure responsibilities in government because of institutional inertia.
- Dominance of the “linear model” of innovation policy approaches (and of related economists as consultants).
- Innovation policy focused on introduction of new technologies in small and medium-sized enterprises (SMEs), IPR (intellectual property rights) or VC (venture capital) issues, etc.
- Emerging multi-level governance in the context of European integration makes launching of “bridging/systemic” policy approaches more difficult.

A high level of segregation not only creates closed policy arenas in ministries and departments. The same way of thinking is often transposed to institutions such as universities and consultants that work closely for and with departments. Policy fields create their own arenas which leave little space for input from sources other than those that are close to them. Integration is made more difficult by the narrowness of the policy areas. This phenomenon has also been observed in innovation policy, especially when it is designed and implemented by different ministries and/or agencies.

Coherence and co-ordination are not goals in themselves, but tools. Depending on the policy field and the constellation of actors, different mechanisms can be used to increase the ability of the system to think in terms of the whole. These are based on the increased need to manage interfaces, to embed innovation policies in the broader socio-economic context and to increase learning and experimenting. The role of the state becomes that of moderator and enabler, allowing different parts of the system to communicate more effectively. This in turn supports collective decision making and implementation of policies and encourages learning within the system (Smits and Kuhlmann, 2002, p. 48).

To reduce overlaps and gaps between policy areas, an increasing number of governance mechanisms have emerged to fill the co-ordination gap (Glynn *et al.*, 2003, p. 5). Many of these new mechanisms take the form of councils, commissions or platforms that bring policy makers from different ministries together with non-policy specialists to discuss issues and formulate common policies and procedures. These bodies provide a useful basis for discussion and also improve the chances that initiatives in one policy area do not conflict with goals in another and that policies are co-ordinated. They do not, however, replace the policy process; policy decisions still remain with the ministries. The extent to which decisions taken in such forums must be implemented or taken into account by individual ministries differs from country to country and according to the subject matter. Although these bodies are increasingly seen as one of the best mechanisms for integrating policy fields, this greatly depends on how they are set up and the powers they are given. Not all such councils support policy integration attempts and some contribute to the further fragmentation of policy-making structures (Edler *et al.*, 2003, p. 19).

Specifically designed external mechanisms in horizontal areas of policy making are only a small part of the complex network of bilateral interactions that exists between individual policy areas. Recently, attention has turned to the way individual policy areas interact. Special focus has been given to innovation policy, not just as a horizontal policy area in itself, but as a policy area with specific and individual relationships with other policy areas. As in the case of innovation policy as a horizontal policy area, there is no one best-practice model defining what co-ordination and coherence of policy areas should look like. Countries and policy areas differ and require co-ordination mechanisms tailored to suit their specific needs.

Policy coherence between sustainable development and innovation

The most often used definition of sustainable development can be found in the Brundtland Report (World Commission for Environment and Development, 1987). According to it, sustainable development is a “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. It requires equal consideration of economic productivity, social balance and environmental protection. None of the three sustainability dimensions – economy, society and ecology – should develop at the expense of the others.

Innovation in the context of sustainable development is innovation that enables the social system to develop new ideas to support sustainability and to implement them. In the minds of the persons interviewed for this study, sustainable innovation refers more to new human behaviour than to new products and services. In the same manner, sustainable innovation policy is interpreted more broadly than financial support for specific technologies. Policy should enable people to try new behaviour and to develop innovations but should not define what sustainable innovations are. It should leave the search process to the relevant actors and enable them to search for ideas and implement them. According to the interview results, sustainable innovation policy is the design of a public framework that allows innovation processes. However, the interviewees described the current sustainability policy situation as a niche policy that hardly affects other policy fields.

Sustainable development policy in Austria is still strongly linked to environmental policy, the policy field from which it derives. This is clear from the fact that sustainability policy is mainly under the responsibility of the environment minister. Most interviewees view this situation critically and want to see this policy field as the one that spans all other policy fields. They say that sustainability policy should have a special position and strive for the integration of the idea of sustainability into all policy fields. However, this requires more awareness of sustainable development than is currently the case, given the little attention to the sustainability concept in policy, among the public and in the media.

National profile: sustainable development policy

Two important documents have marked Austrian sustainability policy in the last ten years. They are the national environmental plan and the national sustainability strategy. The following paragraphs give insight in their development and contents.

Austria was the second country after the Netherlands to develop a national environmental plan (NUP). The development of this document took about four years and involved more than 300 persons from science, the administration, the economy and experts from different organisations in seven working groups. The co-ordination of the

development process was under the responsibility of the Federal Ministry for Environment, Youth and Family Affairs. In 1995, the NUP was published and adopted by the federal government. The aim was to integrate environmental policy into all levels of policy making. For that purpose, goals and about 470 measures for seven sectors were worked out. The sectors were: energy, industry and trade; traffic and transport; agriculture, forestry and water resources; tourism and recreation industry; resource management; and consumption and consumer behaviour.

The NUP was an important step in Austrian sustainability policy, since it contained quality and environmental protection goals to reduce emissions of harmful substances and to treat natural resources with care. They are based on the perception that the carrying capacity of the Earth is limited and that global circular flows of matter must not be influenced irreversibly. Thus, the NUP corresponds to the concept of sustainable development. The NUP became quite popular in Austria owing to accompanying activities such as an exhibition called the “sustainability nature trail” which was shown not only in Vienna but also in the provinces, the preparation of a CD-Rom which constituted a virtual visit of the exhibition, and the publication of a so-called “Youth Environmental Plan (JUP)” which was set up as a complementary initiative to allow Austria’s youth to participate in national environmental policy.

A further development of the NUP is the Austrian national sustainability strategy which was published in April 2002. Its international roots go back to Agenda 21¹ which was adopted by the United Nations Conference on Environment and Development in Rio in 1992; a paragraph in Chapter 8 requires the preparation of sustainability strategies to adjust national economic, social and environmental policies. At the Rio+5 Conference in New York in 1997, the demand was more insistent, and 2002 was decided as the time horizon. Finally, the European Council in Gothenburg 2001 was an important initiating event, as the draft of the European sustainability strategy was discussed. Several member states of the European Union then started to develop national sustainability strategies.

The Austrian national sustainability strategy was prepared under the responsibility of the Federal Ministry for Environment, renamed the Federal Ministry for Agriculture, Forestry, Environment and Water Management (BMLFUW). It is a commitment by the federal government to sustainable development. It contains four comprehensive fields of action which are composed of five key objectives for sustainable development. Each key objective consists of a description of the challenge, goals and first steps. At the end of each field of action five to eight indicators are described.²

The strategy document mainly describes intentions; quantifiable targets with a date of implementation are not very concrete. Nevertheless, many experts think that, in general, the value of strategic political documents lies less in the documents than in the activation of discussion and implementation processes based on the documents. This is confirmed in the strategy document, which announced the intention to design the strategy as a “learning strategy” (Austrian Strategy for Sustainable Development, p. 109f.). This means that the structure and the process will be further developed according to needs that appear during the implementation process. This process and its assessment by several interviewees are described below.

Institutional mapping of actors, institutions and flows

An overview of all the actors that play a role in both sustainable development and innovation policy in Austria could involve all policy fields, as these are by nature horizontal and have links to all policy areas. However, this only holds if the two policy areas are interpreted in the broadest possible way. In most countries, and here Austria is no exception, innovation and sustainable development policy are not well-defined policies but are more often represented as strategies for co-ordination. Policies, and more importantly actors, in these areas tend to belong to more conventional policy areas such as science policy, technology policy and environmental policy. For this reason, the list of actors below falls into these areas.

