CPMR Discussion Paper 22

PROMOTING LONGER-TERM POLICY THINKING

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Foreword

This paper is the twenty-second in a series undertaken by the Committee for Public Management Research. The Committee is developing a comprehensive programme of research designed to serve the needs of the future developments of the Irish public service. Committee members come from the Departments of Finance, the Environment and Local Government, Health and Children, the Taoiseach, and Public Enterprise, and also from Trinity College Dublin, University College Dublin and the Institute of Public Administration.

This series aims to prompt discussion and debate on topical issues of particular interest or concern. The papers may outline experience, both national and international, in dealing with a particular issue. Or they may be more conceptual in nature, prompting the development of new ideas on public management issues. They are not intended to set out any official position on the topic under scrutiny. Rather, the intention is to identify current thinking and best practice.

We would very much welcome comments on this paper and on public management research more generally. To ensure that the discussion papers and wider research programme of the Committee for Public Management Research are relevant to managers and staff, we need to hear from you. What do you think of the issues being raised? Are there other topics you would like to see researched?

Research into the problems, solutions and successes of public management processes and the way organisations can best adapt in a changing environment has much to contribute to good management, and is a vital element in the public service renewal process. The Committee for Public Management Research intends to provide a service to people working in public organisations by enhancing the knowledge base on public management issues.

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General information on the activities of the Committee for Public Management Research, including this paper and others in the series, can be found on its world wide web site: www.irlgov.ie/cpmr; information on Institute of Public Administration research in progress can be found at www.ipa.ie.

Executive Summary

This study looks at ways of shaping and influencing the future rather than attempts to forecast it. The main focus is on improving the government's capacity to identify and address key, strategic and cross-cutting policy issues with a longer-term perspective. Longer-term in this context means anything from five to fifty years in the future. Issues such as demographic change, competitiveness, transport and environmental problems, social inclusiveness and equity all have long-term implications. We need to be anticipating now what may need to be done in the future and what actions need to be taken now to best place Ireland to address such issues. Coherent and co-ordinated thinking about the future is essential in an increasingly complex global environment.

The constraints on longer-term policy thinking

If longer-term policy thinking is so important, why is it not happening more often and more effectively than it is? While there are many examples of good practice, longer-term policy thinking in the public sector is patchy. In this study, based on interviews and the relevant literature, we identify a number of constraints impacting on the adoption of longer-term policy thinking:

- *The operation of the political/administrative interface.* Incentives acting on the political and electoral system largely drive a short-term focus on a limited range of issues. Accountability systems focus more on blame apportionment than on encouraging dialogue on the longer-term implications of policy options and choices.
- *Congestion and fragmentation in the system*. A lot of department officials' time is spent dealing with routine matters and with servicing the democratic process (preparing replies to parliamentary questions, responding to representations etc). Also, divisions within and between departments can mean that longer-term thinking on cross-cutting issues does not get done, as it is no one's responsibility.
- *Data deficiencies.* In some instances, there is an absence of relevant data to inform longer-term policy thinking. In other cases, data exist but staff may not have the time or the capabilities to pull the data together.

- *Limited skills base*. There are concerns in the system about the lack of skills and competencies within the civil service to develop appropriate longer-term policy options.
- *Linking longer-term and short-term priorities.* Some longer-term studies tend to be too far removed from current concerns. Linkages must be made to current priority issues if longer-term policy thinking is to be seen as relevant.
- *Co-ordination and prioritisation of research*. While some good work is being done, there is little linkage of relevant pieces of work, or sense of the government's main priorities, with regard to research on longer-term policy issues.

In summary, constraints are identified both in the demand for and the supply of longer-term policy thinking. Where one or both, demand or supply, is weak, longer-term policy thinking suffers as a consequence. Details of these constraints are outlined in Chapter Two.

Where is longer-term policy thinking being done well?

Both here in Ireland, and internationally, we found examples of good, longer-term policy thinking feeding into decision making. Given the constraints acting on longer-term thinking, these good practice examples illustrate what can be done to promote longer-term policy development.

In Ireland, good practice examples include:

- Technology Foresight Ireland, a foresight exercise which brought together scientists, engineers, industrialists, government officials and others to identify issues in need of strategic research, the emerging technologies likely to yield the greatest economic and social benefit and appropriate policy responses. The time horizon for the project was set at 2015.
- Agri Food 2010, where a committee was established to propose a strategy for the development of Irish agriculture and food over the next decade, following the agreement on Agenda 2000, and in the light of changes and challenges likely to evolve nationally and internationally up to 2010.

- The long-term issues group, in the Department of Finance, an ad-hoc group meeting together periodically to examine longer-term trends in public expenditure and the economic and budgetary implications of such trends.

Internationally, good practice examples include:

- A range of foresight exercises (similar to Technology Foresight Ireland) undertaken in different countries. These studies are concerned with improving understanding of possible future developments, the forces that structure them, and consequent policy choices, in diverse fields including science and technology, environmental issues and cultural issues.
- The Policy Research Initiative in Canada, established in the mid 1990s to (a) develop a stronger base of longer-term policy research on cross-cutting issues facing government and (b) enhance policy research capacity.
- Norway 2030, a project aimed at strengthening the capacity of the Norwegian public administration system to meet longer-term challenges and to improve strategic planning in ministries
- The Strategic Futures Project, run by the Performance and Innovation Unit in the Cabinet Office in the UK. This project aims to identify key future challenges facing the government and how these might impact on government objectives.
- The Forward Studies Unit of the European Commission, established in 1989. This unit reports directly to the President, monitors and evaluates European integration, develops longer-term views on specific issues and develops links with other forward studies institutes.

These, and other good practice examples, are discussed in some detail in Chapters Three and Four. Chapter Four also pulls together international experience as to how practice is being used to (a) stimulate the demand for longer-term policy development, and (b) stimulate the supply of longer-term policy thinking capacity.

What lessons can we learn so as to improve longer-term policy thinking?

What needs to happen to move longer-term policy development forward? Based on the good practice examples, interviews with key stakeholders and an extensive literature

review, we have identified a range of actions that can be taken by government departments and agencies to promote longer-term policy thinking. Details are given in Chapter Six. Actions can be grouped under four themes:

- generating the space and time for longer-term policy thinking: addressing structural and process issues
- conducting foresight exercises: using networks effectively to create futures scenarios and priority policy options
- establishing a common agreed agenda for longer-term, strategic and cross-cutting research: shaping the demand for longer-term policy thinkin g
- ensuring an effective supply of longer-term policy thinking: enhancing competencies and capabilities.

1. Generating the space and time for longer-term policy thinking

We have identified a number of actions that can help create a climate where longer-term policy development can take place. Three areas where developments can take place are (a) the political/administrative interface, (b) the design of work processes in organisations and (c) structural supports for longer-term policy development.

(a) The political/administrative interface

There is a need for improved dialogue between politicians and civil servants so as to encourage a culture where exploring options and trying various strategies is encouraged, in the knowledge that there will be some 'wins' but some 'failures' too. Also, civil servants should put all the options to ministers (including longer-term strategies) rather than self-censor and focus on the options seen as favourable in the short-term. Ministers and the government will then determine the policy choices to be made, taking account of the full range of options.

(b) The design of work processes

Work processes in departments and offices should be reviewed, so as to free up as much time and space as possible to concentrate on strategies and longer-term issues. A review of the Department of Education and Science illustrates the kind of actions open to organisations to re-design their work so as to give more time to longer-term policy development:

- Re-assess existing practices with regard to routine and time-consuming work loads and individual case work. Developing robust and transparent criteria for

decision making, and being pro-active with regard to the management of parliamentary questions and representations, can reduce the burden of detailed work.

- Devolve work to other organisations. Departments should assess the nature of the work undertaken, and determine if it could be done more efficiently by another agency or level of government.
- Consider creating a unit focused on cross-cutting, longer-term policy issues which do not readily fall to individual sections.

(c) Structural supports for longer-term policy development

Specific units dedicated to longer-term policy issues are one structural option for promoting longer-term policy thinking. Such units may either be located within government departments and agencies or be independent/academic units. Temporary/task-based networks are another option. Each has advantages and disadvantages, as illustrated in Table 1.

Determining the appropriate structural response depends very much on the nature of the task in hand. Unit and network structures may also be complementary, with units overseeing or co-ordinating a network approach to specific longer-term issues.

2. Conducting foresight exercises

The experience of Agri Food 2010, Technology Foresight Ireland and international foresight exercises is that, where done well, such exercises can make a significant contribution toward structured consideration of possible futures. Foresight exercises can be particularly helpful when dealing with complex, cross-cutting issues. We have identified a number of lessons from reviewing the conduct of such exercises:

- Link the futures orientation of the exercise to current concerns. If the initiative can be tied in with providing inputs to current or emergent policy issues (the production of the National Development Plan in the case of Technology Foresight Ireland, EU enlargement and world trade negotiations in the case of Agri Food 2010), there is greater chance of useful results arising from the exercise.
- Devote time at the planning stage. Large scale futures-oriented exercises require considerable planning and resourcing. Much can be learned from the experience of others, but this needs to be adapted to the particular circumstances of an individual exercise rather than simply copying what someone else has done.

Table 1

Structural arrangements for addressing longer-term policy issues

Structure	Examples	Advantages	Disadvantages
Government-based units	Strategic Policy Directorate (Dept. of Education); Performance and Innovation Unit (UK Cabinet Office); Forward Studies Unit (European Commission); Policy Research Initiative Secretariat (Canada)	• Create time and expertise within government for longer-term thinking to occur • Centrally placed to take on strategic, cross-cutting policies not 'owned' by line divisions	• Danger of policy issues being divorced from operational • Resource intensive in small organisations
Independent/academic units	Policy Institute (TCD); Copenhagen Institute for Future Studies; Finland Futures Research Centre; think tanks	• Can develop expertise in futures-oriented thinking that is cross-sectoral • Not constrained in their policy thinking by government priorities	• Danger of being divorced from operational realities of government departments • Can be overly 'academic' and insufficiently linked to current policy priorities
Temporary/ task-based networks	Long-term issues group (Dept. of Finance); foresight exercises (e.g. Technology Foresight Ireland; Agri Food 2010); Norway 2030; Strategic Futures Project (UK); Policy Research Initiative (Canada)	• While resource intensive during the task, not a permanent call on resources. Can assemble and disband project teams as necessary • Effective way of getting people who work in different policy spheres together on cross-cutting issues	• May not be sufficient on their own to build up capabilities to undertake strategic, longer-term thinking amongst participants • Can be cumbersome and time consuming if not managed effectively

– Make use of a steering committee to oversee the process, and expert panels to address specific issues if appropriate. A steering committee, comprising the main stakeholders, can provide co-ordination and control of the process, expertise, and a forum for the development of consensus. Expert panels can address specific

topics in detail. Selecting the right chair and secretary for the steering committee and panels is a critical determinant of success as is, in general, having high quality and committed membership.

- Appoint a high calibre secretariat, and recognise the time input needed for the secretariat to do an effective job. A good secretariat is needed for much of the on-going work of such exercises, and to oversee and co-ordinate activities. The time input needed in planning for meetings, at meetings and between meetings should not be underestimated.
- Make use of topic experts to produce background papers and reports on key longer-term topics. Commissioning such expert inputs provides a degree of standing to the work and acts as a catalyst for detailed consideration of specific topics.
- Use foresight techniques such as scenario planning or the Delphi technique to structure longer-term thinking. Scenario workshops have been found to be particularly useful, both in developing alternative future scenarios, and in terms of testing and selecting robust strategies capable of implementation under a range of possible economic and social conditions. The scenarios approach is also a good way of getting participants to look beyond their own interests and priorities, generating a consensus view on the main issues to be addressed.
- Engage in structured consultation with stakeholders and the wider public. Invitations through the press for comments and the use of a dedicated web site are common means of disseminating information.
- Develop a plan of action as an implementation mechanism. To ensure that the findings from the futures-oriented exercise are translated into action, a plan detailing what should be done, when and by whom, is an important follow-up to the exercise.

3. Establishing a common agreed agenda for longer-term, strategic and cross-cutting research

Data limitations and problems with establishing an agreed framework for longer-term policy research are constraints on the development of informed longer-term policy thinking. International experience indicates that some governments are developing initiatives that set a broad, agreed agenda for key themes or issues to be investigated from a longer-term, cross-cutting and strategic perspective. In particular, there is a concerted

effort to create more structured linkages between governments and academia, with the aim of generating more policy-relevant research from academics and research institutions.

The Policy Research Initiative (PRI) in Canada represents the most comprehensive initiative of this type, and provides valuable lessons that could be applied with benefit in Ireland. A PRI-type initiative in Ireland could establish the government's longer-term research priorities, encourage collaborative research networks on the key research themes identified, and ensure the policy relevance of the research agenda.

4. Ensuring an effective supply of longer-term policy thinking

It is important that challenges such as the limited skills base and people working in isolation are addressed. Actions are needed to enhance both (a) the capacity and (b) the capabilities required to conduct longer-term policy development.

(a) Enhancing capacity

Some capacity issues have been addressed above, in terms of initiatives which can create more space and time for longer-term thinking within organisations. In addition to these actions, examples given in this study illustrate that there are other actions that organisations can take to enhance the capacity to undertake longer-term policy development.

- The creation of working/issue groups focussed on longer-term issues. The long-term issues group in the Department of Finance provides an example of what can be done.
- Assigning staff to work on projects with a longer-term focus. Such an approach can be a development and leadership opportunity for assigned staff. It is, however, resource-intensive, and requires administrative resources to be allocated in such a way that the day-to-day work can be re-allocated as necessary.
- Commissioning work on longer-term issues from relevant organisations. It is not always possible or desirable to address longer-term issues in house. External organisations, academic or consultancy, may provide space and expertise for new thinking on complex and longer-term issues. Where this is the case, the ability to manage the process internally is important, to maximise the resulting benefits. So too, where relevant, is skills transfer to the organisation from the external contractor.

(b) Enhancing capability

Ensuring that there are relevant skills and capabilities to address longer-term policy issues is a crucial supply issue. To this end, actions can be taken specifically targeted at improving the skills base:

- The development of networks of people and organisations involved in longer-term policy development provides a means of sharing good practice and promoting the creation of a community and culture of longer-term thinking. The networking activities of the Canadian Policy Research Initiative (conferences, workshops, website journal and the like) and the Australian Public Service Futures Forum provide models which could be adapted to an Irish setting.
- Training and development initiatives should encompass an understanding of the methodologies and practices associated with futures-oriented thinking. Longer-term educational programmes, such as masters degrees provided by the Policy Institute and the Institute of Public Administration, provide relevant material which could be developed further. Shorter-term courses such as the five-day policy analysis course run by the Centre for Management and Organisation development (CMOD) in the Department of Finance should be encouraged, and include specific futures-oriented aspects, such as an understanding of scenario planning and the other techniques outlined in Chapter Five.

Concluding comments

In the last few years, there has been a notable increase in the number of futures-oriented initiatives undertaken in the public sector internationally. Given the rapid pace of social, economic and technological change, longer-term policy development initiatives are needed to help determine appropriate policy options and inform current policy choices to meet the demands of the future.

A key message arising from this study is that, apart from the direct benefit of specific initiatives in longer-term policy development, the benefits arising from the process of engagement with longer-term issues can be as great. This is particularly so when fostering a culture supportive of longer-term policy thinking, where individuals can develop within their organisations and in their day-to-day activities. The embedding of longer-term

policy development faces many challenges and constraints. But where these challenges are addressed, the ability of the public sector to help shape the future, rather than waiting for it to happen and then responding, is enhanced.

1
Introduction

1.1 Focus of the report

This paper examines ways of promoting longer-term policy thinking in the public service. Structures and processes to encourage practical longer-term policies are examined, using examples from Ireland and internationally. Challenges to longer-term thinking are also identified. Tools and techniques such as scenario planning are assessed, and the strengths and weaknesses of different approaches examined.

1.2 Study background

Longer-term policy development is not an easy exercise. Making the time and resources available to promote longer-term thinking can be a challenge. Yet, more coherent and co-ordinated thinking about the future is increasingly important in complex societies.

Previous studies by the Committee for Public Management Research, such as *A New Change Agenda for the Irish Public Service* (Boyle and Humphreys, 2001) and *The Role of Strategy Statements* (Boyle and Fleming, 2000) have highlighted the issue of longer-term policy development as one which needs further attention. This point is also emphasised by NESC (1999) in their strategy report *Opportunities, Challenges and Capacities for Choice* where the need to improve quality longer-term policy decision making is emphasised: '… the capacity of the policy process to think long-term and cross-sector, and develop appropriate high-quality responses is open to question.' This point is recognised in the *Programme for Prosperity and Fairness* (2000), where in section 1.4.1 on modernisation in the civil service it is stated that: 'Initiatives to improve policy analysis and formulation and the management of complex policy issues will also be pursued. In particular, improved and more extensive use will be made of techniques to anticipate and explore better the breadth and depth of emerging policy issues.'

In discussing issues associated with longer-term policy development, it is important to bear in mind the constraints that exist. Much of the future is inherently unpredictable,

and to invest too much energy into developing precise pictures of the future is likely to be misleading and counterproductive. Some of the forecasting initiatives of the past illustrate the dangers involved. What is more important is developing and improving the process by which longer-term policy development and thinking about the future takes place.

Increased awareness of the importance of knowledge management, defined by Mayo (1998) as the 'management of the information, knowledge and experience available to an organisation', has led many organisations to recognise that, in an increasingly globalised world, the resources they devote to research, training and development may prove the key to competitive advantage. In trying to focus on becoming 'learning organisations' many leading companies have found that their greatest need is to capture and use the knowledge available to them. The impetus for governments is similar – an awareness of the importance of learning is likely to be critical to future success.

1.3 A historical context

The day-to-day decisions of government, no less than those of individuals, tend too often to respond to the pressures, the needs, the provocations and the opportunities of the moment. Good management demands the longer view (Whitaker, 1967).

The difficulties associated with promoting longer-term thinking on policy issues are not new. However, historically examples exist where the longer-term view has been taken. To illustrate this point we outline below a few examples in the past decades in the case of industrial policy where policy makers displayed a longer-term view.

T. K. Whitaker, when Secretary of the Department of Finance, working in collaboration with then Taoiseach Seán Lemass, was responsible for one of the most significant longer-term policy developments in Irish policy. From the early 1930s to the late 1950s the high tariff barriers and broad prohibition on foreign ownership of firms operating in Ireland were designed to promote the growth of indigenous manufacturing industries (Barry et al, 1999). Ó Gráda (1997) emphasises that by the late 1950s protectionism had failed and that few of the indigenous industries had matured to become sufficiently competitive in generating exports. Ó Muircheartaigh in *Ireland in the Coming Times* (1997) states that *Economic Development* (1958) was the intellectual springboard of this policy transition.

He emphasises that T. K. Whitaker initiated *Economic Development* upon his appointment as Secretary of the Department of Finance: *'Economic Development* recommended abandonment of the outmoded protectionist policy, adaptation to a free-trade world, encouragement of export-oriented expansion of industry and services, even if under foreign ownership, emphasis on productive investment in public capital budgets, and a more coherent, planned approach to national development.'

More recently with regard to industrial policy, the Culliton Report (1992) was published during a time of high unemployment and high government indebtedness (over 100 per cent of GNP). The remit of the group was 'to review and make recommendations on industrial policy in Ireland and on public policy generally as it affects industrial development (p. 17).' The review was to identify policies and measures to develop the internationally-trading indigenous industrial sector over the medium to long-term with a view to increasing employment and wealth creation. The Culliton Report gave a vision of Irish industry in the year 2000 following the implementation of its strategy. The review was influential in shaping subsequent policy developments.

Subsequently Forfás (1996), one of the bodies created post-Culliton to advance industrial policy, advocated in their report *Shaping our Future* that a longer-term public policy perspective was needed in order to maximise the exceptional opportunities for social and economic progress in the next decade. The report outlines the main elements of what a strategy for enterprise development over the next decade and beyond should encompass. The report takes a broad perspective on enterprise development, promoting, for example, relevant education and taxation policy developments. The study was driven by the interest of the then Minister for Enterprise in the need to promote longer-term thinking on policy issues.

Such industrial policy developments are examples of longer-term policy thinking from one sector. Other examples could be given, such as the contribution of educational reforms in the 1960s to the human capital base underlying the economic boom in the 1990s. Equally, there have been important developments in the information base underlying longer-term policy thinking. For example, John Blackwell's work for NESC and UCD in the 1970s and 1980s provided a blueprint for data provision and development of social policy in Ireland. Convery and McCashin (1995) state that John Blackwell's

study for NESC in 1978 provided a comprehensive critique of the official statistics available for economic and social policy and served as a guide to recommended improvements in the compilation, presentation and utilisation of official statistics. Allied to improving statistics he also prophetically 'argued for strategic changes in the organisation of research: a stronger role for multi-disciplinary activity, a more co-ordinated policy on the creation and maintenance of data archives, more liberal access to official data and most important of all, a national policy on the funding of social research' (Resource and Environment Policy Centre, Working Papers 31 and 38, Dublin 1986, cited in Convrey and McCashin, 1995).

However, despite some successes in the past, there remain significant challenges facing the widespread development of longer-term thinking, as noted in section 1.2. In particular, the challenges associated with the implementation of longer-term policy are not to be underestimated. Guiomard (1995) has criticised the bottleneck in the reform process in the political arena:

> We are up to our elbows in recipes: Culliton, Telesis, Commissions on this, that and the other. But the chefs hesitate at the breaking-of-the-eggs stage so there is rarely any omelette. The chefs are unsure whether any recipe would please all customers. Unhappy customers are noisy so they, above all, must be kept satisfied; a silent majority goes unnoticed in the presence of a raucous rump. The chefs, under pressure from the present electoral system, are keeping up a desperate – and hopeless – search for The Omelette That will Satisfy Simply Everybody. Meanwhile we get hungrier (p 5).

1.4 Terms of reference

The terms of reference agreed for this study are that it would:

a) explore the various possible institutional arrangements, networks and fora used both nationally and in other countries to promote structures and processes supportive of effective longer-term policy development;
b) examine and outline the strengths and limitations of tools and techniques available to support longer-term policy development; and

c) draw conclusions from the analysis of practice as to issues to be considered and appropriate approaches to be adopted when promoting and practising longer-term policy development in the public service.

1.5 Study approach and methodology

This study started in the spring of 2001 and was completed early in 2002. Several sources of information were used in compiling the report:

- The literature on longer-term policy development, both academic and from official government sources, was reviewed.
- Information on the structure and operation of a number of futures-oriented initiatives in other countries was accessed via the world wide web.
- Interviews were conducted with a range of government officials, officials from state agencies and academics involved in longer-term policy issues (see Annex one for details).

1.6 Report structure

Following on from this introductory chapter, Chapter Two briefly examines some of the challenges associated with promoting longer-term policy development in Ireland. In Chapter Three, some recent Irish developments in longer-term policy development are examined, and good practice highlighted. This is complemented in Chapter Four by a review of international experience. Chapter Five presents an overview of some of the main tools and techniques used to support longer-term policy development. Finally, in Chapter Six, conclusions are drawn and recommendations made to improve the capacity for longer-term policy development in the Irish public service.

2
Issues Concerning Longer-Term Policy Development in Ireland

2.1 Introduction

> The most obvious characteristic of the Department of Education and Science to a person coming from the outside is that it is a department which is overwhelmed with detailed day-to-day work which has to be given priority over long-term strategic thinking. It is one in which, as a member of senior management expressed it, 'the urgent drives out the important' (Cromien, 2000).

This quote, from a review of operations, systems and staffing needs in the Department of Education and Science (the Cromien Report, 2000) is one likely to sound true to many civil servants, not just those in the Department of Education and Science. In a similar vein, at the 2001 annual general meeting of the Economic and Social Research Institute (ESRI), the president of the ESRI emphasised the need for more longer-term strategic research. He indicated this was vital to address a number of key questions, including:

> What are the scenarios for the future after a period of rapid catch-up? What are Ireland's vulnerabilities and what are the relevant policy options and responses on the part of both the public and private sector? Is Ireland, for example, sufficiently integrated into the markets of the euro zone to deal with significant shifts in the relative strengths of the dollar, sterling and the euro? Is the social contract durable and would competitiveness, in its absence, be adequately safeguarded? Is the speed of deregulation and liberalisation within the services sector sufficient to support the competitiveness agenda? What is involved in terms of rebalancing the economy in the interests of greater inclusiveness and geographic equity without detriment to the existing engines of growth? (Quigley, 2001).

Clearly, there are challenges ahead which require a strong focus on longer-term, strategic policy issues. The ability to meet such challenges, as illustrated by the Cromien report, is itself likely to pose serious questions about the capacity and the capability of the public service to respond. In order to understand the nature of the challenges ahead and the

questions to be addressed, a wide range of interviews was conducted with civil servants, academics and others with an interest in longer-term policy (see Annex One). Based on these interviews, and information obtained from relevant literature, this chapter examines the current state of play with regard to longer-term policy development. Strengths in the system, as well as constraints on futures-oriented work, are identified.

2.2 Strengths and constraints regarding longer-term policy development

A significant point arising from the interviews is that, despite a natural tendency to focus on weaknesses in the system, there exist positive strengths with regard to longer-term policy development. Section 1.3 illustrates some of the historical good practice that exists. Interviewees frequently gave other examples of practical longer-term policy initiatives, for example in relation to renewable energy and global warming, pensions, transportation and land use plans, and technology. Similarly, examples were given of institutions and units that are promoting a longer-term perspective on policy issues, such as the Economic and Social Research Institute, Forfás, the Combat Poverty Agency and the econometrics unit in Teagasc.

The role of the likes of the Strategic Management Initiative and the National Anti-Poverty Strategy in moving civil service thinking towards a more futures-oriented perspective was also mentioned. So too, in a similar context, was the multi-annual programme-based planning associated with European structural funds and subsequently with the National Development Plan 2000-2006. Such initiatives have contributed to thinking beyond the current financial year, and moving the planning time horizon forward to more of a medium-term perspective.

But there was a recognition that the strengths in the system tended to be patchy and incomplete. Longer-term policy thinking appears more advanced in some policy spheres, such as industrial policy (particularly science and technology policy) and infrastructural developments, than in others. In many areas of social policy, for example, there is limited explicit longer-term policy thinking in evidence. Interviewees highlighted a range of constraints which impact on the widespread assimilation of longer-term policy thinking:

The operation of the political/administrative interface. Many interviewees indicated that, despite examples of individual ministers engaging with longer-term issues, the incentives acting on politicians and the political system largely drive a 'short-term' focus. Issues which arise in the media or associated with the electoral cycle become the main political priorities. This in turn influences the priorities of civil servants. A number of interviewees indicated that this can lead to a potential problem of civil servants self-censoring their advice to ministers; providing ministers with particular options that may be perceived as favourable in the short-term, rather than presenting all the options (including longer-term issues) and letting ministers determine the course of action to be pursued.

A further issue raised with regard to the political/administrative interface was the role of the committee system. The focus of committee enquiries as practised, it was suggested, lies primarily in apportioning blame rather than a dialogue on the longer-term implications of policy options and choices. In such a situation, it is the civil servant who acts cautiously who stays out of trouble, while those prepared to take justifiable risks and look longer-term may face difficulties.

Congestion and fragmentation in the system. Murray (2001) has indicated problems of congestion in the civil service, where the system is clogged up dealing with routine matters, many of which are frequently passed up the line. This point was emphasised by several of the interviewees. The day-to-day demands of the political process also make large demands on civil servants. For example, the Department of Public Enterprise, based on a review of information obtained from the performance management and development system, has noted that a significant amount of staff time is taken up by activities associated with servicing the democratic process, such as preparing replies to parliamentary questions, responding to representations, preparing ministerial speeches etc.

Fragmentation of departments and offices into units, historically set up to deal with specific issues, was also mentioned as an issue by interviewees. Allocating responsibility for addressing longer-term cross-cutting policy issues in such a system can be difficult, as it is not anyone's responsibility. This point is emphasised in the Cromien report: 'We were struck by the absence in certain line sections of any obvious thinking about policy

formulation and, indeed, by their perception that they had no responsibility for such matters' (Cromien, 2000).

Data deficiencies. Many interviewees, particularly but not solely those from academic institutions, mentioned problems with obtaining relevant data to inform longer-term policy thinking. There are two perceived problems with regard to data. One is the absence of data in particular instances. The second is where the data is held in the system, but staff do not have the time or the capabilities to pull the data together and produce useful information for longer-term thinking.

Limited skills base. The last point above, about capabilities to make effective use of data to inform longer-term policy, reflects a wider concern amongst interviewees concerning the skills base within the civil service to develop appropriate longer-term policy options. The need for relevant training and development supports to facilitate strategic longer-term thinking was mentioned by several interviewees. Examples exist of this taking place, but there was a view that this needs to be developed further. Similarly, even when contracting out work on longer-term issues to consultants, there is a need for people who know enough about the issues to manage the consultants. Skills transfer from consultants to the civil servants, or the lack of it, was also cited as an issue to be addressed.

Maintaining a linkage between longer-term and short-term priorities. Several interviewees mentioned a problem of some longer-term studies or exercises being too abstract and far removed from current concerns. There was a view that for longer-term policy development to be relevant, linkages had to be made to current priority issues, and a balance maintained between shorter-term and longer-term concerns. If this focus on the relevance of longer-term policy to the priorities of departments and citizens was not maintained, studies could be seen as overly academic and not grounded in reality.

Co-ordination and prioritisation of research. An absence of co-ordination or prioritisation of the research agenda on longer-term policy issues was highlighted by some interviewees. The point made here is that while good work is being done in some organisations or academic institutions, there is little linkage of relevant pieces of work, or sense of the government's main priorities, when it comes to research on longer-term policy issues.

Allied with this point concerning co-ordination was a perceived need for better networking and contacts generally amongst the various stakeholders involved in longer-term policy development issues. There was a sense of people working on issues in isolation or in small groups, but who would welcome contact with others engaged in similar exercises, even if in different policy spheres.

2.3 Conclusions

The preceding discussion indicates a number of challenges facing longer-term policy development. A helpful way to understand the issues discussed above is in terms of the interaction of the demand for and the supply of longer-term policy. Figure 2.1 illustrates this relationship, which is further elaborated on in Annex Two. Here it can be seen that where both the demand for longer-term policy development and the supply of relevant information is strong, there will be both high use of the information to inform longer-term thinking and also high capacity, in terms of adequate structures, organisations and personnel to provide the relevant information. Where one or both, demand or supply, is weak, longer-term thinking will suffer as a consequence.

Figure 2.1 A demand and supply framework for longer-term policy development

		Demand for longer-term policy development	
		Strong	Weak
Supply of longer-term policy development information	Strong	High capacity, High use	High capacity, Limited use
	Weak	Limited capacity, High use of studies produced	Limited capacity, Little use of studies

(Source: moel adapted from evaluatin capacity develpoment model referred to in Boyle and Lemaire, 1998)

In practice, the information obtained from the interviews would suggest that both the demand for and supply of longer-term policy development is in need of strengthening.

Such a statement is supported by reviews of experience in policy development in New Zealand (State Services Commission, 1999) and the OECD (1998). On the demand side:

- short time frames, driven by the political process and the electoral needs of politicians, focus demand on short-term issues
- short-term incentives, such as the budgetary procedures in the public administration system, encourage a focus on short-term production at the expense of longer-term capability
- demand is typically generated through departments and agencies that are responsible for individual sectors, with few incentives to share information or to go beyond their own responsibilities when collecting data, leading to information gaps and overlaps.

On the supply side:

- attempts to predict the future are fraught with danger: 'Predictions are usually wrong, often misleading and sometimes positively counterproductive' (Performance and Innovation Unit, 1999)
- in general, techniques for futures thinking have limits and can be expensive in terms of time and resources. For example, longitudinal studies are not analytically useful for several years, are expensive, and require a longer-range institutional commitment (OECD, 1998)
- there is a shortage of policy analysts and advisors skilled in information management and use
- there is a shortage of relevant data on many longer-term policy issues.

For longer-term policy development issues to be raised and addressed, attention must be paid to both (a) generating the demand for longer-term thinking and (b) ensuring the supply through creating adequate capacity and capabilities to undertake longer-term policy development. Tackling one or other of these issues on their own will fail to realise influential longer-term policies.

3
Recent Examples of Longer-Term Policy Development Initiatives

3.1 Introduction

In this chapter, some examples of recent practice with regard to longer-term policy development are examined. Given some of the constraints acting on longer-term thinking outlined above in section 2.2, this chapter illustrates what can be done to initiate and promote longer-term policy development.

3.2 Creating the space and time for longer-term policy development

A significant constraint identified in section 2.2, and in the literature on longer-term thinking, is the difficulty associated with making the time available in organisations to think longer-term. To this end, the review of the Department of Education and Science's (DES) operations, systems and staffing needs (Cromien, 2000), known as the Cromien Report, is illuminating in its proposals for relieving the burden of unnecessarily detailed work so as to give greater space to longer-term strategic policy-related functions. While the proposals are specifically geared towards the DES, the principles underlying them have wider applicability for many public service organisations. The key proposals in this light are:

- Changing the way work is undertaken in the department. For example, making the teacher allocation process more robust, with transparent criteria, to reduce the pressure of appeals from schools and through political channels. The aim of such changes is to reduce the burden of detailed work. The Department of Social, Community and Family Affairs (then the Department of Social Welfare) illustrates how the burden of detailed work can be eased with its initiative to reduce the number of representations and parliamentary questions it deals with. This initiative led to a significant reduction in both representations and parliamentary questions in the 1990s (Boyle, 1996).
- Devolving work outside the department. Special education, school transport and the examinations branch are identified as activities which, given suitable accountability

requirements, would be suited to devolution from the department. Similarly, scope is identified for schools and third level institutions to take on areas of work currently being undertaken by the department. Local offices are identified as a longer-term option for the department to pursue. The intention of such initiatives is to free the department from much of the volume of individual case work, allowing it to concentrate more on strategic and longer-term issues.

- The creation of a central planning unit. The strategic policy unit in the department was seen as being limited in its effectiveness because of a lack of clarity about the respective roles of the line sections and the unit with regard to policy formulation. The recommendation is that the unit should be renamed the central planning unit, dealing with longer-term policy and planning. The unit should not be seen as taking over the policy work of other divisions: 'we are firmly of the view that it is neither possible nor desirable to centralise all the policy functions of the department in such a unit. Policy should not, in general, be divorced from operational issues.' It is envisaged that the unit should be involved in developing the department's forward-looking role, 'to conceptualise and put in place strategy to anticipate the needs of the education system in an era of social and technological change for the "school of the future"' (Cromien, 2000). It is recommended that the unit work with a high-level standing committee, established on a cross-divisional basis, and reporting to the top management group. The unit is also seen as having a key role in the evaluation of strategies and the identification and prioritisation of research needs, in consultation with line sections and management.

These recommendations conform to generally accepted principles of good practice with regard to public management which have developed over recent years (see, for example, Boyle, 1995 and Boyle and Humphreys, 2001). The aim is to try to reduce the amount of congestion caused by detailed and unnecessary work, and improve the co-ordination of work, so as to enable more attention to be given to the development of coherent longer-term and strategic policy options.

3.3 Examples of futures-oriented initiatives

3.3.1 Large scale initiatives: Technology Foresight Ireland and Agri Food 2010

Two examples of large scale, futures-oriented initiatives which have taken place in recent years are Technology Foresight Ireland and Agri Food 2010. These initiatives are summarised in Table 3.1, and details are given in Annexes Three and Four.

Table 3.1

Examples of large-scale futures-oriented initiatives

Technology Foresight Ireland

In March 1998, the Minister for Science, Technology and Commerce requested the Irish Council for Science, Technology and Innovation (ICSTI) to develop and undertake a technology foresight exercise in Ireland. Technology foresight is a process for bringing together scientists, engineers, industrialists, government officials and others to identify issues in need of strategic research, the emerging technologies likely to yield the greatest economic and social benefit and appropriate policy responses. The time horizon for the project was set at 2015.

ICSTI identified eight sectors for consideration: chemicals and pharmaceuticals; information and communication technologies; materials and manufacturing processes; health and life sciences; natural resources (agri-food, marine, forestry); energy; transport and logistics; construction and infrastructure. Expert panels were established for each of these eight sectors, and reports produced, with the exercise being completed in a twelve month period.

In response to the exercise, the government, in 2000, created a technology foresight fund of roughly €700 million as part of the investment earmarked for research, technology and innovation activities in the National Development Plan 2000-2006. This fund is administered by a dedicated research foundation, operating as a sub-board of Forfás. Its main aim is to develop a world class research capability in niche areas of ICT and biotechnology. There is also some evidence of government departments making use of the foresight findings. For example, the Department of Public Enterprise included relevant findings in policy developments on sustainable energy. The Department of Agriculture, Food and Rural Development has made use of the natural resources report in subsequent policy decisions.

Agri Food 2010

The Agri Food 2010 Committee was established by the Minister for Agriculture, Food and Rural Development in June 1999. The terms of reference of the committee were: to propose a strategy for the development of Irish agriculture and food over the next decade, following the agreement on Agenda 2000, and in the light of the changes and challenges which are likely to evolve nationally and internationally over that period.

Exploring possible trends in the agri-food sector to 2010, the committee developed a vision for the future of agriculture and the food industry. With regard to agriculture, the vision is of a dynamic agricultural sector, consisting of a relatively small but highly productive full-time farm sector and part-time farmers in a strong, integrated rural economy. With regard to the food industry, the vision is of a competitive food industry which is strongly consumer focused. To achieve this vision, the Agri Food Committee developed a number of strategies. In response to the Agri Food 2010 report and subsequent consultation, the Department of Agriculture, Food and Rural Development developed a Plan of Action as the government's formal response. This plan sets out specific measures to achieve the strategies contained in the Agri Food 2010 report.

A number of points emerge from these exercises which provide useful lessons for the organisation of large scale longer-term policy development initiatives:

- Both initiatives, while longer-term in perspective, were clearly linked to current needs. In the case of Technology Foresight Ireland, the timing of the exercise was linked to the production of the National Development Plan 2000-2006. In the case of Agri Food 2010, EU enlargement and the forthcoming round of world trade negotiations set the context for the study. Thus in both cases, there was a clear linkage of futures-oriented thinking with current concerns, increasing the probability of impact and minimising the risk of becoming purely academic exercises.
- In the case of Technology Foresight Ireland, an explicit pre-foresight phase was a determinant in the success of the exercise. Preparatory work, in particular learning from but adapting other countries' experiences with foresight exercises, was crucial in establishing a process that worked. This indicates the importance of devoting time and resources to the planning stage of a major futures-oriented policy study.
- A central steering committee played a vital role in both cases, the Irish Council for Science, Technology and Innovation (ICSTI) task force with Technology Foresight Ireland and the expert committee for Agri Food 2010. These committees provided (a) a co-ordination and control role (b) expertise in the particular areas under scrutiny and (c) a forum for the development of consensus, where possible, amongst influential stakeholders in the sectors concerned. This consensus is important in promoting a shared vision and disseminating it among the various interest groups involved.