Innovation policy

Innovation policy is comprised of a large number of actors on both the strategic and the implementation level whose responsibilities are not clearly defined and often overlapping. Evaluations have frequently referred to fragmentation as one of the barriers to the design and implementation of a coherent innovation policy in Austria. A recent evaluation (Arnold and Boekholt, 2003) of the two main research funds in Austria, the Austrian Industrial Research Fund (FFF) and the Austria Science Fund (FWF) concluded that:

- Overly fragmented policy delivery limits opportunities for building scale and for learning about policy delivery and about policies themselves.
- The funding system is hard to understand and is therefore a problem both for those who have to live with it and in terms of connecting it to developments in European R&D funding and performance.
- With many small agencies, it is hard to build critical mass and especially hard to afford the needed investment in capabilities for analysis and strategy development (strategic intelligence).
- There is a wide diversity of governance practice and therefore unclear interfaces between ministries (as principals) and agencies (their agents). In some cases, a ministry simultaneously maintains different governance styles in its relationship with a single agency about different activities. This incoherence helps prevent ministries and agencies alike from building the right amount of strategic intelligence to maintain a coherent division of labour.
- Differences in governance styles limit possibilities for individual agencies to serve multiple ministries.

Furthermore, to increase the confusion, the responsibilities and the organisation of actors within the policy field also change frequently, often within one legislative period. The current minister, Hubert Gorbach, is the fifth minister in the Federal Ministry of Transport, Innovation and Technology to take office during the coalition which began early in 2000 between the Austrian Freedom Party and the Austrian People's Party.

A mapping of actors and responsibilities directly involved in the design and implementation of innovation policy can be divided into ministries, research funds and programme management organisations. Four ministries are involved in innovation policy issues: the Ministry for Economics and Labour (BMWA), the Ministry for Transport,

Innovation and Technology (BMVIT), the Ministry for Education, Science and Culture (BMBWK) and the Ministry of Finance (BMF).

The main research funding agencies in Austria are, as mentioned above, the FFF and the FWF; the FFF concentrates on the private sector and the FWF on basic research. The funds support “bottom-up” or non-programme research activities. Although funding through strategic thematic programmes has increased in recent years, there are still few thematic programmes and the “bottom-up” approach is preferred. Having said this, some recently established programmes have been less of a strategic nature and more a bundling of individual research projects contracted by a ministry in a particular field. These often do not have the same quality criteria that the funds require (Arnold and Boekholt, 2003).

Other agencies include the Austria Wirtschaftsservice, the Division for Science-Industry Co-operation within the Austrian Research Promotion Agency (FFG), the Christian Doppler Gesellschaft, the Austrian Space Agency, the Ludwig Boltzmann Gesellschaft and the Anniversary Fund of the Austrian National Bank. Each has a budget to pursue its own goals, whether these are the Kplus centres (science-industry co-operation) or an individual area or type of research such as space (ASA).

In addition to the agencies with their own budgets, other organisations manage thematic programmes on behalf of the ministries. Some of these organisations specialise in programme management and have less competence on the content side while others have expertise in a particular field. The management consultant Trust Consult is an example of the first type of organisation and has provided the BMVIT with the management for the programme line Factory of Tomorrow. An example of the second type is provided by the ÖGUT (the Austrian Society for Environment and Technology), a well-known player on the Austrian sustainability scene. It manages the programme line Building of Tomorrow for the BMVIT. The contracts for programme management are given for the duration of the programme and are put out to tender again if the programme is continued. There is little exchange of experience between the management of the individual programmes and many different actors are involved in one programme period. This practice mirrors the general fragmentation in innovation policy discussed above.

Sustainable development policy

At the national level, the most important actor in Austrian sustainability policy is the Federal Ministry for Agriculture, Forestry, Environment and Water Management, under the responsibility of which the national environmental plan and the national sustainability strategy were prepared and co-ordinated. In addition, the chancellor gave the minister responsibility for co-ordinating the implementation of the national sustainability strategy. The ministry is divided into four departments, one of which, “sustainability and rural areas”, might be viewed as the competence centre for sustainability. Since 2002, the ministry has co-ordinated sustainability-oriented activities horizontally but also vertically (between the national and regional levels).

The Corporate Social Responsibility (CSR) Initiative Austria³ is a co-operative initiative started in late 2002 by the Federal Ministry of Economics and Labour, the Austrian Federal Economic Chamber and the Federation of Austrian Industry. It aims to achieve two goals: first, to show how Austrian businesses work for the state and society and second, to motivate entrepreneurs to intensify their efforts to that end and to encourage them to communicate these efforts to a broader public. CSR is based on the conviction that economic gains and responsible actions are not mutually exclusive and may give Austrian companies an advantage in terms of location. One of the CSR’s most

important activities is the yearly award show “Trigos”, which is designed to give companies an incentive to include CSR in their business strategy and to support public awareness for CSR.

Apart from these two initiatives at national level, many important actors work on sustainability-oriented activities at the regional level. It is a characteristic of the Austrian sustainability policy-making structure that the regional level plays an even more active role than the national level. Some of the nine provinces strongly support sustainable development by giving responsibility to relevant institutions in their administration structure or by establishing sustainability consulting organisations outside the administration and giving them financial support. These organisations and institutions have been initiating activities in the field of sustainable economy (*e.g.* Economy Initiative in Styria or the EcoBusinessPlan in Vienna), in the field of sustainable social development (*e.g.* Social Capital in Vorarlberg) or in supporting and facilitating local Agenda 21 processes in their municipalities. The federal commitment to sustainability is also evident in the fact that three provinces – Upper Austria, Lower Austria and Styria – are preparing or have already published their regional sustainability strategies.

The main actors in the provinces are well connected through the sustainability co-ordinators conference which supports exchange of experience among the provinces.⁴ It is based on a declaration for the further development of environmental policy in Austria that was adopted by the speakers for environmental affairs of the provinces and the Minister for Environment in 1999. This declaration agreed upon an alignment of the future environmental policy with the concept of sustainability. At the annual conference of the speakers for environmental affairs in 2000, the establishment of an expert’s conference between the sustainability co-ordinators of the provinces and the national level was decided. Since then, sustainability co-ordinators meet twice a year to exchange experience and to develop and implement common strategies.

At the local level, there are some 200 local Agenda 21 processes. The local authority enters into a dialogue with its citizens, local organisations and enterprises to discuss how to obtain or improve quality of life in their living space. It is a new form of participatory work to develop and implement ideas and projects for a better future. It is important that all three dimensions of the sustainability concept are considered and that none is neglected in favour of the others. Local Agenda 21 processes usually follow several phases: development of a common guiding vision, guiding targets, measures and implementation. In many cases, the provincial administration provides financial support to the municipalities and connects it to quality assurance. The municipality has to commit itself to engage only well-educated and experienced process facilitators.

Policy co-ordination bodies

In addition to the ministries and regional actors, a number of inter-ministerial and intra-ministerial bodies support the integration of policy areas. Especially in the areas of innovation policy and sustainable development policy, these bodies play an important role in linking different policy areas. Most are either in innovation policy (Council for Science and Technology Development) and focus on the relationship between science, technology and innovation policy or in sustainable development policy (Business Unit Sustainable Development and the Committee for a Sustainable Austria) and concentrate on co-ordinating sustainable development policy with the BMLFUW and between all ministries.

The most important new addition to the innovation policy scene has been the Council for Science and Technology Development. It was established in August 2000 to advise the government, ministries and federal states on all matters concerning Austrian technology policy. The Council consists of eight members, four chosen by the BMVIT and four by the BMBWK. As well as advising on *ad hoc* issues, the Council is charged with developing long-term strategic plans for Austrian technology policy. Most recently it was responsible for reviewing the special funds (a total of EUR 508 million). These were not part of the normal science and technology funding and different ministries applied for funding of their initiatives. The Council reviewed and ratified each application according to a set of criteria focused mainly on the leverage effect for private-sector involvement. In addition, the Council tried to build a picture of all of the proposed initiatives and to look for overlaps and cases in which clearer definitions would be useful.

The involvement of the Council in distributing the special funds should not be underestimated. Previously, the ministries distributed such funding on their own without any external checks and balances. The Council brought a higher degree of transparency and standards to the formulation of individual programmes and initiatives, not simply by increasing the need for evaluation. On another level, the Council has begun to encourage interaction between the ministries and the programmes involved in sustainable development research. The FORNE initiative is an example and is described below.