  In the Technology Foresight Ireland case, the task force was supplemented by eight sectoral panels. These panels were crucial to producing agreed and informative reports for each sector. The role of the chair and secretary were particularly important in determining the engagement of the panel with the issue at hand and pushing the agenda forward. The involvement of the main stakeholders (a mix of industrialists and academics in this case) in each panel also encouraged the development of consensus and a shared longer-term vision of the issues and strategies to be addressed. Not limiting panel membership to the 'usual suspects' was important to the exercise. In all, the use of panels confirmed the experience of foresight exercises internationally, that high quality committed membership is central to the success of the exercise.

- The secretariat in each case played a key role in helping to steer, oversee and co-ordinate activities. The national co-ordinator and panel secretaries in the Technology Foresight Ireland exercise and the secretariat in the Agri Food 2010 exercise were involved in both managing the process and in producing and overseeing analyses and reports. For the secretariat role to be successful, both high calibre personnel and a significant time input are required. The time needed can easily be underestimated at the start of the process.
- Both exercises made use of topic experts, both from within and outside the civil service, to produce papers, reports etc. In Technology Foresight Ireland, the expertise of the panel members was utilised. In the case of Agri Food 2010, working papers on specific topics were commissioned. These working papers allowed particular longer-term topics to be examined in some detail, and carried a degree of standing because of the recognised expertise of the people involved in producing the papers. Such an approach, of commissioning specific inputs on longer-term issues, has also been used in the industrial policy sphere, for example in the production of the Culliton (1992) report and the Forfás (1996) report *Shaping Our Future*.
- Scenario planning was found to be a particularly useful methodological tool in the Technology Foresight Ireland exercise. In particular, using scenario workshops, and the scenarios developed there to test the robustness of strategies, facilitated the selection of robust strategies capable of longer-term implementation under a range of possible economic and social conditions. The scenario approach was also found to be useful in enabling participants to work beyond their own particular interests and priorities, generating a common view on the key issues to be addressed.
- Structured consultation with the wider public featured in both exercises. Invitations through the press for comments, and the use of a dedicated web site in each case, facilitated the widespread sharing of information and the generation of some degree of 'buy-in' from the wider interested community.
- In the Agri Food 2010 case, the development of a plan of action as the government's formal response to the exercise served as an implementation mechanism. As it followed consultation on the report, the plan of action could also respond to issues which were seen to be contentious or particularly difficult for some interest groups.
- The actual process followed in the Technology Foresight Ireland initiative was seen as being as important as securing the agreed panel reports and final ICSTI overview

report. This is in line with international foresight experience, where the process is viewed as central to securing consultation, consensus and commitment to the longer-term development of policy.

These two initiatives therefore provide many useful lessons for those proposing to embark on a large scale longer-term policy development exercise. They show that a structured approach, linked to current concerns, can produce useful longer-term policy thinking. But they also show that to do this properly is not insignificant in the use of time and resources.

3.3.2 Organisation specific initiatives

Exercises of the nature of Technology Foresight Ireland and Agri Food 2010 are, by their nature, once off exercises that are heavy in their use of resources and time-limited. To promote longer-term policy thinking more generally, organisations also need to look at ways of making longer-term policy development part of their normal routine. Section 3.2 examined how to create the time and space for longer-term policy thinking. Here, a couple of specific examples are given to illustrate the practical application of engagement with longer-term issues.

One interesting initiative is the creation of a long-term issues group in the Department of Finance. This group was set up several years ago, its genesis being the awareness of the then Secretary General of the need to examine public expenditure and budgetary policy in the context of longer-term developments such as demographic changes. Initially, the work of the group had a 25-year forward-looking time horizon. This was subsequently extended to 50 years. The work focus of the group is on the economic/budgetary framework for public expenditure, not policy decisions for particular sectors. The aim is to show what budgetary and expenditure implications arise if current policies are continued into the future. One clear example of the practical implications arising from the work of the group is the decision by the government to set up the national pensions fund. The need for this was highlighted by the work of the long-term issues group, which showed the significant budgetary problems likely to emerge in the future in the absence of a change of policy.

The long-term issues group is chaired by an assistant secretary, and involves principal officers from the various divisions in the department. The group meets periodically (once a month when nearing the end of a report, less frequently at other times). An assistant principal (an economist) acts as secretary to the group and carries out much of the work between meetings. Clearly, when looking as far into the future as fifty years, assumptions have to be made which by their nature are very crude. Sensitivity testing is done, but really, the work is aimed at trying to highlight key issues rather than being too precise in forecasting (which would be an impossible task). Group participants indicate that one advantage of the existence of the group is that it has helped create a culture of longer-term thinking among those involved in the process, which they can bring to bear in their day-to-day work.

Another interesting example of a longer-term policy initiative is provided by the Department of Public Enterprise. An important issue to be addressed in the department was the examination of the future institutional and regulatory framework for public transport in the Dublin region. To address this issue, an assistant principal officer in the department was assigned full-time to the task for several months, effectively acting as an internal consultant to the department on this issue. This provided considerable benefits to the department in terms of both addressing the longer-term policy issue and in generating the internal capacity and expertise to apply to the issue. The challenge for the department was to re-allocate the day-to-day work of the assistant principal which still needed to be handled. The general lesson from this experience is the need to allow, in the allocation of administrative resources, for the undertaking of periodic studies of this nature.

These two examples illustrate what can be done within organisations to promote longer-term thinking on policy issues. They represent examples of attempts to bring futures perspectives to bear on decision making as part of the on-going work of government departments.

3.4 Conclusions

Addressing longer-term policy issues requires action at a number of levels. It is important that conditions are created that support the development of a longer-term and strategic view. This requires organisations to examine their existing procedures and practices and

determine if there are alternative ways of arranging business to free up time and space for longer-term work. Specific, major futures-oriented studies can provide a useful structured approach to bringing a longer-term perspective to bear. Particularly when linked to current concerns, such studies can engage stakeholders and help generate consensus on the need for specific strategies (scenario-tested) to address the issues identified. However, such studies are resource intensive and this must be recognised from the start. Also, actions can be taken within organisations to promote a longer-term view. The creation of a group to meet periodically, or the assignment of an individual to address a specific longer-term issue, are examples of what can be done within organisations. Again, there are resource implications in supporting such initiatives.

4
International Developments in the Promotion of Longer-Term Policy Development

4.1 Introduction

One particularly noteworthy development internationally is the use in several countries of foresight exercises, particularly in the field of science and technology. In addition, a range of futures-oriented initiatives exists in several countries, focused on promoting longer-term policy development. From an initial review of possible initiatives based on a literature review and internet searches, a small number of these futures-oriented initiatives was chosen for more detailed investigation. These initiatives are set out in Table 4.1. They were chosen because their approach, or elements of their work, had a particular interest for this study. Details of the initiatives listed are given in Annex Five.

Three main themes are examined in this brief review of these selected international developments. First, an overview of foresight exercises is taken. Second initiatives aimed at stimulating the demand for longer-term policy development are examined. And third, initiatives aimed at ensuring the supply of policy research information needed for longer-term policy development are explored.

4.2 The use of foresight exercises

Gavigan and Scapolo (2001) describe foresight as a convenient label for a very real trend in prospective studies. They suggest that the foresight trend 'can help to embed in both decision makers and wider society and educational systems the inclination and means to consider the future as carefully as the past and the present'. The majority of national foresight work to date has focussed on the science and technology sector (as in Technology Foresight Ireland discussed in Chapter 2). But foresight exercises have also been conducted to address issues such as demographic change, environmental problems and other social, political and cultural issues (FOREN Network, 2001).

Table 4.1
International futures-oriented initiatives investigated

Policy Research Initiative (PRI) (Canada). The PRI was established in the mid-1990s to develop a stronger base of longer-term policy research on cross-cutting issues and to enhance policy research capacity.
Applied Social Science Research Review (New Zealand). This review identified eight priority areas for cross-portfolio, longer-term applied social science research.
Norway 2030. Established in 1998, the Norway 2030 project aims to strengthen the Norwegian public administration system capacity to meet longer-term challenges and to improve strategic planning in ministries.
Strategic Futures Project (United Kingdom). This project, run by the Performance and Innovation Unit in the Cabinet Office, aims to identify key future challenges facing the government and how these might impact on government objectives.
Australian Public Service (APS) *Futures Forum*. A forum for people within the public service interested in the analysis of the future and the creation of strategy to work within it.
Forward Studies Unit (European Commission). Set up in 1989, and reporting directly to the President, this unit monitors and evaluates European integration, develops longer-term views on specific issues and develops links with other forward studies institutes.
Copenhagen Institute for Future Studies (CIFS) and *Finland Futures Research Centre* (FFRC). These two institutions analyse future trends in a multi-disciplinary setting, undertaking work for both public and private sector clients.

Martin (1995) notes three distinctive characteristics that mark foresight out as different from predictive forecasting. First, foresight is a process, involving widespread consultation, not just a set of techniques. Second, whereas traditional forecasting may often involve a 'black box' when extrapolating predictions about the future, foresight is concerned with improving understanding of possible future developments and the forces that structure them. Third, the starting point of foresight is a belief that there are many possible futures, with the decisions we take now influencing which of these futures we arrive at: 'Hence, foresight involves a much more active attitude towards the future than simple extrapolative forecasting, recognising that the choices made today can shape or even create the future'.

Several countries have made use of structured foresight exercises over a range of functions and a number of years. Annex Six gives details of experience in the Netherlands, United Kingdom and Japan. While the scope and nature of the foresight exercises varies, Irvine and Martin (1984) in a review of science and technology foresight experience have identified a range of common aspects to foresight exercises which they label the 'five C's':

1. *Communication.* The process brings together different stakeholders (industrialists, academics, policy makers etc) and provides a structure within which they can interact and communicate. This may be done either directly through panels or indirectly through a Delphi procedure (see Chapter 5 for details of the Delphi technique).
2. *Concentration on the longer-term.* The exercise forces participants to look seriously and systematically at the long-term future, not letting short-term problems crowd out the issues.
3. *Co-ordination.* Foresight enables participants to co-ordinate their futures-oriented activities (research and development activities in the case of technology foresight exercises). A steering or co-ordination committee with representation from the main stakeholders involved usually oversees the exercise.
4. *Consensus*. The process, and use of techniques such as scenario workshops, helps participants develop consensus on priorities, creating a shared vision of the future they would like to achieve. Even where consensus is absent, there can be value in learning about the possibilities and positions of key stakeholders (FOREN Network, 2001).
5. *Commitment.* The process aims to generate commitment to the results of the exercise. In particular, the aim is to identify practical actions that can be taken today to advance towards the desired vision of the future.

Foresight exercises have been found to be useful and influential in promoting longer-term thinking on policy issues. However, foresight is not applicable in all situations. A guide to the use of foresight (FOREN Network, 2001) indicates that foresight should not be used: (a) where it is not possible to act on the results it will generate; (b) simply because someone else has done it, with their experience directly transferred without reference to the local context; and (c) where there is a strong possibility that the conflict resolution

powers of foresight methods will be outweighed by the chances that conflict is exacerbated.

Neither is foresight necessarily always successful. Martin (1995), in reviewing US experience of foresight-oriented field surveys conducted by the National Research Council, identified a number of criticisms of the exercise. These criticisms have relevance, as issues to be avoided, for those interested in promoting successful foresight:
? Most of the reports were seen as little more than special pleading by the research community rather than the identification of priority issues.

- The approach adopted, of large committees, many sub-groups and extensive data collection, was found to be cumbersome, time consuming (three years to complete a field survey being typical) and costly.
- The final reports were often long, academic in style and inaccessible to outsiders.
- The emphasis was on science-push (active involvement of the academic scientific community) to the virtual exclusion of demand-pull considerations (limited involvement of industrialists).
- The surveys made no use of formal forecasting techniques and gave surprisingly little emphasis to empirical data.
- Most surveys avoided identifying priorities, even where these were specifically requested.
- Institutionally, the National Research Council is to a certain extent beholden to the research community, and did not have enough institutional independence from interested parties.

But despite such problems (which can be designed out of the process) foresight in general is seen as a useful structured approach to the promotion of longer-term thinking on policy issues. Indeed, the use of foresight is being extended, with two current developments of note being the promotion of embedded foresight and regional foresight. Embedded foresight aims at promoting a foresight culture amongst participants, where the tools and techniques of foresight exercises are built into the decision-making process of organisations rather than simply relying on a central national exercise (Salo and Salmenkaita, forthcoming). Regional foresight aims to promote the better integration of foresight processes into regional development policy and strategic planning and is being

actively promoted by the European Commission through the foresight for regional development (FOREN) network (Gavigan and Scapolo, 2001). Examples of regional foresight exercises in Limousin, France and N.E. England are given in Annex seven.

In summary, the FOREN Network (2001) identifies three main benefits from the conduct of structured foresight exercises:

1. Policy makers are informed, so that decisions taken by key actors in the commissioning body are based on a deeper appreciation of longer-term developments.
2. Networks are built among the people centrally involved with shaping the future of a particular topic, in which they have been brought together to work on their visions and assessments of the future.
3. The widespread development of foresight capabilities amongst participants facilitates the development of a foresight culture.

4.3 Initiatives aimed at stimulating the demand for longer-term policy development

A number of efforts have been made in some countries to stimulate demand for longer-term policy development by shaping the agenda so as to encourage policy research into specific topics. The most comprehensive initiative of this type is probably that undertaken under the Policy Research Initiative (PRI) in Canada. One of the main themes of the PRI is the advancement of future-oriented, horizontal policy research. Under this heading, a number of efforts have been made to develop an agenda for longer-term policy research:

- In the first phase of the PRI in the mid 1990s, individual government departments carried out research and collaborated to identify medium-term pressure points for the government's agenda. This resulted in two reports: *Growth, Human Development and Social Cohesion* (1996) and *Canada 2005: Global Challenges and Opportunities* (1997), which identified a broad research agenda.
- The second phase began with the creation of a Policy Research Secretariat (PRS) to support multi-departmental research networks on the key research themes outlined in

phase one. As part of this phase, the Trends project was initiated, to provide an academic perspective on the major issues. Under the Trends project, the PRI identified eight themes on which to focus research: globalisation; North American integration; multiple centres of power; changes in values of citizens; social differentiation; ageing; environmental pressures; and technological change and the information revolution.

The Trends project aims to identify and address gaps in Canada's knowledge in these eight areas. On the basis of a tendering procedure, grants were made available to eight research teams (one for each area), to synthesise current knowledge, discuss its policy implications and generate multi-disciplinary research. It is hoped that by providing the academic community with a mechanism for participation in policy-relevant research, the project will enhance the relationship between policy makers and the academic community (Coleman, 2000).

- A second cross-cutting report *Sustaining Growth, Human Development and Social Cohesion in a Global World* was produced in 1999. This report was used as a basis for briefing ministers and deputy ministers for mid-term planning. Arising from this process, three top priorities have been identified for further work: North American linkages; social cohesion; and sustainable development. A deputy minister (equivalent to secretary general in Ireland) is leading a project in each of these three areas.

In a similar manner to the Canadian Trends project, in New Zealand an Applied Social Science Research Review identified priority issues which from a policy perspective were in need of cross-portfolio, longer-term applied social science research (State Services Commission, 2000). The review was undertaken by an officials working group on applied social science (OWGASS) and co-ordinated by the Ministry of Research, Science and Technology. The aim was to promote social science research so as to better target social policy initiatives and promote longer-term and cross-portfolio research to inform high-quality policy advice. The OWGASS identified eight main topic groups which should be the focus of research to enhance strategic social policy development: family dynamics; Maori and non-Maori disparities; employment and skill development; intergenerational impacts of ageing; determinants and impact of crime; impacts of immigration; changing

environmental values and resource use and protection; and the future role of government in a knowledge-based society.

A more general approach to setting the agenda for longer-term policy development is being pursued as part of a Strategic Futures project being undertaken by the Performance and Innovation Unit in the Cabinet Office in the United Kingdom. After identifying key driving forces for change (such as demographics and science and technology) and key trends, the project is examining how these drivers and trends might impact on government objectives. Five sets of issues have been identified for detailed investigation: economic and technological shocks; the future of national government; future sources of competitive advantage; social cohesion; and technology and attitudes. Workshops have been held on these issues involving senior civil servants, academic experts, business people and others. A list of policy challenges have arisen from these workshops which are being addressed as part of the Strategic Futures project.

While there are differences in the scope and reach of these three initiatives, they all have some common factors which indicate how demand is being stimulated in longer-term policy development. First, the initiatives set a broad, agreed agenda for key themes or issues to be investigated from a longer-term, cross-cutting and strategic perspective. Second, in terms of the policy network schema outlined in Figure A2 (in Annex Two), the work of setting the agenda and stimulating demand is being co-ordinated from within the administrative network. While the other networks are involved, and the political network provides the legitimacy for the initiatives, the driving force in terms of making things happen in terms of stimulating demand is departmental officials. Third, the initiatives aim at creating more structured linkages between the administrative and issue networks in particular. A central aim is to generate more policy-relevant research from academics and interest groups by encouraging them to work on issues which are seen as important from a longer-term policy perspective.

4.4 Initiatives aimed at stimulating the supply of longer-term policy development capacity

A number of institutional and structural arrangements exist to promote longer-term policy development capacity. Two significant trends notable from international experience are (a) the creation of dedicated units/organisations focused on longer-term policy thinking

and (b) the establishment of networks of people and organisations involved in longer-term policy development to facilitate exchange of ideas and the sharing of good practice.

4.4.1 Units focused on longer-term policy development

Units or organisations with a focus on longer-term policy development may be located in any part of the policy network schema outlined in Figure A2 (in Annex Two). Most are to be found in the administrative and issue networks, with some 'think tanks' directly serving the political and social partner networks.

Units in government agencies

In the administrative network, there are examples of analytic units in government agencies. The Forward Studies Unit in the European Commission is one example. This unit was established in 1989, and reports directly to the President. Its main focus is on European integration. In this context, it produces and commissions studies looking at longer-term issues with regard to integration and establishing possible scenarios for future development. As an example of its work, Scenarios Europe 2010 was completed in 1999 (Forward Studies Unit, 1999).

In the Netherlands, the Central Planning Bureau provides economic forecasting and analysis for policy makers. The bureau has a long-term division that has conducted foresight exercises through a series of broad-based scenario studies examining longer-term international and national conditions. These scenario studies are not intended to predict the future, but to analyse and reflect on trends in economic and other indicators (Skumanich and Sibernagel, 1997).

A further example is provided by the Performance and Innovation Unit (PIU), based in the Cabinet Office in the United Kingdom. The PIU works primarily on individual projects of a longer-term strategic nature that cut across departmental boundaries. The unit uses small teams drawn from within government and the wider public, private and voluntary sectors. Projects have addressed issues such as e-commerce and the rural economy, the future of the post office, and trade policy.

Centres in academic institutions

The Copenhagen Institute for Future Studies (CIFS) and the Finland Futures Research Centre (FFRC) provide examples of academic centres with an explicit longer-term policy focus. The CIFS was established in 1970. The objective of the CIFS is 'to strengthen the basis for decision making in public and private organisations by creating awareness of the future and highlighting its importance to the present' (Copenhagen Institute for Future Studies, 2001). The centre's work is interdisciplinary, drawing on a core of thirty full-time researchers with a wide range of professional expertise and academic backgrounds. CIFS undertakes research projects for public and private companies on a commissioned basis. A range of methodologies are used, with scenario planning being the most common.

The Finland Futures Research Centre (FFRC) was established in 1992, and is jointly funded by three universities in Turku. The centre engages in future-oriented research, development, consultation and training projects with clients from public administration and the private sector. To give an illustrative example of its work, one project concerns the future challenges to social security and the role of the Social Insurance Institution (KELA). The project aims to assess the future ability of the Finnish social security system to respond to key challenges, and in particular how well the functions for which KELA is responsible will address the demands put upon them by clients and society at large. This research is mainly based on strategic expert conversation, with the data collected by the use of the Delphi technique. As well as this research/consultancy function, the FFRC has an educational role, providing courses in future studies and developing new methodologies.

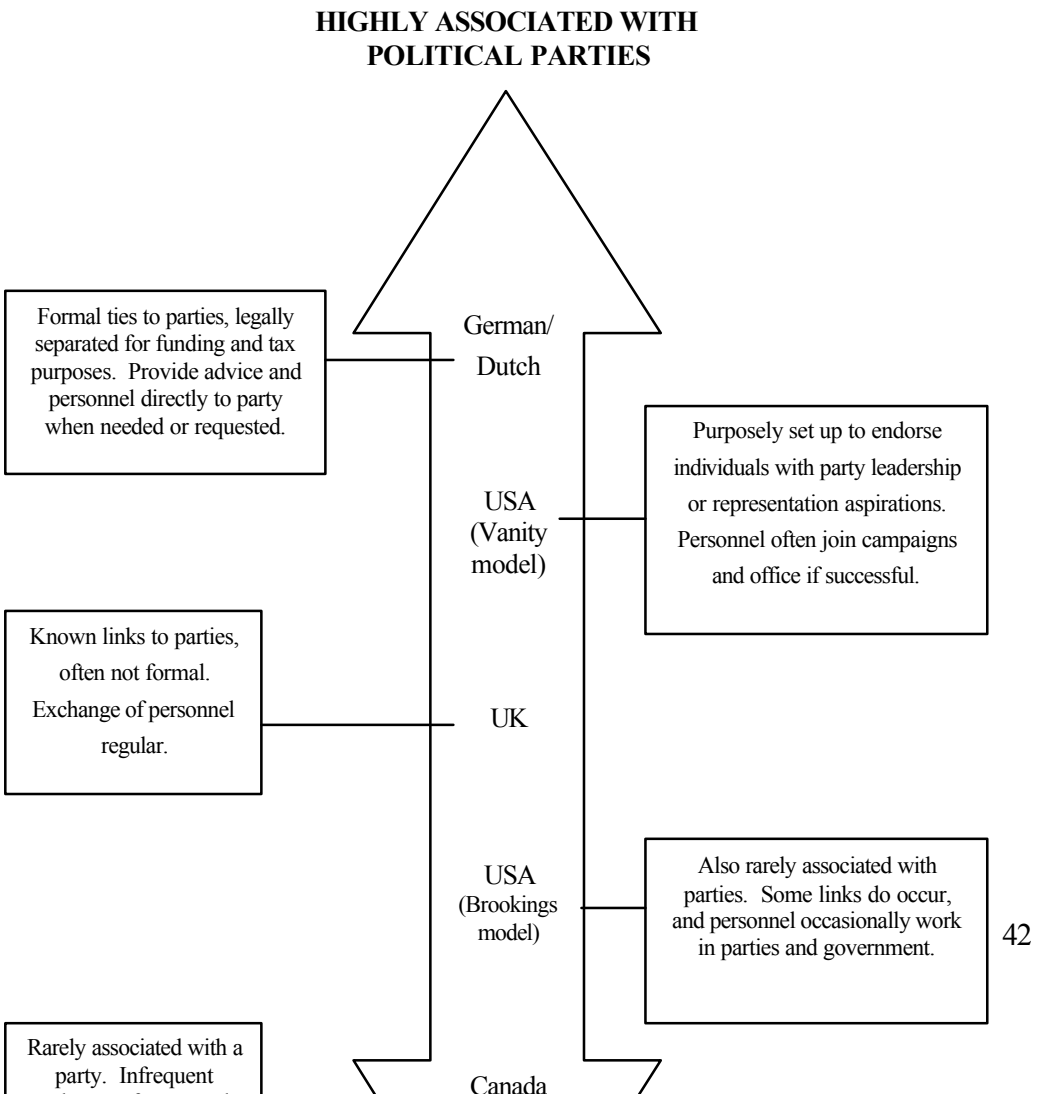
'Think tanks'

Think tanks are external to government, and are generally non-profit organisations. The United States has the greatest number of think tanks, with institutions such as the RAND corporation and the Brookings Institute having world-wide renown as policy analytic centres with a strong futures focus. Think tanks vary significantly in the linkages they have with political parties. Figure 4.1, derived from work by Baier and Bakvis (2001) illustrates the range of possible options. At one extreme are think tanks which tend to be independent of political parties, such as those in Canada or the Brookings Institute in the USA, aiming to influence the public policy agenda from the outside. At the other extreme lie think tanks which are explicitly linked to political parties. This is the case in Germany,

where there is a strong tradition of parties establishing internal think tanks which provide advice directly to the party. In the middle ground are think tanks with strong links to political parties but which retain a degree of separation and independence. In the United Kingdom, for example, the Centre for Policy Studies and the Institute of Economic Affairs were highly influential in Conservative party policy formulation in the 1980s and 1990s. Labour party policy has been similarly influenced by think tanks such as the Institute of Public Policy Research and Demos since the 1990s.

Whichever approach is adopted, think tanks can play a role in shaping the policy agenda, providing a space and expertise for new thinking on complex and longer-term issues. However, they may also, as Baier and Bakvis (2001) point out become a conduit for questionable political spending unless carefully monitored. They may also be used to provide symbolic legitimation of particular party policies.

Figure 4.1
Think tanks and party links (Source: taken from Baier and Bakvis, 2001)



So, units focused on longer-term policy development are quite diverse. They may be inside or outside of the government administration, and have close links with political parties or no direct links at all. But, as Weiss (1992) notes, they all have a number of common characteristics:

1. They are permanent organisations with specialised staff.
2. They do not have responsibility for operations. Even those that are part of government departments are separate from regular line functions of government.
3. Their staff have special expertise. Most commonly the expertise is methological.

4.4.2 Networks of people and organisations involved in longer-term policy development

One notable development in several countries in recent years has been the growing use of networking to encourage interaction among practitioners and to stimulate the capacity for longer-term policy development. Particularly important in this context is the need for effective linkages between those who generate the information relevant for longer-term policy and those who use it.

A central element of the work of the Policy Research Initiative (PRI) in Canada, mentioned above, is the development of linkages and consequent building of policy research capacity. To this end, the PRI has a number of initiatives designed to connect researchers and policy makers from across government, academia and think tanks:

- a web site on the work of the PRI and the world of policy research
- a magazine, *Horizons*, on the latest developments in policy research
- a quarterly journal *Isuma: Canadian Journal of Policy Research*, which is available free on-line

- a national policy research conference bringing together researcher and policy developers
- an annual Canadian Policy Research Awards, to celebrate outstanding achievements, and
- periodic seminars and conferences on specific themes, bringing together researchers and policy makers to share knowledge and learn from one another.

The work of the PRI is co-ordinated by a Policy Research Secretariat (PRS) which reports to a Co-ordinating Committee of Deputy Ministers. The PRS also works with a Policy Research Forum that meets about four times a year and brings together senior policy and research officials to provide advice on the work of the PRI.

Arising from these networking activities, the PRI has become engaged in other capacity-building initiatives. It is involved in developing a human resources strategy for policy research, including the tailoring of existing training and education programmes and supporting the creation of policy research internships. The PRI is also engaged in identifying and addressing critical data gaps that are hampering policy research priorities, and producing better data on key issues.

The Australian Public Service (APS) Futures Forum provides another example of networking to promote longer-term policy development. The forum is sponsored by the Public Service and Merit Protection Commission, and is intended for people working within the APS who have an interest in the analysis of the future and the consequent development of strategies to address the issues identified. The forum has a number of aims (APS Futures Forum, 2001):

- inform members of developments in futures methodologies (such as scenario planning, Delphi and other expert opinion surveys and futures modelling)
- allow members who have used particular methodologies to share lessons learned
- sponsor training in futures techniques
- share the output of futures exercises (many agencies are covering much the same ground)

– establish a network of people within the APS with futures expertise who might be able to assist in the conduct of futures work for other departments.

The main activity of the APS Futures Forum is a programme of monthly meetings. The format is generally to have a speaker followed by a question and answer session. The intention is to exchange ideas and information on futures activities, problems and methodologies.

In a similar manner, as part of the Strategic Futures project, the team within the Performance and Innovation Unit in the UK run a Strategic Futures Group. This group consists of strategy units from departments, the devolved administrations and the EC. The group co-ordinates work programmes and shares best practice in longer-term strategic planning.

4.5 Conclusions

Three main points emerge from this look at international developments. First, in terms of stimulating demand, governments are taking a pro-active stance in developing an agenda for research on longer-term, strategic, cross-cutting issues. This involves highlighting a number of key issues as priorities for scrutiny, and establishing structures and procedures to address these issues. Foresight exercises in particular offer a structured and collaborative approach to the exploration of longer-term policy issues. Second, a range of organisations or units within organisations may provide longer-term policy advice. To be effective, such units must be separate from the line functions of government and have specialised staff skilled in appropriate futures-oriented methodologies. Third, governments are increasingly recognising the benefits of networking of people and institutions engaged in longer-term policy development. These networking arrangements focus on the promotion of good practice and addressing gaps and deficiencies in existing systems and procedures for longer-term policy development.

5
Foresight Tools and Techniques

5.1 Introduction

The foresight approach, unlike forecasting, does not attempt to estimate or predict what the future will be. Rather, foresight recognises that many aspects of the future are beyond our control. Yet there is also an assumption that actions taken today, whether or not they have a longer-term perspective in mind, will affect the future. Essentially foresight is a strategic analysis. It uses information from science, technology, economics and social studies to consider opportunities, threats, strengths and weaknesses which a country, government or organisation may have to confront at some stage in the future. Experience has shown that the outputs and results of foresight exercises can have several important benefits, in particular in assisting in planning, priority setting and in identifying fields and targets regarded as important in the longer-term.

The Australian Science, Technology and Engineering Council (Astec) (1996) suggests that there are two main approaches to thinking about the future: exploratory forecasts, beginning today and extrapolating future possibilities and normative forecasts – beginning with a future goal and working backward to the present. Exploratory forecasts come in two main types – those concentrating on expected futures and those looking to possible futures and exploring the dimensions of uncertainty. In general, a comprehensive foresight exercise should examine all three approaches, in particular both types of exploratory forecast should be considered, in order to ensure a sufficiently robust emphasis is placed on normative goals. Astec summarise this framework by suggesting that futures work requires combining trends (probable futures), scenarios (possible futures) and visions (preferred futures) as a means to producing better strategies.

Fulmer, Gibbs and Keys (1998) refer to foresight tools and techniques as anticipatory learning tools and describe futures work as 'learning for the long-run and learning across the organisation, vertically, horizontally and diagonally' (p. 10). However, with reference to a survey of two hundred organisations in six countries, the authors also comment that among learning techniques, anticipatory tools are not widely used, understood, or valued,

with emphasis instead placed on more immediate learning techniques (e.g. employee suggestion schemes, benchmarking or focus groups) 'which are rather ineffective at either anticipating or dealing with major changes' (p.12).

There are a number of important foresight methods that can be used. In referring to the range of methodologies available, the UK Cabinet Office's Performance and Innovation Unit (PIU) (2001) highlights that each has 'different aims, demands, methods and tools' (p 3). As a general guideline, the PIU distinguishes between quantitative, which includes time-series and causal techniques, and qualitative methods, covering different forms of creative thinking. However, it is also emphasised that methods co-exist, and that a good piece of futures work will usually contain more than one method.

In the following sections a range of foresight tools are discussed. In part to illustrate the complimentarity of methods, reference will also be made to strengths, weaknesses and uses.

5.2 Quantitative methods

Quantitative trend analyses are probably the most common method of forecasting. Based on data, quantitative methods are often applied to areas where there are reliable and preferably historical data collections. While trend analysis can be applied to most areas and subjects, it is most developed in relation to issues that can most easily be represented numerically, such as demographics, economic growth, employment and environmental issues. Quantitative foresight methods range in complexity from relatively simple trend extrapolation exercises to complex computer simulation models.

The basis of trend extrapolation is to locate a trend that is apparent over time, and project it forward reflecting rates of change and the extent of change achieved. In the short-term, this is often a matter of extending a linear or exponential curve. In the longer-term, limits to growth may be encountered (e.g. limits to the size of the population to whom a technological or cultural change can diffuse). Other methods of quantitative foresight vary in complexity from simple models constructed using spreadsheets to very detailed mathematical or computer models.

5.2.1 Methodology

Although quantitative analysis is actually a selection of techniques, the basic approach is largely similar.

Step 1: Data collection – data may be generated in a variety of ways. Often, secondary data from official statistics or academic sources can be used. The most common sources of primary data are sample surveys (in which a proportion of a population is systematically sampled: a fairly small proportion can give results that are good estimates for the whole population) or censuses of population. Data may also be 'captured' from various sources – as a by-product of people's contact with tax, health or other authorities and the records that these produce (FOREN Network, 2001). It is also important, in carrying out quantitative trend analyses, that the data is available over a sufficient period of time; the PIU (2001) recommend at least twice, and possibly as much as three to four times, the period of time to be forecast, i.e. projecting five years requires at least ten years data.

Step 2: Plot the data either manually or by computer.

Step 3: Identify the pattern. This can be done through simple observation or by using advanced statistical techniques which will indicate the relationship between several variables.

Step 4: Project the trend. There are a number of important considerations at this stage. It is necessary to have an understanding of the underlying driving forces of the trend and whether they will persist. It will also be necessary to examine at what point ceilings or turning points will be reached. Finally, it is important to consider whether the quantitative trend is masking qualitative change. The FOREN Network (2001) highlights the fact that people often think in terms of a trend as developing or diffusing, but essentially staying the same. This is often not true in reality. For example, new technologies do not only diffuse they also change.

Step 5: Evaluation and discussion. This stage essentially involves a review and debate in relation to results obtained. To avoid the criticism that quantitative forecasts are unquestioningly accepted, consideration should be given to why these results might not represent the future. Quantitative analyses should be regarded as a starting point for discussion.

5.2.2 Strengths and Weaknesses

There are major advantages to using quantitative methods in foresight exercises.

- Being able to put information in a numerical form means that it is possible to manipulate the data, combining figures, comparing data etc.
- Quantitative analyses are capable of highlighting what will not be the future. For example, a projection showing the results of inaction on some issue can in itself promote a change in policy.
- Mechanical projection is an impersonal and objective process, therefore it is possible to test if the method has been used correctly. It is also possible to evaluate statistically the validity of results in an applied setting.
- Quantification enables the method to appear logical and therefore it is easy to communicate.
- Compared to many other futures methods, quantitative trend analyses are inexpensive and easy to organise.

Many of the weaknesses of quantitative forecasting methods are related to the manner in which the methodology is implemented.

- Some issues are hard to represent numerically. In other cases, good quality data is not available or not sufficiently up-to-date, and the production of new data may be costly and/or time-consuming.
- Research can be misleading if reliable data sources are not used, samples are inappropriate or the data is misinterpreted.
- Quantitative methods are not as neutral as they might appear. In practice, different projection techniques may produce different results with the same data.
- Quantitative forecasting tends to work best in a relatively stable environment. However, in reality this is rarely the case as a range of dynamic and unpredictable forces may influence the projected trend.

- Quantitative trend analyses project historical trends into the future. According to the PIU (2001), 'they are actually extrapolations of the past.' Making decisions based solely on quantitative methods therefore depends on a starting point in the past.
- The quantifiable elements of a phenomenon should not be taken as encompassing all of the phenomenon, or even all the most important features of a phenomenon. Yet, frequently attention will be given to these aspects of futures research almost exclusively and findings will be unquestioningly accepted.
- Some advanced statistical and modelling techniques are extremely complex (on occasions even their authors may not understand fully how they function); therefore relatively few people are able to scrutinise them or challenge the assumptions on which they are based. Furthermore, experts tend to be wedded to their own models and to discount other experts' criticisms or reservations in relation to their use.

5.2.3 Examples

Quantitative methods are widely used in forecasting: by individuals engaged in research, by companies wishing to predict likely future demand for their products or by governments wanting to estimate future demographic or economic trends. Within an Irish context, the medium-term economic reviews produced by the ESRI are a good example. Quantitative trend analyses for the purpose of futures work would appear to be less common, that is using findings as a starting point for discussions in relation to future trends.

5.3 Scenario planning

Scenario planning or analysis is regarded as one of the main tools for looking at the future. It involves thinking through a range of strategic alternatives for the future of an organisation. These possible future scenarios or stories are assembled from as comprehensive as possible a range of qualitative and quantitative inputs. An early example of scenario planning being used to help a company cope with uncertainty is Royal Dutch Shell in the early 1970s. The exploration of alternative future scenarios was used to guide strategy in the wake of uncertainty generated by the oil crisis.

Good scenario planning has a number of key characteristics:

Disciplined: Scenario planning has been described as the disciplined method of learning the implications of alternative futures that change our view of reality, thereby creating better future decisions. It is important in conducting a scenario planning exercise that a concrete framework is agreed and implemented.
Plausible: Scenario planning is a method of attempting to prepare for an uncertain but plausible future. It is therefore important, in analysing current trends and situations, that obscure as well as probable future outcomes are considered. Preparing for unexpected turning points or possible developments in key variables should be a central element of all scenario frameworks.
Participation: Scenario planning provides a useful process for pulling together all major stakeholders in a strategic conversation in relation to the future. Often, consultation with a wide range of people leads to new insights and fresh perspectives.

5.3.1 Methodology

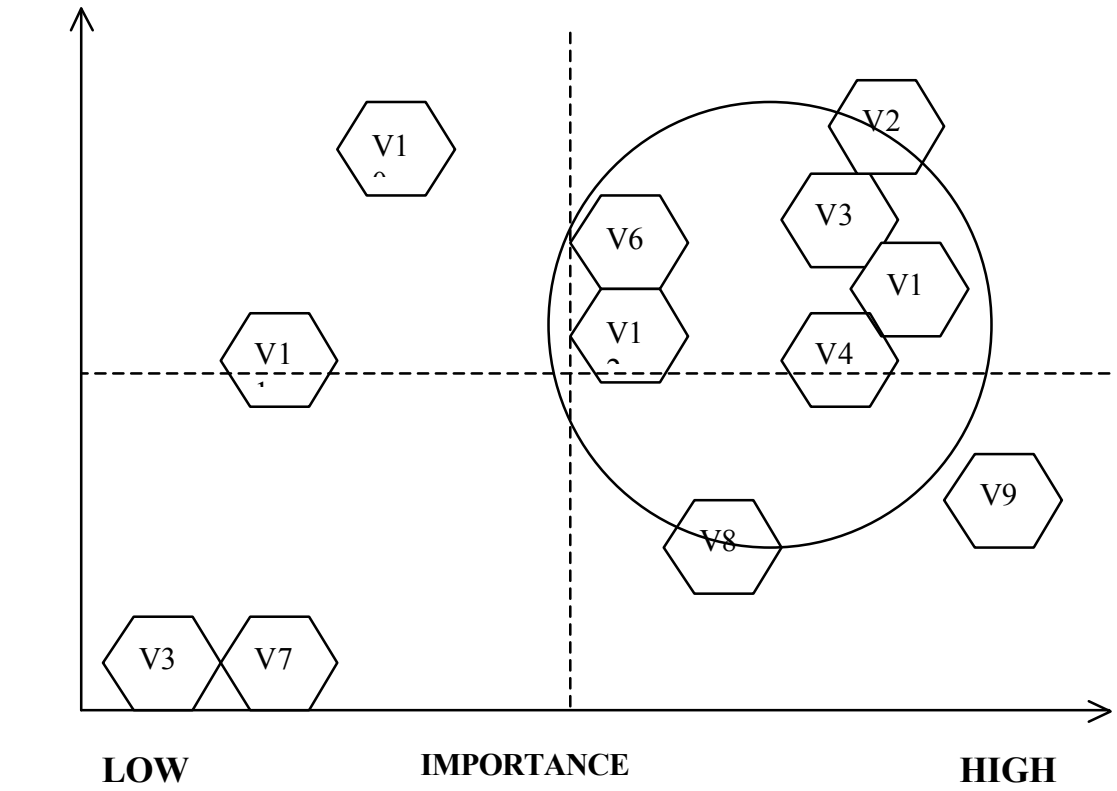
Reflecting the above characteristics, the following represents a summary of the type of methodology suggested in the literature.