However, these recent developments also have negative aspects. Competition among programmes has increased, as the Council decides among them. Its decisions are not based on long-term strategic planning but on which programmes most impress the Council members. It is questionable whether increased competition among ministries will also lead to increased co-operation.

Policy co-ordination in the field of sustainable development is mainly informal, and there are few formal institutions. Two interesting examples are described below. The first, the Business Unit Sustainable Development, co-ordinates the tasks of all departments within a ministry. The second, the Committee for a Sustainable Austria, co-ordinates the contributions of all ministries to the national sustainability strategy.

The Business Unit Sustainable Development was established as a unit covering all departments of the Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW). It is composed of representatives from all departments, the chairman and the bureau of the minister. Its main tasks are integration of sustainability in all of the ministry's policy fields through common planning and co-ordination of upcoming activities and thematic aims. This assures the coherence of the ministry's work. It functions as an in-house "think tank" and as a communication and co-ordination platform for sustainable development, and it develops a common strategy for the ministry's sustainability issues which is agreed with all departments. A special task of the business unit is to harmonise all sustainability-related fields in the ministry in order to implement the national sustainability strategy.

The Business Unit Sustainable Development is one of three business units in the BMLFUW. It aims to develop a planning culture for a time horizon longer than one year, so that specific topics can be worked on strategically. The visionary, identity-founding aspect is important. This business unit gives consideration to the fact that sustainable development is not a single discipline but an umbrella. The integration of sustainable development in all environmental policy fields may be a first step towards its integration in other ministries and policy fields like economics or transport. So far, no similar units

exist in other ministries. One interviewee suggested that it might be a good institution to copy, but that that sustainability is not a core concern in other ministries.

The “Committee for a Sustainable Austria” was established in 2002 as the main driving force to implement the national sustainability strategy. It consists of two to four delegates of each ministry, of representatives from social partners and of five sustainability experts from the provinces. Its main task is the preparation of work programmes to implement the national sustainability strategy. These programmes are published every two years. The committee members collect projects and measures that are under the responsibility of their organisations and assign them to the 20 guiding targets of the strategy. These projects and measures are consolidated in a draft of the work programme that is presented to the Council of Ministers and then published. As the work programmes for 2003 and 2004 show, they serve to inventory projects and measures according to the strategy’s 20 guiding targets. The second main task of the committee is to inform the federal government about the implementation of the strategy by preparing and publishing progress reports. The first progress report was published in June 2004; the next is planned for 2006. The committee may be the most important horizontal policy co-ordination body in the Austrian sustainability policy field and is described in detail below.

Co-ordination initiatives

This section describes individual initiatives and actions that play a role in supporting co-ordination of innovation and sustainable development policy. Two different types of initiatives should be mentioned in this context. First, there are initiatives that aim to increase co-ordination either within one policy area or between different policy areas. These are especially common in the area of sustainable development or in specific sectoral policy areas that cover more than one ministry or division. An example is the Austrian Forestry Dialog which aims to bring together all actors in the forestry sector. Second, there are initiatives at the interface between two policy areas, but not designed primarily with co-ordination in mind, such as the RTD programme Sustainable Technologies.

Participation in sustainability initiatives

As sustainable development requires consideration of economic, societal and ecological aspects at the same time, the issues are complex. Sustainability-related discussions therefore often involve conflicts of interests. Solutions to complex problems that are acceptable to as many interests as possible have to be found. Participation has always been a principle in sustainable development. It serves to include different opinions and interests and to find “socially robust” solutions that are accepted by most parties.

Although participation is an important criterion in sustainable development activities, few examples of successful participation in sustainability initiatives exist. The following example describes public participation during the preparation and development of the national sustainability strategy and brings out the difficulties involved.

Strategy development began with preparation of the Green Paper between March and May 2001 and continued with the elaboration of the strategy document. About 50 representatives from the ministries, social partners and non-governmental organisations worked on guidelines, fields of action and concrete measures that could be part of the strategy. Actors that worked throughout the strategy development process were: a steering group that led and managed the process (employees of the BMLFUW); a

commissioned moderator who supported the search for consensus and decisions; and a scientific editorial staff that wrote intermediate results and the document itself.

Between August and October 2001, a written survey was sent to 200 scientists to explore the necessary aspects of the strategy. The very low return of 20 answers can be interpreted as little interest in the strategy. The answers could be divided in three groups (Martinuzzi and Kopp, 2002, p. 10):

- Criticism of the preparation process of the strategy (doubt about the sense and gravity of the strategy; too little time for responding; insufficient involvement of science).
- Unspecific praise (for single statements in the Green Paper or for the initiative to develop a strategy in general).
- Representation of own scientific fields or interests (especially integration of the respondent's field of competence).

An Internet discussion platform was equally disappointing. A section of the Web site www.nachhaltigkeit.at provided information about the strategy development process and invited visitors to post comments. Although statistics show that about 1 000 persons visited the Web site, only 20 contributions were posted. It is difficult to know why this initiative was not more successful. Possibilities are a belief that responses would not be taken into account, fear of documenting one's position, or lack of interest in active participation.

The third participation initiative was the so-called plenum. It consisted of about 50 representatives from ministries, social partners, federal governments and non-governmental organisations who were nominated by their organisations. The plenum met four times and discussed the aim, course of action and quality criteria of the strategy, the contents and fields of action, suggestions for the guiding targets of the strategy, and the proposed text of the final version of the strategy. Unlike the other two initiatives, the plenum was relatively successful and efficient with a well-structured working process. The main reasons for its success were a good atmosphere and the expertise and possibilities for negotiation among the plenum members.

Research programmes in support of sustainable development

Research programmes are one of the main interfaces between innovation policy and other policy areas. Here innovation policy aims have to be reconciled with the aims of the sectoral or horizontal policy area. Austria has a long history of developing RTD programmes in the area of the sustainable development. The first, the Austrian Landscape Research Programme, was established in 1992. Since then, environmental and sustainable development research has grown and diversified. Currently, several RTD programmes aim to support sustainable development. The two main programmes in this area are "Technologies for Sustainable Development" of the BMVIT and "Provision" of the BMBWK. The BMLFUW has a programme called "PFEIL 05" that also supports the aims of sustainable development.

The main aims of the Austrian Landscape Research Programme were to reduce anthropogenic stock flows, to optimise the relationship between biodiversity and quality of life, and to support development options in landscape dynamics. The programme aimed to achieve these goals through research that secured the long-term economic and socio-cultural development of regions, research for ecological and societal stability, and

support for a dialogue between science and practical experience. The programme, which ran for ten years, ended in mid-2003.

A follow up programme called EcoForesightAustria was presented to the Council for Science and Technology Development in autumn 2001 for ratification. At the Council meeting of 9 April 2002, the Council decided not to fund the programme and recommended that the programme be integrated in appropriate activities of the BMLFUW (Council for Research and Technological Development, 2002). However, this turned out not to be feasible as a considerable proportion of the BMLFUW research funds are allocated to its own research and the testing institutes it is required by law to maintain. In addition, the contents of the EcoForesightAustria were quite different from BMLFUW activities.

For a few years, research on sustainable development, apart from the BMVIT's technology programmes (see below), was not funded. Only when the Council realised that it needed to put this type of research back on the agenda did sustainable development research stand another chance of receiving funding. This the Council did by organising a strategy process to create a new programme. It organised workshops and working groups to design a new programme. The final result was "Provision" which started in late 2004 and is scheduled to run for ten years. The programme will be divided into three phases, two programme phases and a synthesis phase. The first call for proposals was announced in September/October 2004. The programme has seven main areas of focus: risk assessment, sustainable living, integrated welfare, environmental balance, adaptable space, global responsibility and sustainable mediation.

In addition to the content-specific focus areas, the programme also aims to address a number of horizontal research goals including increasing international co-operation, improving co-operation between science and industry, increasing the participation of women in science, improving career prospects for young scientists, establishing continuous co-operation between research and education.

The BMVIT's Technologies for Sustainable Development is the main programme supporting sustainable technologies in Austria. It was established in 1999 and has three sub-programmes: Building of Tomorrow, Energy Systems of Tomorrow, and Factory of Tomorrow. Its main aims are to create new economic opportunities, increase the economical use of natural resources, consolidate Austria's position in the field of technology and create positive effects on the economy and on employment. According to the programme documents, this can be achieved by strengthening R&D competencies, encouraging interdisciplinarity and networking, and increasing the diffusion and application of R&D results. This programme is the subject of one of the case studies and will be dealt with further below.

A Research Strategy for Sustainable Development (FORNE)

In June 2004, the Council for Science and Technological Development ratified a research strategy for sustainable development that aims to co-ordinate the programmes described above. This process was initiated in reaction to new specifications introduced by the Council as part of its remit to try and increase the coherence of RTD funding in Austria. In 2004, the FORNE process led to the development of the Framework Strategy 2004 Plus (Paula *et al.*, 2004) which sets out the initiative's aims and objectives. The main aim of FORNE is to strengthen the field of research for sustainable development in Austria, to define common aims for sustainable development research in Austria, and to set future priorities. It brings together activities in the BMLFUW, BMBWK and the

BMVIT and aims to increase coherence between their RTD programmes. In addition, FORNE seeks further coherence of the activities of the ministries with the Austrian Sustainable Development Strategy. The framework programme produced in 2004 sets out methodological and strategic fundamentals and details the working practices. In one part it sets out the different types of research needed to answer the questions raised by the transition to sustainable development. In another part of the framework programme Austria's strengths in the area of research for sustainable development are portrayed both on a national and international level.

The establishment of FORNE has led to increased co-operation between programmes, better co-ordination of programmes, and discussions on new research methods for sustainable development. The ministries have also been able to exchange experience and co-ordinate co-operation with other national programmes and with the EU Framework Programme. In addition, the FORNE initiative not only gave the ministries the opportunity to exchange experience, but also to make this type of research more visible. It is no longer possible to obtain special funds without a clear strategy of how the programmes of the different ministries fit together. However, environmental research has not been one of the Council's top priorities and it took the Council a while to recognise its importance. One reason for the neglect was the Council's composition. None of its members came from this area of research so that there was little understanding of the area and no one to further its aims.

Co-ordination arrangements typical for the policy area

Policy areas interact. Whether they do so as part of a co-ordinated process or on a more *ad hoc* basis depends on structures and on the need for interaction. Integration between sustainable development policy and innovation policy in Austria provides an example of close physical proximity but little co-ordination on the formal level. Higher levels of interaction are found on the informal level where personal connections play an important role. There are few typical arrangements for interaction, and new constellations of actors, with varying degrees of integration, take form around each new issue. The extent of informal interaction among actors is difficult to determine and beyond the scope of this study. However, some general barriers and challenges to co-operation and collaboration can be observed when looking at specific activities that require interaction between the two areas.

Selected cases

This section looks at two activities in which concrete interaction between sustainable development and innovation policy can be observed. These activities have been selected for three reasons. First, they represent arguably the most important interfaces between these two policy areas in Austria. Second, both are activities with a concrete need for interaction. Third, the two case studies represent very different types of co-ordination mechanisms. The Austrian Sustainable Development Strategy was designed to co-ordinate different sectoral policies under a horizontal sustainable development strategy. The Programme Technologies for Sustainable Development was established and is managed by the innovation division of the BMVIT. It is not a specific co-ordination mechanism, but a policy initiative that requires the interaction of the two different policy areas.

The National Sustainable Development Strategy

European background and document preparation

At the request of the Helsinki European Council in December 1999, the European Commission developed a proposal for a European Sustainable Development Strategy for the Gothenburg European Council, called “A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development”.⁵ Instead of adopting this document, the European Council formulated 14 paragraphs under the heading “Strategy for a sustainable development” in the presidency’s conclusions.⁶ They contain a call to member states of the European Union to develop national sustainable development strategies. These paragraphs are said to be the European Sustainability Strategy.

In Austria, a group of about 15 experts – delegates from ministries, social partners and external consultants – prepared a Green Paper under the co-ordination of the environmental minister which was completed in May 2001. It was viewed as a basis for the National Sustainable Development Strategy and contained three fields of action which were incorporated in the later final version: quality of life in Austria, Austria as a dynamic business location and living spaces in Austria. The Green Paper was presented for the first time at the European Council in Gothenburg 2001 and then revised to produce the final document. This phase included about 40 representatives from ministries, provincial governments, social partners, lobbying groups and non-governmental organisations. Finally, the strategy draft was adopted by the Council of Ministers in April 2002.

The Sustainable Development Strategy contains four fields of action: Quality of life in Austria; Austria as a dynamic business location; Living spaces in Austria; and Austria’s responsibility. Each of these fields of action contains five key objectives which are prerequisites for sustainable development. They include a description of the current problems and their background and a list of concrete targets and approaches for achieving them. Several indicators are assigned to each of the four fields of action to measure progress. The target definitions in the strategy are more declarations of intent than clear quantifiable goals with a precise time horizon for implementation. For this reason, the European Commission, which analysed the different national sustainability strategies, categorised the Austrian one as a framing strategy and not as an action programme (European Commission, 2004).

Implementation process and structure

Since sustainable development is a cross-sectoral issue, many actors are involved in the implementation process:

- **Federal government.** The strategy is an initiative of the federal government. The implementation process is under the responsibility of the Federal Minister of Agriculture, Forestry, Environment and Water Management. All documents referring to the strategy are prepared by the administration and adopted or recognised by the Council of Ministers.
- **Steering group.** The group takes responsibility for both the preparation of the strategy document and its implementation. It consists of four delegates from the Federal Ministry of Agriculture, Forestry, Environment and Water Management. It designs the setting of strategic points in the implementation process, supports

the committee and forum in their work, and creates the framework conditions for preparing the strategy documents in time.

- **Committee for a Sustainable Austria.** Established in 2002, it is one of the most important actors in the strategy implementation process. Its main task is the preparation of the annual or bi-annual work programmes and progress reports for the federal government. It consists of representatives from all ministries (one or two persons per ministry), from different interest groups and four delegates from the Expert Conference of Sustainability Co-ordinators, an institution that supports the exchange of experience between sustainability actors in the provinces.
- **Forum for a Sustainable Austria.** Established in 2002, it consists of 45 experts from scientific organisations and non-governmental organisations in the environmental and social fields. It supports and advises the committee, *e.g.* by commenting on the committee's work programme drafts. The forum is a critical but constructive panel that introduces experts' know-how and identifies societal themes to be discussed as part of the strategy implementation process.

The implementation process has been in place for two years. There is criticism related for example to the fact that the Federal Minister of Agriculture, Forestry, Environment and Water Management – not the Federal Chancellor – is responsible for co-ordination. This is assessed differently by those involved. Some, especially those from environment-related fields, favour this assignment and argue that progress in implementation depends more on the personal dedication of the responsible minister or individuals in the ministries than on formal jurisdiction. Others say that the assignment inhibits equitable dialogue between the three dimensions of sustainability because the environmental dimension is overemphasised. Another consequence of the assignment is that the Ministry of Environment remains in its role as an institution which adds environmental aspects retrospectively to concepts and proposals instead of supporting the integration of the environmental dimension from the outset.

Nevertheless, the work processes are viewed as transparent and clearly structured by those involved. The implementation process is seen as a highly useful effort that brings together different actors. By defining it as a learning strategy, the necessary flexibility for adaptation during the implementation process – for example, corrections concerning the focus of future tasks – is ensured.

In June 2002, the Committee for a Sustainable Austria was constituted. It consists of delegates from all ministries, from lobbying institutions and four representatives from the Sustainability Co-ordinators Conference. It therefore ensures the linkage of institutions that are important for implementation of the strategy as well as the exchange of information on the fields of action defined in the strategy document. The committee ensures that sustainability issues are institutionalised as a priority in the administration and that the idea of an integrated view of ecological, economical and societal challenges is widely recognised (BMLFUW, 2003, p. 7).