Step 1: Select the topic and agree the specific focus and objectives for the scenario-building workshop.
Step 2: Review key issues and influences. This exposes participants to all issues and factors influencing the topic in question and brings all participants up to a common level of awareness and understanding. Presentations by experts on each key area of influence may be helpful in this regard.
Step 3: Assess relevant issues and trends in the political, economic, social, technological and business environments and consider other important areas of influence. These assessments may be based on a wide range of quantitative and qualitative research. Interviews are often helpful to gain perspectives that differ from those of the organisation.
Step 4: Use all assembled material and evidence to identify the variables which are likely to be key drivers relevant to the topic or issue in the future. The focus should be on variables of high uncertainty and high importance. Approximately forty to fifty variables would be standard.
Step 5: Variable clustering. Fifty variables, for instance, are too many to use in building scenarios. To achieve a more manageable set, variables are clustered based on similarities (e.g. several variables might come under one heading of 'economic growth'). The aim of

clustering is to make the process more convenient while still retaining the underlying detail and richness of the variables. Later in the exercise, when storylines are completed, participants will return to these underlying or component variables.

Step 6: Ranking – all agreed variables are important but some are more important than others; it is therefore necessary to rank variables in accordance with their relative importance to the topic and also their relative uncertainty. For example, some variables may be quite fixed regardless of future events (e.g. population trends). These are generally referred to as predetermined variables. Variables that are both high in uncertainty and importance are the key variables. Showing the variables graphically, as illustrated in the example in Figure 5.1, may be helpful. In this example we see a cluster of variables in the high uncertainty/high importance zone.

Figure 5.1
The Key Variables



Step 7: The writing of scenario story lines. The purpose of this stage is to develop as many story lines as possible using the key variables. It is important that participants think about the key variables in terms of what might happen – not will or should – over the scenario period. A 'story-line' is a series of causally linked events which describe the behaviour of a part of the underlying business environment.

Step 8: Story lines are woven together to create scenarios, which are then tested. All scenarios must be owned by the group and meet the following criteria: plausible; consistent; relevant; recognisable from present day evidence; and challenging, that is, containing some elements of surprise or innovative thinking in directions where the organisation's vision needs to be stretched ('thinking the unthinkable'). Two to four scenarios are ideal. Three should be avoided, especially if they are variations on a theme (e.g. high, medium, low). Scenarios should be multi-dimensional rather than linear.

Step 9: Agree action and next steps. This stage is critical as it involves agreeing a process for the conversion of scenarios into strategies. It might include discussion in relation to the dissemination of findings, timetabling, allocation of responsibilities, examination of internal and external implications etc.

5.3.2 Strengths and weaknesses

Scenario planning is a valuable tool in helping organisations to plan for an uncertain future. It has the following strengths.

- It has the capacity to generate a range of plausible future scenarios, which can then feed into the strategic planning process.
- It can be implemented with relative ease in most organisations. The typical number of participants in a scenario planning process is seven to nine.
- Participants learn team skills and the value of consultation and ownership.
- The project will expand managers' vision, challenge their assumptions and broaden their planning horizons.
- It is particularly useful in an uncertain business environment.
- The involvement of external consultants or experts is generally not required.

However, while scenario planning is widely regarded as an interesting and useful tool in determining future strategy and longer-term planning, a number of reservations are also highlighted in the literature. Scenario planning demands considerable investment by senior management and, in order for this to be justified, it must prove genuinely useful

and an important element of corporate strategy. While it is possible, in particular where there is a reasonably good information base, to organise a shorter, less structured scenario planning exercise, for example of one to two days duration, it remains the case that often the most difficult aspect of the process is persuading managers to make use of the scenarios produced (Mercer, 1995).

There are further challenges.

- Thorough research is needed when preparing and creating scenarios as otherwise they may not resemble the actual future at all.
- The further scenarios project into the future, the less likely they are to resemble reality.
- The direct link between use of scenarios and performance is difficult to trace.

5.3.3 Examples

A range of multi-national companies have used scenario planning to explore strategies in relation to possible future changes and trends in their industries (e.g. Johnson and Johnson and the health care industry). However, in recent years, major scenario planning projects have primarily been conducted by public sector organisations. Some examples include the Australian government's *Future Needs 2010* project (www.astec.gov.au/future/findings); the UK Cabinet Office Performance and Innovation Unit's *Strategic Futures Project* (www.cabinet-office.gov.uk/innovation) and the European Commission's *Scenarios Europe 2010* project (www.europa.eu.int/commcdp/index_en.htm).

5.4 Delphi technique

The Delphi technique assists organisations in detecting trends and forecasting future events. It is described by Fulmer, Gibbs and Keys (1998) as 'a carefully designed programme of sequential individual interrogations, interspersed with information and feedback on results from earlier stages of the programme' (p.14). This definition points to a number of central characteristics of the technique.

Anonymity: It is not necessary for participants to come together in order to be involved in the process and neither is it required that the identity of participants be known. The anonymity of the process has been shown to generate more innovative thinking, as participants are not afraid to diverge from the views of their peers.
Wide consultation: The Delphi technique is based on the assumption that a group is in a position to know or anticipate more than an individual. The process therefore calls upon the experience and knowledge of a large number of experts.
Iteration: The process involves several rounds. This allows the feedback of results from previous rounds to participants and also provides opportunities for the clarification and revision of ideas in order to produce a stronger final report.
Survey based: As the technique is based on a series of questionnaires, it is possible to present results statistically.

5.4.1 Methodology

In 1995, the German government, under the auspices of the Fraunhofer Institute for Systems and Innovation Research, initiated a Delphi project to consider the future direction of the German economy. The following is a synopsis of the methodology used.

Step 1: A (nine-member) steering committee of academics and business leaders was established. The committee was supported by a wider group of approximately one hundred experts with specialised knowledge in a wide range of fields, including education, science, technology, business and environmental studies. These individuals were the principal source of information and ideas on each of the areas relevant to the study.
Step 2: The principal ideas and concepts to emerge from the expert groups were revised several times and their relevance to the future examined.
Step 3: A range of key ideas to emerge from the expert group were also benchmarked against the findings of Delphi projects carried out in other countries to safeguard against national prejudice and to ensure objectivity
Step 4: Ideas in relation to future trends and challenges were then tested though the use of a multiple-choice questionnaire administered to a much larger group of experts (approximately 2,400). With a Delphi survey, the larger the number of participants, the greater the precision of the results.

Step 5: The responses were evaluated and the questionnaire results returned to the original group of experts. During this round, participants were asked to rethink their responses in the light of the assessments made by their colleagues, thus offering them the opportunity to alter their opinions. Since anonymity is maintained, no one needs to justify a changed response.
Step 6: Final results are analysed and a large volume of data produced, thereby allowing focused debates in relation to the future to be established.

5.4.2 Strengths and weaknesses

According to the report of the German Institute for Systems and Innovation Research on their Delphi project (1998), 'Delphi studies provide no immutable picture of the future, but instead offer a foundation of information for decisions in relation to what is to be done, or not done, today' (p. 7). The technique has further advantages.

- It allows for both narrow and wide-ranging views of longer-term future trends.
- It is particularly suited to long time frames of over ten years.
- The process allows for the gathering of views from a large number of people, thereby increasing the statistical significance of the results.
- The same survey can be applied in different countries, thereby allowing for international collaboration and comparisons.

However, Delphi surveys are also both time-consuming and costly. Also, the involvement of a very large panel of experts is essential if the results are to be statistically significant. Hence Delphi studies are only really feasible at a national or international level.

5.4.3 Examples

In addition to the Delphi project carried out by the German government during the 1990s, Delphi studies have regularly been conducted by the Japanese government (e.g. the Japanese National Institute of Science and Technology's projects on the future of science and technology – www.nistep.go.jp)

5.5 Other techniques

5.5.1 Qualitative Methods

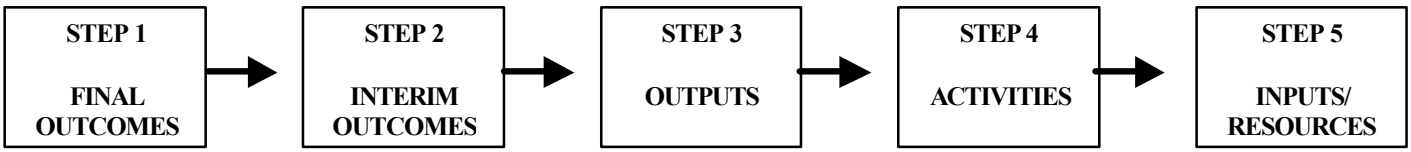
There are a variety of methods to qualitatively determine future trends. These include brainstorming, expert panels and futures workshops. These are typically concerned with social, commercial and political themes, though they can be applied to most topics. One of the most common functions of qualitative trend analysis is trend or 'megatrend' identification, that is spotting major, broad developments that can change society. The outcome of qualitative methods, therefore, though frequently very broad and heavily dependent on individual observers, represents a useful starting point in formulating scenarios for other foresight techniques.

5.5.2 Theory of Change

Weiss (1995) describes theory of change as a theory of how and why an initiative works. Building on this definition, Connell and Kubisch (1999) suggest that theory of change represents 'a systematic and cumulative study of the links between activities, outcomes and contexts of an initiative' (p. 2). As an evaluative approach, it is particularly useful in determining information requirements and in clarifying the assumptions underlying policy making during the early stages of a project. In this sense, theory of change may be categorised as normative forecasting (Australian Science Technology and Engineering Council, 1996) whereby the starting point is future goals and one works backwards to the present.

Theory of change involves firstly, determining desired final outcomes and then working backwards to consider more immediate outputs; then considering activities which need to be initiated in order to produce these results; and finally, looking at the contextual conditions and resources required to implement these activities and produce the ultimate desired outcome. Figure 5.2 illustrates this process graphically.

Figure 5.2
Applying the Theory of Change Approach



5.5.3 Content Analysis

Content analysis involves comprehensive and ongoing monitoring of news media to pinpoint, track and evaluate important issues and trends. This information is assembled into reports for key players in the organisation to analyse. The likely future relevance of current issues can be considered and, where relevant, trends projected into the future. The simplicity of this exercise and the limited resources required makes it an excellent anticipatory tool for smaller organisations.

5.5.4 The Merlin exercise

The Merlin exercise is a combination of free-form simulation and scenario planning (Fulmer, Gibbs and Keys, 1998, p.17). The name derives from the capacity of Merlin, the wizard in the legends of King Arthur, to live backwards from the end of time, and therefore to know the future before it happens. Participants are asked to project themselves into some future period, typically ten years from now, when their organisation has become a local/national/global leader in its market. Contributors begin by engaging in conversation in relation to how the world and their organisation would look at this point and a little about how they got there. The objective then is to work backwards from this future point to the present, identifying key milestones during the intervening years to make the success they have envisioned a reality. Once these milestones have been identified, teams can assess what strategies need to be put in place and changes made in order to make their desired future happen. The principal strength of this approach is that organisations set goals and objectives based on an unrestricted look at the future.

5.6 Key chapter findings

Foresight is an important strategic exercise for companies, governments or organisations when examining the opportunities or challenges they may have to contend with in the future. Looking at the future involves an exploration of preferred goals (normative forecasts), expected trends and possible scenarios (exploratory forecasts). The latter exercise – examining possible futures – is perhaps the most challenging as it involves considering uncertain or alternative, though plausible, future circumstances. A number of structured techniques have been developed to assist in this process. Scenario planning

and the Delphi technique are the two most developed tools. Both are carefully organised processes of consultation and exploration of the future, the results of which have been useful in assisting in priority setting and identifying objectives regarded as important in the longer-term. The principal difficulty with studies of this nature is the considerable cost and investment of resources required. Despite the proven benefits, this frequently acts as a disincentive to engaging in futures research.

6
Conclusions and Recommendations

6.1 Introduction

The future is inherently unpredictable. Yet at the same time, the positioning of Ireland's economic and social policies to meet future challenges demands that a longer-term perspective be applied to policy thinking. Looking to the longer-term future of economic, technological and social issues is important in identifying strategic issues which need to be addressed today that are likely to lead to economic and social benefits in the future.

This study illustrates both the challenges associated with promoting longer-term policy development and a range of possible actions to support longer-term policy thinking. Before examining such actions, a number of general points regarding longer-term policy development should be emphasised. First, it is important to recognise that the promotion of longer-term thinking is not simply about more forecasting. Forecasting the future is, more often than not, impossible. What is needed is a greater awareness of possible future options, and a consequent understanding of the robustness of existing, planned and emergent strategies to cope with contrasting futures. Second, associated with this uncertainty surrounding futures thinking, the processes used to look longer-term (expert panels, scenario workshops and the like) can often be as important as the outputs produced. Encouraging a futures-oriented perspective and culture within individuals and organisations brings benefits of its own beyond those associated with individual longer-term policy initiatives. And thirdly, it is important that longer-term policy development does not become an abstract exercise, divorced from current day concerns. Futures thinking must be rooted in current concerns and issues if it is to be influential.

For futures-oriented thinking to be a more vital element in the policy process, a number of constraints must be overcome. Interviews conducted for this study highlight a number of challenges. These include the pressures on the electoral and political process to prioritise shorter-term issues; the potential for self-censorship on the part of public servants when presenting policy options, focusing on those options perceived to be favourable in the short-term; overcoming an accountability system that is perceived to focus more on

blame-apportionment than the encouragement of risk-taking; creating the space and time to engage in longer-term thinking; overcoming data deficiencies; and developing the capabilities to effectively engage with longer-term issues.

Given these general constraints, there are a number of actions that have been identified in this study that can be taken to promote and enhance longer-term policy development. Actions can be grouped under four themes:

- generating the space and time for longer-term policy thinking: addressing structural and process issues
- conducting foresight exercises: using networks effectively to create futures scenarios and priority policy options
- establishing a common agreed agenda for longer-term, strategic and cross-cutting research: shaping the demand for longer-term policy thinking
- ensuring an effective supply of longer-term policy thinking: enhancing competencies and capabilities.

6.2 Generating the space and time for longer-term policy thinking

During the course of this study, a number of actions have been identified that can help create a general climate where longer-term policy development can take place. Conversely, where no action is taken, the ability to engage in longer-term thinking is likely to be limited. Two areas where systemic changes in practice are required concern the political/administrative interface and the design of work processes in organisations. A third area crucial to creating the space and time for long-term policy thinking is in developing appropriate structural supports.

6.2.1 The political/administrative interface

While individual ministers and politicians do engage in longer-term policy thinking, undoubtedly pressures from media coverage of events and the electoral cycle focus most attention on short-term and immediate concerns. These priorities in turn drive both the priorities of the civil service and the amount of time that is spent servicing the democratic process, through the preparation of speeches, responses to parliamentary questions and the like. There are also concerns in the system that the manner of operation of the

parliamentary committee system focuses more on blame apportionment than on dialogue on longer-term issues.

In this context, the aim must be to maximise the chances of engagement with longer-term issues. There is a need for dialogue between politicians and civil servants so as to encourage a culture where exploring options and trying various strategies is encouraged, in the knowledge that there will be some 'wins' but some 'failures' also. Also, civil servants should put all options to ministers (including longer-term strategies) rather than self-censor and focus on the options seen as favourable in the short-term. Ministers and the government will then determine the policy choices to be made, taking account of the full range of options. Civil servants have responsibility for putting forward the policy options, including an examination of the longer-term implications and trends.

There are also ways in which servicing the democratic process can be managed so as to limit the time and resources this activity takes. This issue is addressed below, under the discussion on the design of work processes.

6.2.2 The design of work processes to facilitate longer- term policy development in organisations

Work processes in departments and offices should be reviewed, so as to free up as much time and space as possible to concentrate on strategic and longer-term issues. The review of the Department of Education and Science's operations, systems and staffing needs (Cromien, 2000) demonstrates the kind of options open to organisations in re-designing their work so as to give more time to longer-term policy development:

- re-assessing existing practices with regard to routine and time consuming workloads and individual case work. The development of robust and transparent criteria for decision making, and a pro-active approach to issues such as parliamentary questions and representations, can reduce the burden of detailed work.
- devolving work to other organisations. Departments should assess the nature of the work undertaken, and determine if it could be done more efficiently by another agency or level of government.

– creating a unit focused on longer-term policy issues. Particularly for strategic priority and cross-cutting issues which do not readily fall to individual sections, there is a case for creating a specific unit charged with taking such futures-oriented work forward. See section 6.2.3 for more details of the advantages and disadvantages of dedicated units.

6.2.3 Structural supports for longer-term policy development

The last point made above, concerning the creation of a unit focused on longer-term policy issues, raises the key questions of where longer-term policy thinking should happen and by whom it should be undertaken? There are a range of structural arrangements that can facilitate and support longer-term policy thinking. Within this range, two broad categories of structural arrangements are discernable. Units are one, temporary/task-based networks the other. While they are not mutually exclusive, and may operate together, both have strengths and weaknesses, as indicated in Table 6.1.

Specific units with a remit to focus on longer-term policy issues may be based in government departments or agencies, or be independent/academic units. Units based in government departments or agencies have the advantage of creating time and space where expertise can be developed within government to promote longer-term thinking. Such units can also be well placed to co-ordinate and focus activities on key strategic, cross-cutting longer-term issues that do not fall to the responsibility of individual line divisions. However, a danger to be guarded against with dedicated units is that longer-term policy issues are seen as the preserve of such units, with longer-term policy being divorced from operational issues.

Engagement with longer-term policy is the responsibility of all units within departments and offices. Specific units may also be inappropriate for smaller departments or agencies, as they may be too resource-intensive in terms of the overall capacity of the department. Dedicated units are likely to be most effective when dealing with a large policy sphere, such as education (as with the strategic policy directorate in the Department of Education) or when located at the centre of government and with a remit to address priority cross-cutting issues, as with the Performance and Innovation Unit in the Cabinet Office in the UK.