Assessing the committee as a horizontal policy co-ordinating institution

The committee's work is assessed differently by the interviewees. Criticism relates to unbalanced handling of the different topics and slow progress. Discussions and decisions about whether specific topics are included or not in the documents take a long time. Some argue that the committee could be a good institution if it were not dominated by particular interests. Committee members' lack of formal authority leads to long feedback loops with

their organisations, the results of which have made some committee members cautious. Other interviewees, however, praise the implementation process as well-structured and democratic, offering an opportunity for ministries that do not focus on sustainability to become familiar with it or to look at their activities in this light. The committee's value lies especially in a more formal awareness building for sustainability than previously existed in Austria.

As mentioned, co-ordination sometimes take a long time because decisions have to be postponed while members collect their ministry's official opinion. Another difficulty is due to the complexity of the sustainability concept. Some topics to be agreed on are new both to some committee members and to their ministries. This puts an additional burden on the committee, its members and the ministries concerned.

During the committee's first period, in which committee members collected the sustainability-oriented projects and measures of all ministries, resulted in a good overview of initiatives on the national level. The result, a list of 200 measures or projects, was also criticised as a conglomeration of any and all initiatives that could be viewed as concerned with sustainability. About a quarter had been defined before the sustainability strategy was published. The value of the list was that the individual measures had not been considered in light of sustainability and that the list had not been regarded as a whole. Thus, this work can be viewed essentially as a learning and awareness-building process.

In the committee's second period, ten working groups were established to examine the contents of the projects and measures in depth. The groups consisted not only of committee members but also of members of the Forum for a Sustainable Austria. Each group focused on a specific topic, developed a common understanding of it, and suggested two or three concrete ideas for projects which had to concern at least two ministries; suggestions relevant to the competence of a single ministry were not accepted. At the end of this phase, 20 to 30 project ideas were developed. Some were chosen for implementation and are now at different stages of advancement.

A problem for implementation is the lack of any budget for projects and measures agreed on by the committee members. Most interviewed committee members find this a significant barrier. Projects that fall within the scope of the strategy can only be initiated if expenses can be covered from other budgets. Some committee members would like to see all ministries dedicate a specific percentage of their budgets to implementation activities. The budget could be used to initiate projects on which the committee members agree.

The quality of the committee's work depends on various factors. First of all, the dedication of the committee members plays an important role. Since the strategy goals are not binding and no clear political instructions exist, progress depends on individual goodwill and on the conviction of those involved. At the same time, the strategy process is an opportunity for delegates who are very interested in sustainable development but do not have the authority to set priorities in this field in their organisations. Strategy implementation activities provide them the opportunity to engage more actively in these issues.

The attitude of committee members also plays a decisive role. Members are nominated not by the co-ordinator of the sustainability strategy, the Minister of Agriculture, Forestry, Environment and Water Management, but by their organisations. As a result, they represent their ministries and not simply their own expertise. Some

interviewees criticised this method of choosing the committee members because it does not (sufficiently) take the individual conviction of the committee members into account.

A great deficiency of Austria's sustainability policy is the lack of debate in political forums. One interviewee noted the discrepancy between the diversity of sustainability activities and the lack of debate in parliament, for example. Moreover, the activities of the committee and sustainability activities as a whole are a relatively closed policy field within the environmental policy field and have little effect on other policy fields. The effectiveness of sustainability policy is therefore limited. This is a real weakness in Austria, in particular compared with countries like Germany, the Netherlands or Scandinavia where sustainability issues have already entered political forums.

There is little horizontal policy co-ordination through the work of the Committee for a Sustainable Austria because the administration works on the basis of bureaucratic logic and interests. As one of the interviewees explained, the administrative structure can be compared to many relatively autonomous little "boxes". This structure, which has developed over decades, leads to an efficient day-to-day routine but does not encourage strategic renewal. This presents a structural problem for dealing with horizontal issues. Moreover, from the view of ministry delegates, co-operation not only offers opportunities, there is also the danger of losing responsibility in a particular field and becoming redundant. For this reason, horizontal co-ordination requires high-level commitment as well as strong will to implementation.

After two years of work, some committee members have seen signs of fatigue in the group. For example, more and more of the nominated members no longer participate in the meetings but send a colleague. In addition, the work on concrete project ideas requires patience and persistence. It is a challenge for the steering group to cope with this situation and to find how to ensure the group's dynamism over time.

Conclusions

The major difficulty discovered during the study of links between innovation and sustainability policy is a lack of commitment to sustainability by politicians and by individuals in the ministries. This is not only due to individual conviction, but also to the political system and the way it works. Whereas the horizon for policy goals, measures and their implementation is an election period (four years in Austria), sustainability goals are more long-term. Politicians do not have incentives to work on more long-term visions and measures because they will not be rewarded for it. Some interviewees argue that the political system itself needs innovation to deal with sustainability.

Another general difficulty emerging from the case study is that there is not yet a clearly defined objective for a sustainable innovation policy. There is no common understanding of what sustainable innovation is or should be. In Austrian sustainability circles, it is widely thought that sustainability needs not only technological innovations and changes in the economic system, but also and especially institutional, social and system innovations. Interviewees considered that sustainability requires society as a whole to recognise this in view of current and forthcoming challenges and to act accordingly when decisions are to be taken in enterprises, in political institutions and in households. To limit the scope of this broad approach would mean limiting the scope of the search for sustainable solutions.

A further consequence of the problem of definition is the difficulty, even the impossibility, of defining clear, quantitative political targets for sustainable innovation. But policy making requires target definition, the development of appropriate measures and commitment to reaching the targets. While it was easy to define targets for end-of-pipe environmental technologies, which could be expressed in reductions of harmful substances per time scale, this is not possible for sustainable innovation policy. Since the goals and objectives of sustainable innovation policy are open, ways to achieve these goals need also to be open. The main problem is that every sustainable innovation can only be a single solution in a specific context. Policy in the sense of something that is generally valid is therefore difficult. Policy formulation for sustainable innovation strongly depends on the special context and framework.

Policy formulation and implementation of the Austrian Sustainability Strategy require activities that largely result from the initiative of those involved since the strategy goals are not binding. One interviewee stated that the strategy is a good basis and reference for engaging in sustainability issues but the success of the strategy depends on the will of the actors. Furthermore, it needs not only the engagement of the ministries, but also that of all institutions and societal groups. Within the Committee for a Sustainable Austria, members' institutional background is a deciding factor. Some committee members have more scope than others to bring the strategy into their organisation.