Table 6.1
Structural arrangements for addressing longer-term policy issues

Structure	Examples	Advantages	Disadvantages
Government based units	Strategic Policy Directorate (Dept. of Education); Performance and Innovation Unit (UK Cabinet Office); Forward Studies Unit (European Commission); Policy Research Initiative Secretariat (Canada)	• Create time and expertise within government for longer-term thinking to occur • Centrally placed to take on strategic, cross-cutting policies not 'owned' by line divisions	• Danger of policy issues being divorced from operational • Resource intensive in small organisations
Independent/academic units	Policy Institute (TCD); Copenhagen Institute for Future Studies; Finland Futures Research Centre; think tanks	• Can develop expertise in futures-oriented thinking that is cross-sectoral • Not constrained in their policy thinking by government priorities	• Danger of being divorced from operational realities of government departments • Can be overly 'academic' and insufficiently linked to current policy priorities
Temporary/ task-based networks	Long-term issues group (Dept. of Finance); foresight exercises (e.g. Technology Foresight Ireland, Agri Food 2010); Norway 2030; Strategic Futures Project (UK); Policy Research Initiative (Canada)	• While resource intensive during the task, not a permanent call on resources. Can assemble and disband project teams as necessary • Effective way of getting people who work in different policy spheres together on cross-cutting issues	• May not be sufficient on their own to build up capabilities to undertake strategic, longer-term thinking amongst participants • Can be cumbersome and time consuming if not managed effectively

Dedicated futures-oriented units or units with a strong futures focus may also be independent of government. Often such units are based in or closely linked with third-level academic institutions. Such units have the advantage that, because their work is not confined to government agendas, they are free to examine and explore a wider range of issues and possibilities. However, this independence may also be a disadvantage from a government perspective, in that such units can be divorced from the operational priorities of government departments, producing overly 'academic' work insufficiently linked to

government needs. Such units are likely to be of most assistance to government either in providing broad overviews of futures-oriented issues or when commissioned to produce specific items to feed into the policy process.

Apart from units, the other main structural approach to providing longer-term thinking on policy issues is through the use of temporary/task-based networks. Such networks may be strictly time-based and focussed on a specific activity, such as many foresight exercises, or have a more wide ranging remit, such as the long-term issues group in the Department of Finance or the networks associated with the Policy Research Initiative in Canada. A distinct advantage of networks is that they do not require full-time commitment of participants; project teams can assemble and disband as necessary. Networks are also a useful way of getting stakeholders from different sectors together to work on a common agenda arising from longer-term policy issues. However, because of their temporary/part-time nature, networks may not be sufficient to build up competencies and capabilities in longer-term thinking.

There is no one right answer to the questions of where long-term policy development should take place, and by whom. Dedicated units and temporary/task-based networks each have strengths and limitations, and the appropriate structural response depends very much on the nature of the task in hand. Unit and network structures may also be complementary, with units overseeing or co-ordinating a network approach to specific longer-term issues. This is the case for example with regard to the Strategic Futures Project, which is overseen by the Performance and Innovation Unit in the UK.

6.3 Conducting foresight exercises

Foresight exercises have been shown to be a particularly useful network-based approach when engaging with strategic, cross-cutting, longer-term issues. The experience of Agri Food 2010, Technology Foresight Ireland and international foresight exercises is that, where done well, such exercises can make a significant contribution towards structured consideration of the future. The involvement of stakeholders, generation of consensus on a longer-term vision and development of forward-looking capabilities among participants are among the benefits which can arise. A number of lessons are identified from

reviewing the conduct of such exercises that are of interest to those planning to undertake such an exercise.

- Link the futures-orientation of the exercise to current concerns. If the initiative can be tied in with providing inputs to current or emergent policy issues (the production of the National Development Plan in the case of Technology Foresight Ireland, EU enlargement and world trade negotiations in the case of Agri Food 2010), there is a greater the chance of useful results arising from the exercise.
- Devote time at the planning stage. Large scale futures-oriented exercises require considerable planning and resourcing. Much can be learned from the experience of others, but this needs to be adapted to the particular circumstances of an individual exercise rather than simply copying what someone else has done.
- Make use of a steering committee to oversee the process, and expert panels to address specific issues if appropriate. A steering committee, comprising the main stakeholders, can provide co-ordination and control of the process, expertise, and a forum for the development of consensus. Expert panels can address specific topics in detail. Selecting the right chair and secretary for the steering committee and panels is a critical determinant of success as is, in general, having high quality and committed membership.
- Appoint a high calibre secretariat, and recognise the time input needed for the secretariat to do an effective job. A good secretariat is needed for much of the on-going work of such exercises, and to oversee and co-ordinate activities. The time input needed in planning for meetings, at meetings and between meetings should not be underestimated.
- Make use of topic experts to produce background papers and reports on key longer-term topics. Commissioning such expert inputs provides a degree of standing to the work and acts as a catalyst for detailed consideration of specific topics.
- Use foresight techniques such as scenario planning or the Delphi technique to structure longer-term thinking. Scenario workshops have been found to be particularly useful, both in developing alternative future scenarios, and in terms of testing and selecting robust strategies capable of implementation under a range of possible economic and social conditions. The scenarios approach is also a good way of getting participants to look beyond their own interests and priorities, generating a consensus view on the main issues to be addressed.

– Engage in structured consultation with stakeholders and the wider public. Invitations through the press for comments and the use of a dedicated web site are common means of disseminating information.
– Develop a plan of action as an implementation mechanism. To ensure that the findings from the futures-oriented exercise are translated into action, a plan detailing what should be done, when and by whom, is an important follow-up to the exercise.

6.4 Establishing a common agreed agenda for long-term strategic and cross-cutting research

As well as systemic and structural changes to create a climate where longer-term policy development can take place, there are also other specific actions which can be taken to generate a structured demand for longer-term policy initiatives. In particular, there is a need to establish a widely shared agenda for longer-term strategic and cross-cutting research.

Data limitations and problems with establishing an agreed framework for longer-term research are constraints on the development of informed longer-term policy thinking. Initiatives such as the technology foresight fund, *Making Knowledge Work for Health* (Department of Health and Children, 2001) and the Programme for Research in Third Level Institutions (PRTLI) run by the Higher Education Authority (Higher Education Authority, 2001), are attempts to move forward in this area. But they need to be co-ordinated, and similar initiatives developed to cover other social and economic issues. The dangers of initiatives being provider-led, rather than responding to policy priorities, also needs to be guarded against.

International experience indicates that some governments are developing initiatives that set a broad, agreed agenda for key themes or issues to be investigated from a longer-term, cross-cutting and strategic perspective. In particular, there is a concerted effort to create more structured linkages between governments and academia, with the aim of generating more policy-relevant research from academics and research institutions, by encouraging them to work on issues which are seen as important from a longer-term policy perspective. By being clear about the priorities for the longer-term policy research agenda, the demand is generated for policy-relevant research.

The Policy Research Initiative (PRI) in Canada represents the most comprehensive initiative of this type, and provides valuable lessons that could be applied with benefit in Ireland. A PRI-type initiative in Ireland could establish the government's longer-term research priorities, encourage collaborative research networks on the key research themes identified, and ensure the continuing policy relevance of the research agenda.

6.5 Ensuring an effective supply of longer-term policy thinking

On the supply side of the picture, it is important that challenges such as the limited skills base and people working in isolation are addressed. It is important to take action both to enhance the capacity and also the capabilities required to conduct longer-term policy development.

6.5.1 Enhancing capacity

Some capacity issues have been addressed in section 6.2.2, in terms of initiatives which can create more space and time for longer-term thinking within organisations. In addition to these actions, examples given in this study illustrate that there are other actions that organisations can take to enhance the capacity to undertake longer-term policy development.

- Working/issue groups focussed on longer-term issues can be created. The long-term issues group in the Department of Finance provides an example of what can be done.
- Staff can be assigned to work on projects with a longer term focus. Such an approach can be a development and leadership opportunity for assigned staff. It is, however, resource-intensive and requires administrative resources to be allocated in such a way that the day-to-day work can be re-allocated as necessary.
- Work on longer-term issues can be commissioned from relevant organisations. It is not always possible or desirable to address longer-term issues in house. External organisations, academic or consultancy, may provide space and expertise for new thinking on complex and longer-term issues. Where this is the case, the ability to manage the process internally is important, to maximise the resulting benefits. So too, where relevant, is skills transfer to the organisation from the external contractor.

6.5.2 Enhancing capability

Ensuring that there are relevant skills and capabilities to address longer-term policy issues is a crucial supply issue. To this end, actions can be taken specifically targeted at improving the skills base:

- Networks should be developed of people and organisations involved in longer-term policy development thus providing a means of sharing good practice and promoting the creation of a community and culture of longer-term thinking. The networking activities of the Canadian Policy Research Initiative (conferences, workshops, website journal and the like) and the Australian Public Service Futures Forum provide models which could be adapted to an Irish setting.
- Training and development initiatives should encompass an understanding of the methodologies and practices associated with futures-oriented thinking. Longer-term educational programmes, such as the masters degrees provided by the Policy Institute and the Institute of Public Administration, provide relevant material which could be developed further. Shorter term courses such as the five-day policy analysis course run by the Centre for Management and Organisation Development (CMOD) in the Department of Finance should be encouraged, and include specific futures-oriented aspects, such as an understanding of scenario planning and the other techniques outlined in Chapter Five.

6.6 Concluding comments

In the last few years, there has been a notable increase in the number of futures-oriented initiatives undertaken in the public sector internationally. Given the rapid pace of social, economic and technological change, longer-term policy development initiatives are needed to help determine appropriate policy options and inform current policy choices to meet the demands of the future.

A key message arising from this study is that, apart from the direct benefit of specific initiatives in longer-term policy development, the benefits arising from the process of engagement with longer-term issues can be as great. This is particularly so in fostering a culture supportive of longer-term policy thinking where individuals can develop within their organisations and in their day-to-day activities. Embedding longer-term policy development faces many challenges and constraints. But where these challenges are

addressed, the ability of the public sector to help shape the future, rather than waiting for it to happen and then responding, is enhanced.

Annex One
List of Inerviews Conducted for the Study

Helena Acheson, STI Division, Forfás
Professor Michael Bannon, Director, Spatial Planning Research and Service Centre, UCD
Mary Burke, Director, National Crime Council
Bob Carroll, Director, National Council on Ageing and Older People
Niamh Connolly, Manager, The Coastal Resources Centre, UCC
Professor Frank Convery, The Environmental Institute, UCD
Sean Cromien, former Secretary General, Department of Finance
Dr. Freda Donoghue, The Policy Research Centre, NCIR
Des Dowling, CMOD, Department of Finance
John Fanning and Tom Healy, Strategic Policy Directorate, Department of Education and Science
John Fitzgerald, Research Professor, Economic and Social Research Institute
Professor Robbie Gilligan, Director, Children's Research Centre, TCD
Professor Patrick Gunnigle, Director, The Employment Relations Research Unit, UL
Seamus Jackson, Planning and Organisation Branch, Department of Defence
Professor Cecily Kelleher, Director, The Centre for Health Promotion Studies, UCG
Philip Kelly and George Burke, Public Service Modernisation Division, Department of the Taoiseach
Orla Lane, Senior Research Officer, Policy Institute, Trinity College Dublin
Brigid McManus and Michael Scanlon, long-term issues group, Department of Finance
Tom Mulherin, Planning Unit, Department of Social, Community and Family Affairs
Úna Nic Goille Choille, Department of Finance
Helen Nugent, Policy Development and Evaluation Section, Department of Tourism, Sport and Recreation
Aidan O'Driscoll, Economics and Planning Division, Department of Agriculture, Food and Rural Development
Lorna Ryan, Audrey Warren and Sinead Riordan, Centre for Social and Educational Research, DIT
Don Thornhill, Chair, Higher Education Authority
Brendan Tuohy, Secretary General, Department of Public Enterprise

John Travers, Chief Executive, Forfás

Annex Two
Getting Longer-Term Policy Development on the Agenda: the Role of Policy Networks

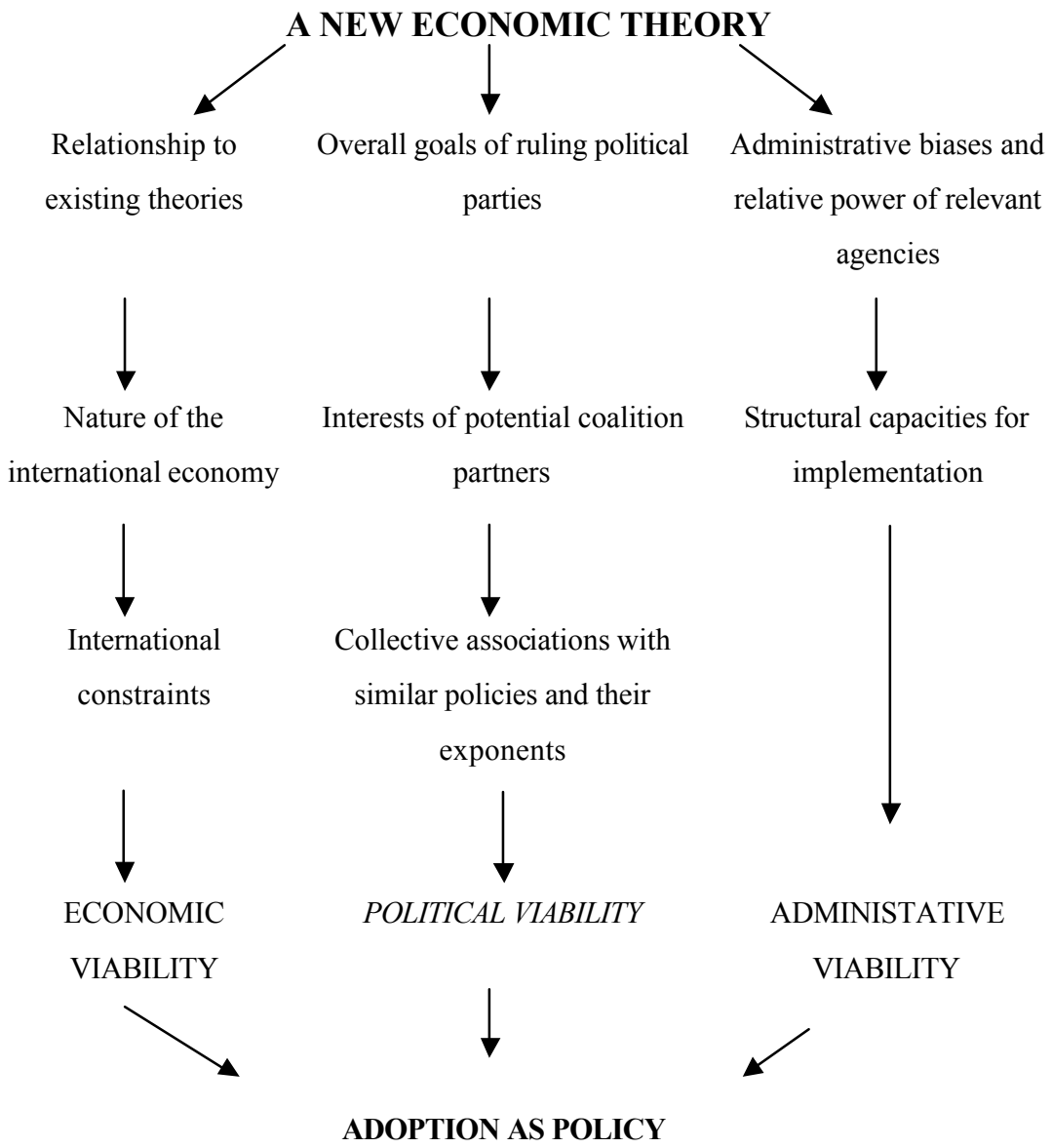
While in general both the demand for and the supply of longer-term policy development information may be weak, clearly there are times when longer-term issues reach the political agenda and are acted upon. An understanding of how this happens can help understand the actions needed to enhance demand and supply.

In understanding how longer-term issues reach the policy agenda, it is important to understand the relationship between issues and institutions. Solesbury (1976), dealing with the rise of the environmental issue in the 1970s, indicates that issues must (a) command public attention and (b) have governmental legitimacy. In this latter case of legitimacy, the issue must fit in and correspond to prevailing values in government institutions, or compatibility must be established.

In developing this argument further, Parsons (1995) elaborates on work by Hall (1989) in examining how in economic policy making the counter-Keynesian revolution occurred in economics in the 1980s, leading to long-term shifts in economic policy in many countries. Essentially, as illustrated in Figure A1, Hall's thesis is that while ideas are important, so too are other factors. As Parsons (1995) notes 'For an idea to be adopted as a policy it has to have a good fit with the economic circumstances which are existing; it has to be seen as being in the interests of the dominant political interests and it has to be judged to be feasible in administrative terms'.

For a longer-term policy issue to get on the policy agenda it must therefore influence a number of actors in what have been termed policy networks (Rhodes, 1997). Elaborating on this idea, Pemberton (2000) has developed a scheme for analysing the role of policy networks which is outlined in adapted form for Irish circumstances in Figure A2.

Figure A1
Hall's model of how ideas influence policy

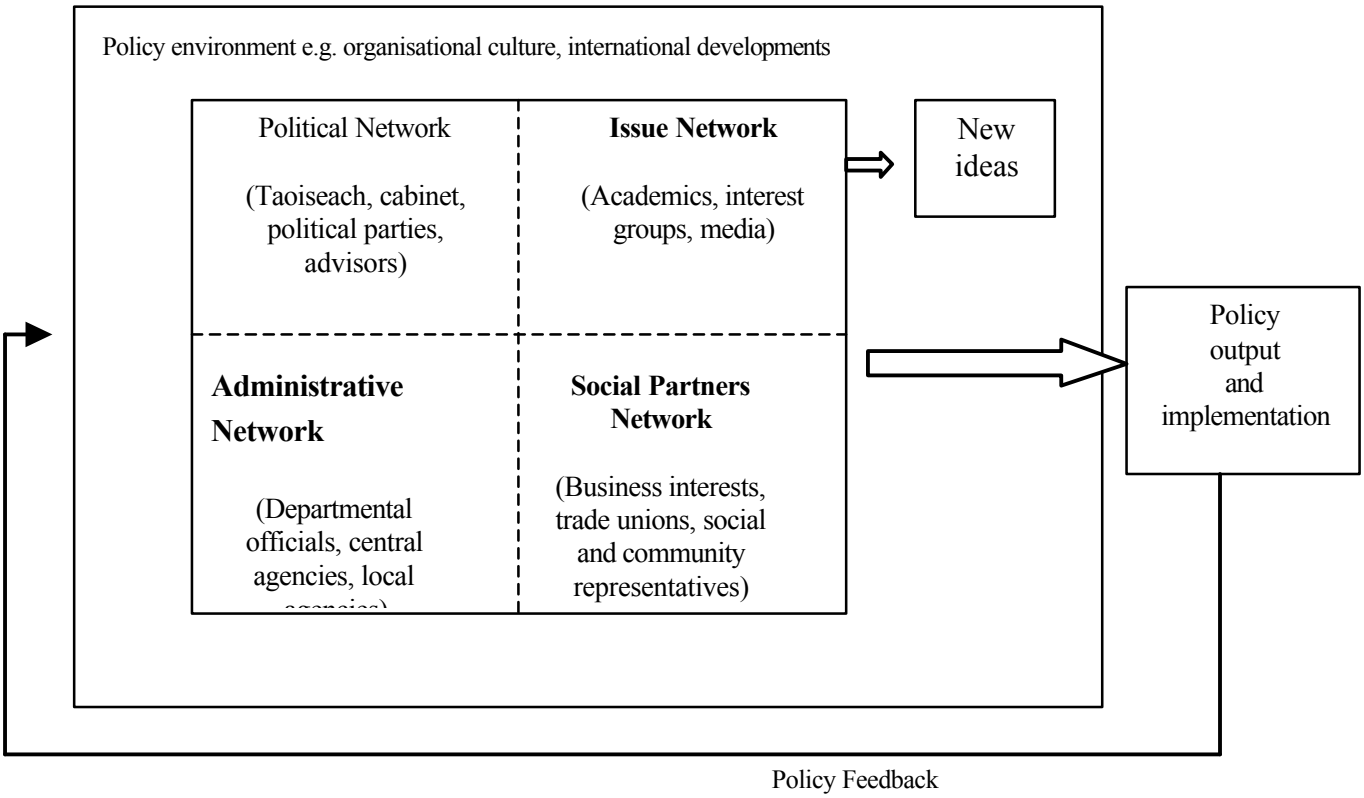


Source: Adapted from Hall (1989), in Parsons (1995)

The central box in Figure A2 represents the policy making terrain, comprising a number of policy networks (political, administrative, social partners, and issue networks) each of

which has a number of policy actors. Taking the issue network as an example, a particular policy issue may have a loose grouping of actors such as academics and the media who do not make policy but who can as Pemberton (2000) notes 'shape it indirectly, through the generation and transmission of ideas that change the context within which policy decisions are made, or by directly advising policy makers at the centre'.