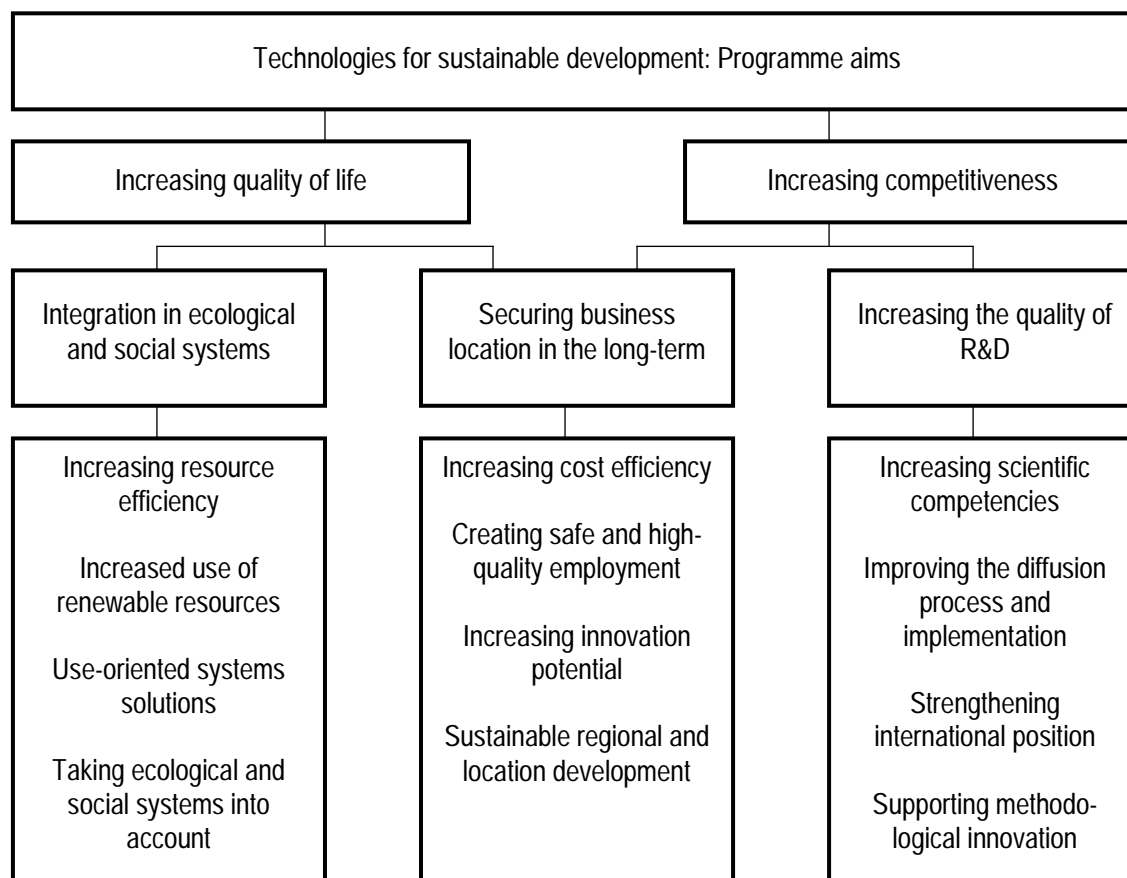
The approximation to what sustainable innovation could be requires a search process that involves people from all societal systems. The role of policy in this process is more to facilitate than to provide knowledge content. In the words of one interviewee, policy should mainly undertake to enable a participatory search process for sustainable innovations and provide the necessary preconditions. In this way, sustainable innovation policy means the organisation of the public framework so that renewal processes become possible.

The Technologies for Sustainable Development programme

Technologies for Sustainable Development is an Austrian RTD programme at the interface between innovation and sustainability policy. It attempts, by supporting innovation, to pursue economic growth without negative effects on the environment. The first programme line began in 1999, followed shortly by two others. The programme focuses mostly on technological development, leaving another Austrian R&D programme (Provision) to focus on the social and ecological aspects of sustainable development.

Programme overview

The main aim of the programme is to support research and development of future technologies and solutions in order to create new opportunities for an eco-efficient economy and to ensure quality of life for future generations. The programme builds on three pillars: the integration of ecological and social systems, securing the presence of businesses in the long term and increasing the quality of R&D. Figure 11.1 shows how the different pillars are to be integrated focusing on R&D as the interface. The programme seeks to ensure Austria's position in specific fields of technology, to create positive effects on the economy and on employment, while focusing on the economical use of natural resources.

Figure 11.1. Technologies for sustainable development: programme aims

Source: Modified from BMVIT, 2004.

The programme has three programme lines: Building of Tomorrow, Factory of Tomorrow and Energy Systems of Tomorrow. It began in 1999 with the programme line Building of Tomorrow, followed by Factory of Tomorrow in 2000 and Energy Systems of Tomorrow in 2003.

Factory of Tomorrow focuses on technological development in companies. It concentrates on areas such as production processes, renewable resources and new product concepts. In many cases the creation of new partnerships, co-operation initiatives and internal qualification processes are important prerequisites for innovation. The programme aims at demonstration projects and has so far financed projects for EUR 10.6 million.

The programme line Building of Tomorrow is based on developments in the area of solar energy and energy-efficient buildings and also aims to establish demonstration projects through research and development projects. These will be concentrated in the area of energy efficiency, use of renewable energy and ecological building materials in order to ensure high quality of life at acceptable cost. The projects will also focus on service and use aspects of urban structures. So far the programme has financed projects for EUR 17.8 million.

Energy Systems of Tomorrow is the most recent programme to be established and focuses on energy efficiency, use of renewable energy, questions relating to the functioning of the system and implementation strategies. Research and development strategies should provide the basis for model systems which can then be put into operation at the regional level. So far the programme has financed projects for EUR 5.9 million.

Background and development of the programme

The programme was initiated as a result of a 1998/99 government initiative which increased the budget available for R&D activities. The origin of Technologies for Sustainable Development can be found in a concept paper of February 1999 which outlined the relevance, the political framework, the experience to date, the current status and the future procedure for developing the programme. The programme was able to draw upon experience from previous actions of the ITF (Innovation and Technology Fund) Energy Technologies and Environmental Technologies. It was able to draw on the evaluation of these actions (Bruck and Gasser, 1996) and the recommendations made. The evaluation suggested that the subject area “Innovation for Sustainable Development” had “a high innovation potential and would be a follow-on theme able to deliver a significant contribution to resource efficiency” (Lang *et al.*, 1999, p. 9). Other suggestions put forward by the evaluation and taken up by the programme included taking the different phases of innovation into account. Development of the programme was also supported by the at:sd network (the Austrian Network on Technologies for Sustainable Development) which included all relevant actors from the economic side of research for sustainable development. They were very important in working out the basic principles and the thematic directions of the programme.

The concept paper drew on the above-mentioned inputs and put forward a first sketch of the programme detailing its understanding of the guiding principles of sustainable development and outlining concrete thematic areas for the programme. The areas initially chosen were: efficient use of energy and renewable energy sources; renewable resources, processes, products and services; sustainable regional economic development; implementation strategies; and institutional and structural innovation. Following the outcome of an initial call for ideas from the Austrian science community, six key actions were chosen for further development: solar energy; energy from biomass; sustainable building; renewable resources, processes, products and services; and sustainable regional economic development; and implementation strategies.

The ex ante evaluation of the key actions from the Sustainable Technologies Programme

The *ex ante* evaluation of the Technologies for Sustainable Development programme (Ohler and Knoflacher, 2000) reviewed the six key actions. Each was evaluated independently based on suggestions made for the action and its contribution to the whole programme. The evaluation considered content, organisation and economic aspects. It was based on criteria such as efficiency and transparency in programme implementation, clarity in development of aims and ability to test whether aims have been reached, inclusion of interdisciplinarity and the relationship between technological and socio-economic factors, the relevance of expected results for the overall aims of the programme, ability to implement the action and expected results, and the use of synergies with other key actions and other programmes.

The evaluation was very critical of the six key action lines and suggested that many aspects should be reconsidered. The evaluation asked why, although other types of innovation are referred to, technological innovation is stressed. It did not see a justification for the technological emphasis. Many of the criticisms were still referred to in interviews related to this project, in particular the links to other policy areas and the technological focus of the programme.

Co-ordination and co-operation

Links to policy initiatives

The only explicit link to concrete policy strategies or initiatives is the reference to the Austrian Strategy for Sustainable Development. The programme line Factory of Tomorrow is closely related to two of the 20 key objectives of the strategy, namely “Successful Management through Eco-efficiency” and “Strengthening Sustainable Products and Services”. Unlike the programme line Factory of Tomorrow, which does not define quantitative goals for improving resource efficiency, the Austrian Strategy for Sustainable Development requires increasing the productivity of resources by a factor of four. There are no specific plans for how this goal should be reached.

Links and co-operation with other programmes and initiatives

Formal links to other programmes in the area of sustainable development are provided for through the newly established FORNE framework initiative (described above). FORNE has greatly increased the visibility of research for sustainable development, an area that did not previously receive much attention from the Council. However, it remains to be seen whether it can also provide the ministries with a platform for increased co-operation within the programmes.

Most of the exchanges between the programmes in this initiative are informal. The civil servants responsible for initiating and running the programmes in the ministries know each other and meet regularly. They are therefore quite well informed about activities in the other ministries. However, few initiatives cross the borders of the individual ministries. Each has its own focus and its boundaries are clearly defined. This behaviour is slowly beginning to break down despite efforts by the Council that tend to decrease willingness to co-operate. The BMBWK will run an initiative designed to link with the start-up initiative in the Technologies for Sustainable Development Programme. Another such co-operation, still in its initial phase, is with the Seed Financing Programme, a programme that supports start-ups. The programme managers have begun to see if the two programmes can work together.