Figure A2
A policy network schema
Source: Adapted from Pemberton, 2000



The second element of the schema is the outer box, representing the environment within which policy makers act. Factors such as organisational culture, international developments and historical/sociological/political contextual issues both shape and constrain policy makers and the institutions and networks within which they operate.

The third element of the schema is the policy feedback loop. Pemberton (2000) notes that '… the implementation of policy can change the environment and that this changed environment will, in turn, affect the subsequent actions of policy makers and perhaps also the structure of the policy network itself.' And finally, the small arrow at the top right hand corner of the central box illustrates how new ideas, perhaps generated by academics, think tanks or the like, may be developed and promoted by interest groups via issue networks and in turn change the policy environment.

The various academic studies cited thus illustrate that if we are to understand how or why longer-term policy issues get on to the policy agenda, we need to examine and understand the policy networks involved and how they operate. In terms of the demand and supply model outlined in Chapter 2, this brings a greater degree of sophistication to the model. Demand may emanate from one or a number of policy networks. How these networks interact will be influential in determining whether longer-term issues get on to the agenda or not. Similarly, with regard to supply, the importance of institutional factors on policy-making capabilities is highlighted, as is the fact that the supply of thinking and elaborating on longer-term issues, like demand, may emanate from a number of sources.

Annex Three
Tecnology Foresight Ireland

(For more detailed information on the technology foresight exercise, readers are referred to the Irish Council for Science, Technology and Innovation 1999 report, *Technology Foresight Ireland – An ICSTI Overview.*)

Background

In March 1998, the Minister for Science, Technology and Commerce requested the Irish Council for Science, Technology and Innovation (ICSTI) to develop and undertake a technology foresight exercise in Ireland. Technology foresight is a process for bringing together scientists, engineers, industrialists, government officials and others to identify longer-term issues in need of strategic research, the emerging technologies likely to yield the greatest economic and social benefit, and appropriate policy responses. The time horizon for the project was set at 2015.

Context and main findings

The government white paper of 1996 on science, technology and innovation indicated that a technology foresight exercise would be carried out, in the context of new arrangements for the prioritisation of state investment in science and technology. A significant aim of the exercise was to provide input to the preparation of the National Development Plan 2000-2006. It was also intended that the exercise would help guide future allocations of exchequer funding to science and technology by government departments.

ICSTI identified eight sectors for consideration: chemicals and pharmaceuticals; information and communication technologies; materials and manufacturing processes; health and life sciences; natural resources (agri-food, marine, forestry); energy; transport and logistics; construction and infrastructure. Expert panels were established for each of these eight sectors, and reports produced, with the exercise being completed in a twelve month period. The technology foresight exercise concluded that:

> … the Irish economy should be repositioned, to be widely recognised internationally as a knowledge-based economy. To do this, the knowledge framework can be visualised as a pyramid – where industry, the higher education sector, government and society are the four interlinked faces forming a partnership at all levels … a gap at the apex of the pyramid has been identified (the need for a world class research capability of sufficient scale in a number of strategic areas within our universities and colleges, research institutes and industry (ICSTI, 1999).

Arising from this and more detailed findings, ICSTI made four main recommendations:

1. All government departments and agencies use the foresight findings in future planning exercises.
2. Ireland become a centre of excellence in information and communication technology (ICT) and biotechnology niches. These two areas were widely identified in the panel reports as key engines of growth, with a world class research capability in selected niches in these two areas being an essential foundation for growth. They were also seen as pervasive and underpinning technologies for key strategic sectors.
3. Government policies be more proactive in the creation of an environment conducive to technological innovation, especially in relation to regulatory and fiscal issues.
4. Government establish a technology foresight fund of £500 (€635) million over five years.

In response to the exercise, the government, in 2000, created a technology foresight fund of £560 (€711.2) million as part of the investment earmarked for research, technology and innovation activities in the National Development Plan 2000-2006. This fund is administered by Science Foundation Ireland, operating as a sub-board of Forfás. Its main aim is to develop a world class research capability in niche areas of ICT and biotechnology.

There is also some evidence of government departments making use of the foresight findings. For example, the Department of Public Enterprise included relevant findings in policy developments on sustainable energy. The Department of Agriculture, Food and Rural Development has made use of the natural resources report in subsequent policy decisions. Forfás has also had requests for information from other government agencies

who were using or were interested in using the foresight process to develop a longer-term perspective on particular issues.

Structure and process issues

ICSTI established a task force on technology foresight to oversee the process. The task force members were the chairs of the sectoral panels (see below) and the task force was chaired by Brian Sweeney, chairman of Siemens Ltd. Ireland and vice-chair of ICSTI. The task force and the exercise overall was jointly supported by the Office of Science and Technology in the Department of Enterprise, Trade and Employment and Forfás, who also provided the secretariat for the project. Forfás provided a national co-ordinator, who sat on the task force and was also responsible for co-ordinating the work of the panel secretariat.

The main work of the foresight exercise was undertaken in the eight panel groups set up to consider the eight sectors identified by ICSTI. Each panel consisted of roughly twenty to thirty members, each with a chair, deputy chair and secretary. The chair for each panel was provided by ICSTI, to provide a driving force and sense of ownership. The secretariat was provided by Forfás and staff seconded to Forfás from other organisations for the task, under the direction of the national co-ordinator. The panel members were representatives from industry, the higher education sector, state agencies, research institutes and government departments. Panel members were asked to consider the likely social, economic and market trends affecting Ireland in the medium to long term and the developments required in science and technology to address future needs. Each panel met several times. All panels undertook extensive consultations, via workshops, the commissioning of contributions from international experts in specific technologies, and public contributions via press advertisements and a specially constructed foresight web page.

In establishing the work programme and procedures for the panels, the ICSTI task force drew heavily on experience abroad with technology foresight exercises. A number of OECD countries have engaged in foresight projects in recent years, and the task force and the secretariat drew in particular from work undertaken in the Netherlands, UK, Austria and New Zealand. Prior to the foresight exercise commencing, the national co-ordinator

and task force members examined international experience, and held discussions with key players to identify successes and problems from their experience. During the exercise, the national co-ordinator for the Netherlands foresight exercise and a representative from the Institute for Prospective Technological Studies in Seville acted as consultants when appropriate, providing guidance and experience in how to tackle issues. This practice from elsewhere was tailored to Ireland's own requirements, size and economic structure. Thus, for example, the timescale of twelve months for the project, compared with three to five year foresight exercises more common elsewhere, was related to the need to link in with the preparation of the National Development Plan, and a desire to actively involve busy industry representatives in the process.

International experience indicated the importance of the quality and stature of panel members to the outcome of the exercise. A key aim was for participants to work together toward developing a consensus on research priorities, creating a shared vision of the longer-term future and identifying the critical strategic decisions to be taken now to increase the chances of the vision being achieved.

The panels made extensive use of scenario planning, widely used in technology foresight exercises, to test the sectoral strategies being proposed for robustness in the face of future uncertainties. As ICSTI (1999) notes:

> The use of scenario building is an important feature of the foresight process. It facilitates large companies, smaller enterprises, the public sector partners and researchers to break out of the constraints of thinking about the future based only on current experience and trends. The systematic process of technology foresight can, therefore, be of immense value in fostering a new shared mindset amongst the partners.

Typically, strategies and scenarios were developed by the panel or a sub-group of the panel. Half way through their work, the panels publicly circulated what was termed a 'First View' report, essentially a preview of the final report. This formed the basis for consultative workshops with interested parties. Contributions were also invited through the press and the web page. At the consultative workshops, strategies were tested against the identified scenarios. To take the chemical and pharmaceutical panel as an illustrative

example, at a scenario workshop held in 1998 each draft strategy was tested against three scenarios which aimed to capture the key uncertainties about the future. Draft strategies were discarded if they were considered either to be ineffective or too future dependent. Four strategies deemed to be relevant and sufficiently future-proof were then further developed and refined in the light of feedback from the workshop.

As with international experience, the Irish experience was that actual involvement in the intensive and interactive discussions about current problems and future scenarios and strategies was of great value to all participants, facilitating future co-operation and networking. The process of the technology foresight exercise, in terms of consultation and the generation of consensus and commitment, was 'in all cases of equal value to the outputs' (ICSTI, 1999).

Key issues from the perspective of the longer-term policy development study

A number of significant issues emerge form the Technology Foresight Ireland experience which are of general relevance from the point of view of promoting longer-term thinking on policy issues in the public service more generally.

- Linking the timing of the foresight exercise with the production of the National Development Plan (NDP) was vital in terms of securing an immediate impact from the exercise. While this produced a tight, twelve-month timetable, being able to link in with the NDP was seen to increase the likelihood of the findings being acted on.
- The work done pre-foresight was important to the success of the exercise. The technology foresight process had been undertaken in other countries. There was experience to learn from, rather than having to start with a blank sheet. It was important, however, that experience elsewhere was not simply copied, but adapted to the Irish situation and national requirements. Preparatory work takes time and resources, but was crucial in establishing a process that worked.
- The ICSTI task force, national co-ordinator and secretariat played a key role in overseeing and co-ordinating activities. With eight panels covering different sectoral issues, a wide range of participants, and a tight twelve-month timescale for completion of the project, co-ordination and control was vital to the process. A significant time input was required by the secretariat. This was initially underestimated.

- The eight expert panels were crucial to producing agreed and informative reports for each sector. The need for high quality and committed membership, highlighted by international experience in foresight exercises, was confirmed here. The role of chair and secretary was particularly important in determining the engagement of the panel with the issue at hand and pushing the agenda forward. The involvement of the main stakeholders (a mix of industrialists and academics) in each panel also encouraged the development of consensus and a shared longer-term vision on the issues and strategies to be addressed. It was found to be important not just to have the 'usual suspects' on panels, but a wide mix, including a few 'wild cards'.
- Scenario planning was found to be a useful methodological tool for structuring the panels approach to their work. In particular, using scenarios to test the robustness of strategies facilitated the selection of robust strategies capable of longer-term implementation under a range of possible economic and social conditions. The scenario approach was also found to be useful in enabling participants to work beyond their own particular interests and priorities, and to generate a common view on the key issues to be addressed.
- Consultation was an important part of the process. Each panel consulted widely, through consultative workshops, invitations through the press for comments, and through the dedicated web site. The consultation exercise at the mid-point of the process, through the circulation of the 'First View' panel reports, was particularly helpful in encouraging comment and getting buy-in from the wider interested community beyond panel members.
- Overall, the process followed in the technology foresight exercise was seen as being as important as securing the agreed panel reports and final ICSTI overview report. This was in line with international experience, where the process was seen as key to securing consultation, consensus and commitment to the longer-term development of policy.

Annex Four
Agri Food 2010

Background

The Agri Food 2010 Committee was established by the Minister for Agriculture, Food and Rural Development in June 1999. The terms of reference of the committee were:

> To propose a strategy for the development of Irish agriculture and food over the next decade, following the agreement on Agenda 2000, and in the light of the changes and challenges which are likely to evolve nationally and internationally over that period (Department of Agriculture, Food and Rural Development, 2000)

Context and main findings

The Agri Food 2010 Committee was set up because of awareness in the Department of Agriculture, Food and Rural Development (DAFRD) that the agri-food sector was facing major challenges in the coming decade. Issues such as the new round of world trade negotiations, the enlargement of the EU and change in EU policy, and a food market driven by new consumer lifestyles and concerns, were thought likely to produce a much more challenging and competitive environment. Similarly, changes in farm structures and the growth in the number of part-time farmers were seen as having significant implications for the future of the agri-food sector.

Reflecting on such issues and exploring possible trends in the agri-food sector to 2010, the Committee developed a vision for the future of agriculture and the food industry. With regard to agriculture, the vision is of a dynamic agricultural sector, consisting of a relatively small but highly productive full-time farm sector and part-time farmers in a strong, integrated rural economy. With regard to the food industry, the vision is of a competitive food industry which is strongly consumer-focused. To achieve this vision, the Agri Food Committee developed a number of strategies under five headings: meeting consumer requirements; developing a competitive food industry; developing competitive

full and part-time farming; maximising the sector's contribution to sustainable rural development; and facing the challenge of new technology.
In response to the Agri Food 2010 report and subsequent consultation, the DAFRD developed a Plan of Action as the government's formal response. This plan sets out specific measures to achieve the strategies contained in the Agri Food 2010 report.

Structure and process issues

The Agri Food 2010 Committee had thirteen members, independent experts from the agri-food sector. The Committee was chaired by Pat O'Neill, former group managing director of Glanbia, and included representatives from the farmers' unions, food industry business leaders, academia, and the Director of Consumer Affairs. This group was supported by a secretariat provided by the economics and planning division of the DAFRD and the rural economy research centre in Teagasc, with significant input from Bord Bia and Enterprise Ireland.

The group oversaw the production of a variety of working papers looking at possible future developments in the agri-food sector up to 2010. For example, one important piece of work was the projection of future farm numbers, undertaken by a working group of staff from DAFRD, the Central Statistics Office, Teagasc and UCD. Three main farm groupings were identified (viable full-time, part-time and transitional) along with a number of sub-groups within which existing farm numbers were classified. Farm numbers were then projected into the future (a) on a no policy change basis, and (b) on a policy change basis. The no policy change projection simply shows what would happen if pre-existing trends were to be continued. It formed a rough baseline against which to assess policy change. The policy change scenario made a number of assumptions about how changes in the policy environment will impact on farm numbers:

- competitive pressures will reduce the number of viable full-time farms
- the number of part-time farmers is likely to increase over the baseline
- the numbers in the transitional group will decrease, particularly if policies to encourage elderly farmers to retire are adopted.

In the policy change scenario, 20,000 viable full-time farmers and 60,000 part-time farmers were projected for 2010. This compares to 35,000 and 50,000 respectively in the no policy change baseline, and compares to 1998 figures of 44,300 viable full-time farmers and 38,500 part-time farmers. These figures caused a significant amount of comment and debate in consultations after the plan was published. In the Plan of Action, the government point out that these figures are not targets, but rather are tentative estimates, based on a range of assumptions.

Other working papers were commissioned by the Committee and undertaken by experts in particular fields. For example, the Department of Food Economics, NUI Cork, was commissioned to prepare a report on developments in food retailing, on the basis of submissions made by Bord Bia, Enterprise Ireland and Forfás. A study of world market projections, summarising projections from leading internationally recognised authorities, was undertaken by the Food and Agricultural Policy Research Institute (FAPRI)-Ireland Partnership. The Committee also undertook extensive consultation, and invited submissions from organisations and individuals. These were placed on a website created for the Committee (www.agrifood2010.ie).

The secretariat for the Committee was involved in co-ordinating the production of working papers, producing background papers, collating submissions and drafting the report.

Following publication of the report, and prior to the production of the Plan of Action, the government engaged in further consultations with interested organisations. There was a generally positive reaction to much of the report and support for the vision and associated strategies. The main issue of concern for the farmer organisations centred around the projection of full-time farm numbers. While the report did not generate consensus on this issue, it did move the debate forward and led to a significant shift in thinking and policy towards part-time farmers (for example in the qualifications for National Development Plan schemes). Other organisations had specific items with which they disagreed. Overall, the reaction was positive and favourable to many of the proposals in the report.

Key issues from the perspective of the longer-term policy development study

A number of significant issues emerge from the Agri Food 2010 experience of general interest from the point of view of promoting longer-term thinking on policy issues in the public service more generally. Among the key issues are:

- The creation of an expert committee to oversee the process and produce the report. This committee provided both (a) a wide range of experience in agriculture and the food industry and expertise to examine and explore future trends and (b) a forum for the development of consensus, where possible, among influential stakeholders from the agriculture and food sectors. This consensus is important in promoting the shared vision and disseminating it among the various interest groups involved.
- The commissioning of working papers on specific topics by experts, both from inside and outside the civil service. These working papers allowed particular longer-term topics to be examined in some detail and carried a degree of standing because of the recognised expertise of the people involved in producing the papers.
- The operation of the secretariat. The secretariat had a key co-ordinating role, and was involved both in producing and overseeing analyses undertaken for the working papers, as well as drafting the report for the Agri Food Committee to consider.
- Consultation with interested parties. The consultation exercises undertaken, both during the production of the report and when the plan was being prepared, encouraged and enabled stakeholders to have a say in the process. The use of a dedicated website facilitated the widespread sharing of information, with submissions available for viewing on the website.
- The development of a formal plan of action as the government's response to the report. This plan of action serves as an implementation mechanism, to ensure that the main issues identified in the report are addressed. Following on as it did from consultation on the report, the plan of action could also respond to issues which were seen to be contentious or particularly difficult for some interest groups in the Committee report. There is also a commitment to monitor progress with regard to the implementation of the plan of action.

Annex Five
A Selection of International Futures-Oriented Initiatives

The Copenhagen Institute for Future Studies (CIFS)

The Copenhagen Institute for Future Studies (CIFS), was established by Professor Thorkil Kristensen in 1970 in co-operation with a number of companies to determine their basis for making decisions. The objective of the Copenhagen Institute for Futures Studies is 'to strengthen the basis for decision making in public and private organisations by creating awareness of the future and highlighting its importance to the present' (www.cifs.dk/en/omcifs.asp). CIFS analyses future trends through research, analyses (including statistically based analysis), seminars, presentations, reports and newsletters. Project methods include: quantitative and qualitative analyses, industry analyses, dialogue-based scenario processes, strategic environment analyses and the scenario model. The CIFS is part of a number of global networks and participates regularly in conferences and roundtables. CIFS research is presented in journals and at conferences world-wide which allows CIFS to impact upon global decision making.

Norway 2030

In June 1998 the Norwegian government launched its Norway 2030 project. The project was completed in November 2000. It was an integral part of public management reform, instrumental in mobilising preparedness for readjustment and alternative strategies for developing the public sector. The objectives of the Norway 2030 project were twofold:

- The process was intended to strengthen the public administration's preparedness for readjustment and development in terms of long-term challenges and stimulate improvements in the basis for strategic planning of the ministries.
- The aim of the project was to provide five future views of the role and functioning of the public administration in relation to the private sector and the civic society in Norway in the year 2030.

The project had a dual purpose: to guide substantive policy directions, and to drive public sector reforms. The basis of the project is scenario-based future studies. Four interdepartmental teams were formed to develop scenarios around four themes: global

development/external environment; economic adaptability; values, culture and social behaviour; and governance. These themes formed the basis for five key scenarios about the public sector in Norway in the year 2030.

In a benchmarking study of strategic futures work for the Performance and Innovation Unit in the UK (Henley Centre, 2001), the Norway 2030 project is highlighted as one of the three prime examples of best practice in prospective studies undertaken by governments.

Finland Futures Research Centre

The Finland Futures Research Centre (FFRC) undertakes research on future trends and develops strategic approaches to cope with the changing world. It contributes to methodological innovations in the futures area and 'consults communities, organisations, the state and local governments in developing their capabilities for foresight, and strategic, value-rational decision making' (www.tukkk.fi/tutu/ english.htm). The FFRC engages in future-oriented research, education, development, consultation and training projects. Through extended networks and partnerships, seminars and conferences, the Centre has access to the latest ideas, visions and methods. The FFRC is an active member of international co-operation networks and acts as a partner in a number of EU research projects. Core research areas include: information society and sustainable development, futures education and work, visionary leadership and strategic planning, energy and environmental research, methodological research and development.

Strategic Futures Project (UK)

The Performance and Innovation Unit (PIU) in the UK provides the Prime Minister and departments 'with a capacity to analyse major policy issues and design strategic solutions. The PIU primarily works on individual projects, using small teams drawn from within government and the wider public, private and voluntary sectors' (www.cabinet-office.gov.uk/innovation).

The strategic futures team based in the PIU derives from an initial strategic challenges team assembled in 1999. The impetus for the strategic challenges project originated from 'a belief that on the one hand, government policy should be based on a consistent long-term strategy; and on the other, it should be prepared for new problems and be able to

take advantage of new opportunities'. The aim of the project was to identify some of the key challenges facing the UK government in the next decade or so. The research was based on a range of forecasts and scenarios for the coming decades. Six key forces driving change were identified: demographics; science and technology; global environment; attitudes and values; economic globalisation; and political institutions. The team looked at drivers of change and key trends that might impact on government objectives and from this they derived issues for further work (economic and technological shocks, the future of national government, future sources of competitive advantage, social cohesion, technology and attitudes). These five broad issue areas were the basis of five workshops with senior civil servants, academic experts, business people and others. The workshops produced a list of policy challenges. The Strategic Futures project, established in November 2000, has consolidated the work commenced in the initial challenges project. As part of the project, research is commencing on cross-cutting issues affecting government's policy makers:

- benchmarking UK strategic futures work against that of other countries
- assessing the best practice in the use of futures work in policy
- synthesising and assessing drivers of change in futures thinking.

The team also co-ordinates the Strategic Futures group. The group constitutes strategy units from departments and the devolved administrations, and has been established to co-ordinate work programmes and share best practice in long term strategic planning. The PIU works closely with the Centre for Management and Policy Studies to co-ordinate the Strategic Futures group. Other initiatives being undertaken by the team include: strategy papers on various topics and a series of Strategic Thinkers seminars covering such topics as 'futures structures of central governments' and 'risk'. (Strategic Challenges Project, www.cabinet-office.gov.uk/innovation/2000/strategic/ Strategic_mainpage.shtml)

Australian Public Service (APS) Futures Forum

The APS Futures Forum was established within the APS 'for people interested in the analysis of the future and the creation of strategy' (www.psmpc.gov.au/future). Its objectives are to:

- inform members of developments in futures methodologies (such as scenario planning, Delphi and other expert opinion surveys, futures modelling etc)
- allow members who have used particular methodologies to share lessons learned
- sponsor training in futures techniques
- share the output of futures exercises (many agencies are covering much the same ground)
- establish a network of people within the APS with futures expertise who might be able to assist in the conduct of futures work for other departments.

(APS Futures Forum, www.psmpc.gov.au/future/index .html)

Regular meetings focus on futures methodologies, exchange of ideas and information.

Policy Research Initiative (Canada)

The Policy Research Initiative (PRI) was established in 1996. The PRI has three main objectives – 'to advance and implement a forward-looking policy research agenda, to strengthen policy research capacity and to facilitate culture change' (http://policyresearch.gc.ca/index_e.htm). The process has evolved from the launch of two reports and the implementation of a research work plan to the establishment of four multi-departmental research networks. The four policy networks are the Social Cohesion Network, the Growth Network, the Human Development Network and the Global Challenges and Opportunities Network. The individual networks are co-chaired by two to three specific departments. The PRI is co-ordinated by a Policy Research Secretariat who report to a Co-ordinating Committee of Deputy Ministers. The PRI in response to the demand for cross-sectoral policy advice has increased the profile of policy research throughout the government, it has sought to increase linkages with the external community and facilitated the internal discussion of structural issues outside traditional areas of responsibility.

Applied Social Science Research Review (New Zealand)

The New Zealand cabinet sought guidance from the State Service Commission on how to improve the capability for strategic social policy advice. A review of applied social science was undertaken by an officials working group on applied social science (OWGASS) and co-ordinated by the Ministry of Research, Science and Technology. The

aim was to promote social science research so as to better target social policy initiatives and promote longer-term and cross-portfolio research to inform high quality policy advice. The review identified eight topic gaps – both cross-portfolio and longer-term research areas – family dynamics; Maori and non-Maori disparities; employment and skill development; intergenerational impacts of ageing; determinants and impacts of crime; impacts of immigration; changing environmental values and resource use and protection; the future role of government in a knowledge-based society (State Services Commission (2000): Strategic Social Policy Advice: Improving the Information Base).

Forward Studies Unit, European Commission

'The Forward Studies Unit was set up in 1989 as a department of the European Commission reporting directly to the President. It consists of a multicultural, multidisciplinary team of some fifteen people.' (http://europa.eu.int/comm/cdp/index_en.htm) When setting up the unit the Commission gave it three tasks:

- to monitor and evaluate European integration
- to establish permanent relations with bodies involved in forecasting
- to work on specific briefs.

The Forward Studies Unit operates on an annually updated five-year work programme, and has produced wide-ranging reports on several issues. Its research methods are 'designed to bring out the diversity of Europe (shaping factors, shaping actors), developing an all-round and/or long-term view which makes it easier to secure consensus above and beyond particular national interests. It keeps a watching brief on movements in Europe's societies by setting up links with other research and forward studies institutes, and by holding regular seminars on specific themes'. The futures-oriented function has gradually developed outside the unit, 'within several of the Commission's Directorates-General which are keen to adopt a strategic approach. The Unit serves as a point where all these various future-oriented think tanks inside the Commission can meet together'.

Annex Six
Natioal Foresight Exercises

1. Netherlands

(Source: Office of Science and Technology (1998), The Future in Focus: A Summary of National Foresight Programmes)

Towards the end of the 1980s the Ministry of Education and Science commissioned several studies into science and technology (S&T) foresight. This eventually led to the establishment of the foresight steering committee on S&T in 1992. The committee's task was to coordinate and initiate foresight studies and advise on the results. The foresight steering committee was given two tasks: to shape and supervise a foresight process which has the support of all relevant actors; and to integrate the results of all foresight activities and advise the Minister of Education and Science and his colleagues in the cabinet on options for their S&T policies. The committee's scope was broader than the technology foresight done in most other countries. Activities were carried out in a wide range of fields from the natural sciences to specific technology areas, and from medical research to the social sciences and the humanities. The Netherlands Organisation for Applied Scientific Research (TNO) and the Netherlands Research Council (NOW) have also initiated foresight processes. Both were more or less forced by the government to articulate their strategies more explicitly as the allocation of resources became linked to a strategic dialogue between the government and the research organisations.

In the first phase of its existence the foresight steering committee developed a framework for its foresight activities. In order to induce foresight committees to stretch their time horizon to some twenty to thirty years, the foresight steering committee requires the use of scenarios of the type developed by the Shell company's planning group. Generally, three equally credible scenarios are prepared, reflecting the idea that the future is unpredictable and that there is no golden 'middle of the road' scenario.

The foresight steering committee delegates responsibility for specific foresight exercises to committees and organisations in the field. Foresight committees may programme the foresight process in their own way. A typical foresight process is highly interactive. It

begins with the foresight steering committee asking an expert with a 'helicopter' view to describe the situation in the field in which one or more stakeholders have identified a problem. The result is a preliminary document which is discussed by researchers and users of knowledge at a preliminary conference. They conclude whether or not a full scale foresight exercise would be useful, how the main problem should be defined, and which are the most urgent questions to be answered by a future foresight committee. In addition, there should be one or more key actors interested in the outcomes, and willing and able to implement the results. If there is enough support for a foresight study, the foresight steering committee will establish a foresight committee. Such a committee usually consists of four to eight people who enjoy respect in the relevant field; whose knowledge areas are complementary and cover most of the field; and who represent both the research community and the knowledge users (the chair will usually be from among the latter). Adequate planning is important, and the committee is supported by its own expert secretariat. Each foresight committee has a budget to cover a moderate fee for its members, its secretariat costs and the cost of possible inventory studies it may commission. Depending on the complexity of the field and the urgency of the specific problem, a foresight process takes between six and eighteen months. Ensuring the commitment of the relevant parties and diffusion of the results is part of the process. Researchers and users of research take part in information gathering (e.g. through interviews), in building scenarios, in supplying options for research and in discussing the preliminary foresight results in a closing conference.

The foresight steering committee evolved to become the 'natural' leader in the initiation and co-ordination of foresight studies in the Netherlands. In 1997 the government transferred its responsibilities to the Advisory Council for Science and Technology Policy (AWT) to emphasise the importance it attaches to giving foresight activities a permanent place in the Dutch science and technology policy framework.

2. United Kingdom

(Source: Office of Science and Technology (1998), The Future in Focus: A Summary of National Foresight Programmes)

The foresight programme in the UK was launched in 1993 as part of a major review of government science, engineering and technology policy. The programme is managed by

the Office of Science and Technology in the Department of Trade and Industry. The programme is spearheaded by sixteen panels, each representing an important sector of the UK economy. The panels comprise representatives from business, the science base and government. Their work is overseen by a top-level, broad-based foresight steering group. The steering group sets the overall strategy and direction for foresight and draws together the important cross-sectoral themes and priorities.

Foresight 1994-95: consultation and priorities

Once established, the panels embarked on extensive sectoral reviews and consultations, involving market analyses, scenarios, sub-groups, surveys, regional workshops and a national Delphi survey. The panels published their findings in 1995. These reports aimed to identify the likely social, economic and market trends in each sector over the next ten to twenty years, and the developments in science, engineering, technology and infrastructure required to best address future needs. The findings and recommendations were then drawn together by the foresight steering group, which identified a number of key generic priorities and important cross-sectoral themes.

Foresight 1995-1997: dissemination and implementation

The reports were circulated widely. A number of professional institutions, trade associations and the Association of Research and Technology Organisations produced reports tailoring the foresight findings to their own sectors, sometimes undertaking their own sectoral foresight exercises. Government departments and research councils used the foresight findings and recommendations to help develop their science, engineering and technology policy and funding decisions. The panels remained active, promoting joint action between business, the science base and government to build on the foresight priorities that had been identified. In 1996, a 'Foresight Challenge' competition made £30 million of government funding available towards such partnerships. A further £62 million was invested by the private sector.

A new round of foresight began in 1999.

3. Japan

(Source: Martin (1995), Technology Foresight: A Review of Recent Overseas Programmes)

An interesting example of foresight is the series of thirty-year forecasts by the Science and Technology Agency (STA) in Japan. Carried out every five years or so since 1970, these attempt to look into the longer-term future of science, technology and innovation. They represent one of the most systematic and wide-ranging instances of foresight anywhere in the world. The surveys are conducted by the National Institute for Science and Technology Policy (NISTEP) and the Institute for Future Technology. A high-level steering committee is in charge of managing the survey and authorising (or legitimating) the results.

Japanese foresight exercises make extensive use of the Delphi technique. In the first phase of the Delphi exercise for the fifth survey completed in 1992, questionnaires on the 1,149 topics were sent to several thousand experts, who were asked to assess (for those topics with which they were familiar) the likely timing of each technological advance or innovation, its probable economic or social importance, whether there was a need for international joint development, where Japan stood in terms of R&D level compared with other countries, and the likely constraints to be encountered in realising that technological development or innovation. In the second stage of the Delphi process, the results from the first phase were fed back to the experts who were asked to re-assess their original views in the light of the overall results.

The results form one of the inputs to decisions by the Science and Technology Council on future government science and technology policy. They also represent background intelligence for government ministries when they are determining whether, for example, to launch an interdisciplinary research initiative. In addition, they are of considerable interest to companies formulating their longer-term R&D plans. NISTEP recently carried out a survey of private companies to assess how much use they made of the results from the fourth Delphi exercise. Out of nearly 250 respondents, 59 per cent considered the results were 'very important' and a further 36 per cent judged them 'worthwhile'. NISTEP has also assessed the accuracy of the results from the first Delphi survey. They found that only 28 per cent of topics have been fully realised in the intervening twenty years. However, if one also included those topics which have been partially realised, the figure rises to 64 per cent. Given that this was the first Delphi survey and therefore rather experimental, and given also the long time-horizon, these rates of realisation are seen as

quite encouraging and appreciably higher than those one might expect on the basis of chance.

Annex seven
Examples of Reginal Foresight Exercises

(Source: FOREN Network (2001), *A Practical Guide to Regional Foresight,* Draft No. 01)

Limousin, France

Limousin is a region of 710,000 inhabitants located in the centre of France. The GDP is stable since 1986 and represents 1 per cent of national GDP. The region is largely urban but agriculture is still very present in the regional economy with 9 per cent of the total employment. Eighty per cent of the firms in Limousin are SMEs with less than five employees. The main industrial sectors are food processing, electricity and electronic, wood, paper and minerals. The region has a real diversity in its industrial base.

Limousin was the first French region to conduct a foresight exercise, in 1987. In 1997, a second exercise was launched in the context of the preparation of European Regional Development Fund (ERDF) negotiations, and negotiations with the state for the pluri-annual contract 2000-2006 (CPER). The objective of the foresight exercises was to help decision makers in making their policy choices, but also to clarify the regional situation for the inhabitants and more widely for the public at large. As with the first foresight in 1987 called 'Limousin 2007' the second one in 1997 ('Limousin 2017') had a time horizon of twenty years. The duration of the second exercise was two years, and 250 people, covering all the sectors of regional life, were mobilised in working groups. The regional council has financed the whole process. In order to raise awareness and enrol participants, the regional council has, during the whole process, initiated:

- regular articles in the regional press
- publication of documents and first outputs
- on-line publication of the workshop reports
- an on-line forum in order to allow debates and comments at a wide-level.

A team of five persons working in the regional council managed the exercise. An external consultant, specialised in foresight activities, assisted them. A steering committee led jointly by the president of the regional council and the préfet (representative of the state at

regional level) co-ordinated the work, which was structured around nineteen working groups. Limousin 2017 was structured around three phases:

- *Phase 1: Retrospective.* This phase aimed to look at the recent evolutions, the trends, and to identify those that were existing since 1987, those that have changed since this date and those that appeared since 1987. It also aimed at describing the regional situation. It further made an assessment of the first 'Limousin 2007' foresight: did the exercise influence the decision makers?
- *Phase 2: Prospective diagnosis.* Two questions can summarise this phase. On what does the future depend? And on what does Limousin's future depend?
- *Phase 3: Action.* Taking into account the results of the diagnosis phase, to identify the main trends which will be the stakes for the region's future.

Three level of inputs have been mobilised for his work:

- an inventory of all the publications related to the main trends
- some specific studies about the positioning of Limousin in relation to some of the main trends
- some experts (twenty-one) have been invited to debate with the different working groups.

The main output of the 'Limousin 2017' exercise is a global report, available for free and which can also be consulted on line via the web server of the regional council. This report takes into account:

- the reports made by the working groups
- the documents selected to identify the trends
- the specific studies realised during the exercise
- the experts inputs
- the different works or studies undertaken outside of the process but which have been integrated as inputs during the exercise.

NE England, UK

The North East is a largely rural area. Most of its population of 2.6 million live along the three commercial rivers, the Tyne, Wear and Tees, where economic development is concentrated. The region consists of four sub-regions: Northumberland, Tyne and Wear, County Durham and Tees Valley. The region's economy until relatively recently was based on coal. The decline of the traditional industries of coal mining, steel, shipbuilding and heavy engineering has necessitated significant economic restructuring. Today, the region's strengths lie in automotives, electronics, advanced engineering, including offshore oil and gas, pharmaceuticals, chemicals and metal manufacturing. Levels of unemployment are higher than the UK average.

The need for foresight was felt to be particularly acute here because of the inward migration of large foreign owned firms to replace traditional activities such as coal mining, steel and heavy industry. The resulting shortage of R&D facilities, indigenous entrepreneurs and creative new product design caused concern amongst policy makers, who felt that the region was heading towards a less competitive future despite the short term rise in manufacturing employment. During its first phase (1996-1997), foresight activities were managed by Newcastle University (Regional Centre for Innovation and Design – RCID). In its second phase (1998 onwards) the responsibility for running the programme was passed to the Regional Technology Centre in Sunderland (RTC North).

The primary aim of foresight has been to increase the competitive standing of regional industry and society through improved appreciation, anticipation and exploitation of future developments in science and technology. The programme is structured around four objectives which determine the different focuses.

- The 'flagship' programme is cross-sectoral and includes quality of life issues (age, physical environment, crime, transport etc) – they are driven by a foresight forum and its quarterly meetings.
- The 'sector panels' are more focused and include groups for IT, sensors, engineering training, manufacturing, energy, marine, chemicals, leisure and learning and a cross-sectoral group. The intention is that these panels should all be fixed time-scale and mission-based. These sectors were identified by a scoping study carried out by

Newcastle University which attempted to match foresight issues with regional requirements.

- 'Technology Scan' is about keeping abreast of all new technologies but particularly those which have great potential to affect the regional economy.
- 'Industrial outreach' is perhaps the most difficult area because it deals with how foresight can be made relevant to SMEs, including audits and opportunity reviews, as part of a structured methodology for future competitiveness

Several hundred organisations have been involved both in consultation and operational activity. The first phase of the project was specifically dedicated to build momentum. Over the period March 1996 to December 1997, a wide-ranging dissemination exercise was carried out to publicise the results of the programme and options for regional implementation. This resulted in a much wider appreciation of the objectives of foresight and the specific benefits to be derived from participation by different interest groups within the business and academic communities. Vigorous leadership via focus groups in all the focused areas resulted in the establishment of active foresight networks. Through a combination of surveys and events they have addressed specific topics, some of which were subsequently worked up into collaborative bids between industry and higher education institutions to access funding for innovation and product development.

There are four levels of governance. The steering committee acts like a board of directors and has overall authority. It meets every two months and has equal representation from senior figures in industry, academia and development organisations. The executive board is a subset of the steering committee and meets monthly to implement policy but not to create it. The technical evaluation panel is responsible for assessing funding applications for SME foresight projects. Finally, the foresight forum is the advisory body that guides the 'flagship' programme via its quarterly meetings. Membership of the latter is open to all who wish to join. The others are all by appointment. Sector panels are organised separately and are normally chaired by an industrialist who is supported by the coordinator. Reports are presented at steering committee meetings.

There is no Delphi activity in the north east but a lot of other methods are used. Scenario workshops have proved very popular, both in relation to the offshore sector and vocational education. Opportunity mapping has occurred in the energy and environment

sectors. High tech seminars have been organised in IT, communications, chemical sensors, nano-technology and other specialist areas. Some events are multi-faceted, incorporating a speaking programme with an exhibition, workshops and demonstrations. The choice of method is generally a matter for the committee or panel concerned. Foresight North East offers project-based support to SMEs in identifying future R&D and new business opportunities.

Soft outputs include the knowledge transfer and improved working relationships that result from network activity. These are seen as very valuable but difficult to quantify. Outputs of the forum meetings have been most influential on regional policy. Funding has been made available for pilot projects as a direct consequence of such meetings. In general, expectations have been satisfied. As regards the events, individuals seem to get a lot out of the scenario workshops because they permit original thinking with like-minded persons outside the organisation. Formal seminars have not generated the same level of interest unless the technology has 'curiosity value'.

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