Other efforts at co-operation are more informal and take place at the level of the individuals who sit on programme panels of other programmes. Although such co-operation is informal it is a useful method of exchanging information and of ensuring that overlaps are avoided. One example is K-net,⁷ which focuses on bioenergy, a subject area close to Factory of Tomorrow. The BMVIT has a member on the panel that observes the work of the competence network. Another such centre, the Austria Bioenergy K-plus Centre, is also of interest to the BMVIT programmes. However, the centre focuses less on applied research.

The European ERA-Net initiative on linking RTD programmes in different countries is giving people who work with the programme a chance to exchange methods, views and practices. There are few links to other programmes that do not focus on sustainable development. The Division of Energy and Sustainable Technologies pursues its own agenda and interferes little with the other technology programmes in the ministry.

Addressing different policy goals

One of the issues that arose during this study was the complexity of issues surrounding the design and development of the programmes. Several criticisms were linked to the fact that institutes and organisations are funded without questioning whether they are moving in the right direction. The interviewees criticised the programme for focusing on individual technologies and not assessing their chances of success. They pointed out that agricultural agendas were taken into account when designing and developing new technologies but that industrial agendas were barely considered. The fact that there was an abundance of renewable resources available was acknowledged but there were few if any industrial partners willing or able to use the products. Value added was always theoretically possible but not always thought through. Technical and agricultural agendas set the direction.

Conclusions

The programme Technologies for Sustainable Development is the only initiative in Austria that focuses solely on the integration of innovation and sustainability. It is perceived as successful by the BMVIT which runs the programme and by many of the actors involved in sustainable technologies. However, the programme remains a niche programme and concrete links to other initiatives are not apparent. It is also heavily focused on technology development. This is a product of the Austrian separation of responsibilities between ministries. The BMBWK runs the programme on the more societal and behavioural aspects which are not addressed by the BMVIT. There have been very few co-ordinated activities in the past and only a few very specific ones are planned for the future.

There have been recent attempts to co-ordinate research for sustainable development, and all ministries pursuing research in this area have joined forces to design a framework for research activities. However, although a very useful exercise, the framework does not strengthen links with policies or strategies in other areas. The programme does not support concrete policies in innovation or sustainable development.

The way in which the programme was designed and established underlines this point. It was designed through a bottom-up process and with considerable contact with researchers. This led to a programme that was very much in tune with the research agendas of people in the field, but with little strategic input concerning the future direction of the programme in terms of supporting other policy initiatives.

The way in which the programme was set up and the narrowness of the focus is not only due to the specificities of this policy area. Many other programmes in Austria follow this pattern and co-operation is generally difficult on an aggregate level. Co-operation is also not encouraged by the system and recent activities of the Council for Science and Technological Development have done more to increase competition than to further co-operation.

Assessment

This section looks at the extent to which there is horizontal policy integration between innovation and sustainability policy in Austria. It is based on an analysis of the two case studies according to the following stages in the policy cycle:

- Setting directions (agenda setting/prioritisation, stakeholder involvement, using strategic intelligence).
- Horizontal co-ordination in policy formulation (interdepartmental collaboration, policy co-ordination at strategic level).
- Horizontal co-ordination in policy implementation (multi-principle approach, cross-agency initiatives).
- Policy learning (accountability).

Setting directions (agenda setting/prioritisation, stakeholder involvement, using strategic intelligence)

Individual policy areas in Austria are quite independent. They have considerable contact with stakeholders in these fields. However, the links between the policy areas are weak. There is little discussion between experts and on the political level about the interfaces. For example, there are few ideas about what sustainable innovation policy is or what it should look like. Therefore, the first step for any form of integration of the policy areas would be a common strategy. For instance, sustainable innovation policy would benefit if sustainable innovation were recognised as a necessity and an opportunity for future economic and societal development. It would need to become part of agenda setting across the policy fields. This is not presently the case.

Among the reasons for the lack of integrated agenda setting between the sustainability and innovation policy fields are barriers caused by the bureaucratic structure. As one of the interviewees explained, the administrative structure allows for an efficient day-to-day routine but does not encourage strategic renewal. This presents a structural problem for dealing with horizontal issues. Moreover, from the view of ministry delegates, co-operation not only offers opportunities, there is also the danger of losing responsibility in a particular field and becoming redundant. For this reason, horizontal co-ordination requires high-level commitment as well as strong will to implementation.

Horizontal co-ordination in policy formulation (interdepartmental collaboration, policy co-ordination at the strategic level)

Current links between departments of different ministries were in most cases established on the initiative of individuals in the ministries and are informal. Especially in the field of research for sustainable development, good mutual information exchange exists, e.g. between the BMLFUW and the BMVIT. One example of formal co-operation in sustainable development policy stands out: the Committee for a Sustainable Austria, which supports the implementation of the national sustainability strategy. It is valuable for spreading the idea of sustainability and for looking at the different activities of the ministries from the view of sustainability. However, the quality of co-operation among the committee members differs, depending on the level of their knowledge about sustainability issues and their ability to make their organisations aware of these issues.

The case study of the RTD programmes clearly shows that policy initiatives are developed on their own and are the responsibility of individual ministries, with few connections to other policy areas. In a similar way, the Austrian sustainability strategy was prepared under the responsibility of a single ministry, the BMLFUW. Representatives of other ministries participated through the so-called plenum but it met only four times and some interviewees doubted the seriousness of the offer to discuss the issues.

Horizontal co-ordination in policy implementation (multi-principle approach, cross-agency initiatives)

Implementation of policy initiatives in Austria usually takes place in individual policy areas. Because policy making takes place in small policy niches, there is little cross-policy implementation. Most sustainability activities take place in the provinces. The provincial governments are smaller units that implement activities relatively autonomously. Provinces such as Styria and Vorarlberg are especially active in implementing sustainable innovations, but the initiatives come mostly from the administration, not from the political level. At the local level, there are about 200 Agenda 21 processes. Lower government and administration levels seem to be more successful in implementing sustainable development than the higher ones.

Policy learning (accountability)

Evaluations are an indication that learning plays a role in policy formulation and policy implementation. There have been several evaluations of the RTD programme Technologies for Sustainable Development and there is also an evaluation tender planned for the Sustainable Development Strategy. Although these evaluations effectively take place, the question of how the results are used remains, and there is evidence to show that they are not always used.

In the area of sustainable research, the FORNE exercise shows that there is willingness to learn and to discuss and integrate different viewpoints. The ministries involved in sustainability research have developed a framework for their activities.

On another level, the Austrian Sustainable Development Strategy is conceptualised as a learning process. The fact that, with the establishment of the Committee for a Sustainable Austria, the different ministries have been brought to the same table to discuss sustainable development should not be underestimated. However, care needs to be taken to ensure that it does not end up being an umbrella under which ministries continue to carry on their own activities.

Conclusions

Investigation of the links between the sustainable development and innovation policy revealed three main constraints which seem to be pivotal points for strategies to improve policy co-ordination:

- **Lack of common understanding about “sustainable innovation” and “sustainable innovation policy”.** There is a need to initiate a broad discussion about the question of what sustainable innovation is, why it is important and what a sustainable innovation policy needs. In the minds of interviewees, sustainable innovation is broader than new products and services and the main challenge for all groups in society is to develop and implement new ideas to support sustainable development. Interviewees also interpret sustainable innovation policy more broadly than, for example, financial support for specific technologies like solar energy. If policy is understood as the solution of common, public and general problems, sustainable innovation policy has to set conditions under which people will be innovative independently of where they act. According to the interviews, sustainable innovation policy is the design of a public framework that allows innovation processes. Until discussion of the meaning of sustainable innovation and sustainable innovation policy takes place, the question of how to organise co-operation will be secondary.
- **Differences in the acceptance and embedding of innovation and sustainability in the political system.** Innovation and sustainable development are embedded differently in ministries. While innovation is an explicit part of the BMVIT and well accepted, sustainable development today is not an explicit policy area but part of environmental policy and located within the BMLFUW. Sustainability is not taken as seriously as innovation as a political task. It lacks attractiveness owing to its prescriptive character (you should do...) on the one hand and its abstractness and complexity on the other. Politicians have little incentive to work on sustainable development and to give financial support to sustainability-oriented projects. A sustainable innovation policy requires accepting sustainability as an important and trend-setting policy issue and making this manifest in political structures.
- **Lack of authority in policy co-ordination boards.** All interviewees were of the opinion that establishing more boards or panels will not make policy co-operation happen. The more important question is how existing boards could improve their work and design it more efficiently. The Committee for a Sustainable Austria lacks power of authority (like other sustainability boards, e.g. the sustainability co-ordinators conference). This derives also from the fact that sustainability is still strongly bound to environment policy and is mainly under the responsibility of the environment minister. To intensify policy co-ordination in existing boards requires separating them from the environment policy sector, giving them access to higher policy levels (e.g. federal chancellor) and a clear political commitment.

Sustainability policy in Austria is a policy niche that is positioned in the bureaucracy rather than in politics and is driven by a few people dedicated to the sustainability idea. This policy niche has proved quite successful, not because it is very effective but in comparison to sustainability policies in other European countries and the possibilities of this complex and abstract policy field. Innovation policy has many similarities to sustainable development policy. It also has certain niche characteristics and has developed its own way of thinking, its own programmes and initiatives. At the same time, and again like sustainable development policy, it has many interfaces with other policy areas and cannot fully play its role without recognising and encouraging interaction. These links are not as established as they could be and innovation policy is only starting to see itself as a horizontal policy area and to move out of its niche. Given this type of

behaviour in the two policy fields, it is hardly surprising that the links between the two are few and far between. Apart from very specific initiatives, there is little recognition of the importance of linking the two policy fields. However, as both policy areas move out of their niches and see their role as more interactive, there is the potential for greater co-operation. Innovation can become more important as a key driver for developing sustainability policy and sustainability policy can gain more acceptance in innovation policy.

Notes

1. www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm.
2. www.nachhaltigkeit.at/strategie/pdf/strategie020709_en.pdf.
3. <http://csr.m3plus.net/website/output.php>.
4. www.nachhaltigkeit.at/netzwerke.php3?koord_netz.html.
5. www.nachhaltigkeit.at/strategie/pdf/EU_nachstrat_en.pdf.
6. http://ue.eu.int/ueDocs/cms_Data/docs/pressData/de/ec/00200-r1.d1.pdf.
7. K-net are competence networks that aim to support industrial research and technology transfer. They have a strong focus on SMEs.

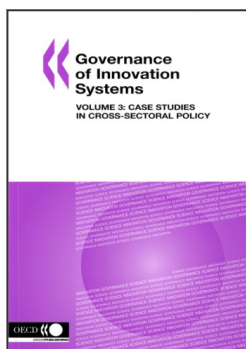
References

- Arnold, E. and P. Boekholt (2003), “Evaluation of the Austrian Industrial Research Promotion Fund (FFF) and the Austrian Science Fund (FWF): Synthesis Report”, Technopolis, Brighton.
- Boekholt, P. and E. Arnold (2002), “The Governance of Research and Innovation. An International Comparative Study”, Country Reports. Technopolis, Amsterdam.
- Bruck, M. and S. Gasser (1996), ITF Programmanagement Energietechnik – Evaluierungsgutachten, Vienna.
- Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (2003), “200 Maßnahmen für ein nachhaltiges Österreich. Das Arbeitsprogramm 2003 zur Umsetzung der Österreichischen Nachhaltigkeitsstrategie”, Vienna.
- Bundesministerium für Verkehr, Innovation und Technologie (2004), “Zwischenbilanz 2004”, Impulsprogramm Nachhaltig Wirtschaften, Vienna.

- Council for Research and Technological Development (2001), Recommendation of 27 June 2001, http://www.rat-fte.at/files/empf_020409_sondermittel5.pdf
- Edler, J., S. Kuhlmann and R. Smits (2003), “New Governance for Innovation. The Need for Horizontal and Systemic Policy Co-ordination”, Fraunhofer ISI Discussion Papers, Innovation System and Policy Analysis, No. 2/2003, Institute Systems and Innovation Research, Karlsruhe.
- European Commission (2004), “National Sustainable Development Strategies in the European Union: A First Analysis by the European Commission”, Commission staff working document, Brussels.
- Federal Ministry of Agriculture, Forestry, Environment and Water Management (2002), “A Sustainable Future for Austria”, The Austrian Strategy for Sustainable Development, Vienna.
- Glynn, S., P. Cunningham and K. Flanagan (2003), “Typifying Scientific Advisory Structures and Scientific Advice Production Methodologies (TSAS)”, PREST, Manchester.
- Lang, R.W., T. Jud and M. Paula (1999), “Konzept Impulsprogramm Nachhaltig Wirtschaften”, BMWV, Vienna.
- Martinuzzi, A. and U. Kopp (2002), “Die Erstellung der Österreichischen Nachhaltigkeitsstrategie. Process Review and Lessons Learnt”, Diskussionspapier 02/2002 der Schriftenreihe des Forschungsschwerpunkts Nachhaltigkeit und Umweltmanagement, Wirtschaftsuniversität Wien.
http://www.nachhaltigkeit.at/bibliothek/pdf/nstrat_review.pdf
- Ohler, F. and M. Knoflacher (2000), “Evaluierung des Impulsprogramms ‘Nachhaltig Wirtschaften’”, OEFZS-Bericht-S-0059, Seibersdorf.
- Paula, M., C. Smoliner and B. Tiefenthaler (2004), “FORschung für Nachhaltige Entwicklung. FORNE Rahmenstrategie 2004 plus”, BMBWK, BMLFUW, BMVIT, Vienna.
- Smits, R. and S. Kuhlmann (2002), “Strengthening Interfaces in Innovation Systems: Rationale, Concepts and (New) Instruments”, report for the EC STRATA Workshop “New Challenges and New Responses for S&T Policies in Europe”, Brussels, 22-23 April.
- World Commission on Environment and Development (1987), *Our Common Future*, Oxford University Press.

TABLE OF CONTENTS

	Foreword	3
	Executive Summary	7
<hr/>		
<i>Part 1.</i>	<i>Governance and the Information Society</i>	<i>11</i>
<hr/>		
Chapter 1.	Governance in Austrian Information Society Policy: Progress without Strategy?	13
Chapter 2.	Information Society Governance and Its Links to Innovation Policy in Finland	35
Chapter 3.	Information Society Policy Co-ordination: A Mould for Innovation Policy Development in Norway?	65
Chapter 4.	Innovation and the Information Society: Policy Coherence and Governance in Ireland	93
Chapter 5.	Horizontal Co-ordination of Innovation Policies: Information Society Policies in the Netherlands	115
Chapter 6.	Information Society Governance in Greece: “One Swallow Does Not Make a Summer”	145
Chapter 7.	Towards the Information Society: The Case of Sweden	169
<hr/>		
<i>Part 2.</i>	<i>Governance in Sustainable Development</i>	<i>171</i>
<hr/>		
Chapter 8.	Policy Integration: The Case of Sustainable Development in Finland	191
Chapter 9.	Environmental Policy Integration: How Will We Recognise It When We See It? The Case of Green Innovation Policy in Norway	221
Chapter 10.	Linking Innovation Policy and Sustainable Development in Flanders	245
Chapter 11.	Moving out of the Niche: Integrating Sustainable Development and Innovation Policy in Austria	271
Chapter 12.	Patchwork Policy Making: Linking Innovation and Transport Policies in Austria	297



From:
Governance of Innovation Systems: Volume 3
Case Studies in Cross-Sectoral Policy

Access the complete publication at:
<https://doi.org/10.1787/9789264035720-en>

Please cite this chapter as:

Ömer-Rieder, Brigitte and Katy Whitelegg (2006), "Moving out of the Niche: Integrating Sustainable Development and Innovation Policy in Austria", in OECD, *Governance of Innovation Systems: Volume 3: Case Studies in Cross-Sectoral Policy*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264035720-13-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.