SUSTAINABLE DEVELOPMENT: A REVIEW OF INTERNATIONAL LITERATURE

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EXECUTIVE SUMMARY

1. This report stems from a review which was commissioned to inform the production of the Scottish Sustainable Development Strategy and plans for its implementation. The review provides an overview of recent and contemporary academic and ‘expert’ literature and prevailing debates surrounding sustainable development for a number of selected areas of policy delivery, and relates these to the principles and priorities for sustainable development in Scotland. It has concentrated on English language texts published since 1999, the year in which the last UK-wide sustainable development strategy was produced.

2. The topics covered in the review were food, sustainable procurement, sustainable consumption, green jobs and business enterprise, the built environment, environmental protection, education for sustainable development and environmental justice. These were selected on the basis that they are important issues for sustainable development policy in Scotland and up-to-date synthesis reviews have not already been undertaken in these areas.

3. The key objectives for the review were to:
   - reflect upon the various conceptual and theoretical aspects of sustainable development;
   - consider the different methods and practices that have been employed to promote sustainable development as a policy ideal;
   - identify good practices and transferable lessons in relation to Scotland’s devolved responsibilities and commitments, within the UK, Europe, and globally.

4. A critical evaluation of the review material allowed the identification of three main areas, in the evidence or in policy, in which challenges and past deficiencies in the delivery of sustainable development were apparent, whether at one or more of the different national and international levels addressed in the review.

   - There are manifest gaps in the knowledge base:
     - There is insufficient evidence of the problem, or insufficient knowledge about whether or how a policy or action could contribute to more sustainable forms of development.
     - The problem for sustainable development is recognised and policies are in place, but there is a lack of evaluation.
     - There is a reasonable body of evidence about the nature of a problem and what works to alleviate it outside of Scotland, but little or no evidence or understanding of how this might be adapted to the Scottish context.

   - There are inconsistencies in the delivery pathways:
     - Institutional inconsistencies have led to fragmentation and a failure to integrate sustainable development with governance.
     - Vertical inconsistencies exist between Scottish, UK, European and/or international policy intentions, or actual practices.
Horizontal inconsistencies exist between aspects of policy delivery, either between or within different sectors.

- There are no policies in place, or policies exist but no action is being taken.
  - For example, there is ample evidence of the environmental impacts of air transport emissions, but airport expansion is high on the agendas of almost all developed societies and governments are promoting rather than regulating air travel.

5. The report identifies some key messages emerging from the reviewed literature and policy which could be used to inform thinking on sustainable development and the formulation of relevant policy for Scotland. Some of the main themes emerging from the study are summarised below.

**Theories and Concepts**

6. Since the conclusion of the Brundtland Commission (World Commission on Environment and Development, 1985), in itself something of a political compromise, the two competing notions of strong and weak sustainability have dominated the theoretical debate on sustainable development. Loosely speaking, strong sustainability argues that we must live within the environmental and ecological limits that the planet clearly has. Weak sustainability argues that humanity will replace the natural capital we have use, and that we depend on, with human-made capital. Theorists virtually unanimously agree that the latter has formed the conceptual basis for sustainable development. The all-pervasive nature of neo-classical economics has also come to permeate throughout thinking on sustainable development, with a broad acceptance that intra-generational and inter-generational equity can only be achieved within the confines of economic growth.

7. The dream of a ‘win-win-win’ scenario - of achieving progress within the economic, social and environmental pillars of sustainable development, the three supposedly being mutually beneficial - is increasingly being seen as unrealistic. The argument that perhaps the developed world is overly preoccupied with environmental protection, at the expense of social and economic improvement in the developing world, remains prominent, as it has done since the early debates on environmental protection and international development since the 1950s and sixties.

8. The need for policy integration, spreading sustainable development concerns into non-environmental policy areas, has become more salient since 1998, with the trend for more holistic approaches to policy-making. The human rights agenda has also come to influence approaches to sustainable development, along with continuing debates around institutional legitimacy.

**Food**

9. The review looks at the larger policy picture (CAP, WTO and global food-related challenges), and makes links with Scottish food-production, consumption, procurement and distribution, and with health and education. Changes in international trade have had
significant affects on agriculture and food production in recent years. However, there has been little change to subsidies and the ‘dumping’ of subsidised goods. Food aid, genetically modified food, and fair trade and its relative merits versus free trade, are all currently being debated at a global level.

10. CAP reform remains the primary, European-level issue. Localisation, diversification and the organic sector have been highlighted for the potential future of farming in Europe, beyond the core agricultural areas. An encouragement of countryside stewardship and sustainable farming practices, shifting the emphasis away from production, has marked a considerable development in policy at the European level. Issues around eco-labelling and food security are also salient.

11. There is a concerted push for more organic and small-scale farming in Britain and the issue of ‘food-miles’ is being reassessed. Safety has remained high on the UK-level agenda, with calls for the entire food chain to be better monitored and effectively regulated. Information campaigns and awareness-raising are seen as key in this process.

12. In Scotland, the principal driver of food policy is the need for higher nutritional standards to improve health, which includes the need to improve the affordability and accessibility of high-quality food in low-income areas. There is considerable support for organic farming, with 55% of the UK’s organically managed land being in Scotland and other agri-environment measures are supportive of more sustainable approaches to agriculture. Thinking and policy on GMOs are similar to overall UK policy and a cautious approach is being taken. There is considerable interest in public procurement measures as a means to promote healthier local produce, fair trade and shortened food chains. Nevertheless, overall potential is somewhat limited by the tight EU regulatory regime that applies to public procurement. Awareness-raising to enable consumers to understand the implications of their purchasing decisions and the way goods and services are used after purchase should be key in moving individuals towards more sustainable dietary habits.

**Sustainable Procurement**

13. The procurement literature and policy landscape are summarised, mainly looking at the public sector; the mechanisms to encourage more ‘ethical’, ‘green’ or ‘social’ procurement; the barriers to these mechanisms and potential conflicts between them. ‘Green Procurement’ and ‘Social Procurement’ are used to link the whole procurement process within business to more environmentally sustainable or more socially equitable practices.

14. A new international system of procurement is currently evolving, at the global level, with the growing role of green and social procurement. Policy responses from institutions such as the World Bank, the UN and the WTO suggest an internationalisation of procurement, accelerated by economic liberalisation and increased global trade.

15. In Europe there is concern that procurement is being used as a stand-alone policy instrument, given the erosion of state-level powers as a result of international agreements and conventions. The procurement process is currently being pulled in different directions by the drive for continued market integration in the EU, on one hand, and the need for increased environmental policy integration and regulation on the other. There is a raft of legislation, which shapes procurement in member-states.
16. A more strategic approach to public procurement is evident in the UK, with inter-departmental co-ordination and long-term partnership relations with suppliers. The effects of the global economy on the public sector and public procurement are increasingly felt in Britain, with large institutions like the NHS reforming their procurement policies in line with more sustainable practice.

17. A notable feature of procurement in Scotland is that the ability of the public sector to lead by example has been taken up positively by the Scottish Executive, with guidelines for purchasers and suppliers in place. Other public bodies have also taken up the challenge of sustainable procurement, but systematic monitoring and evaluation of such initiatives seem, so far, to be missing.

18. Overall and at all levels, there needs to be better integration of social procurement and Green Procurement to create a more holistic, sustainable approach. There is a pressing need to introduce mechanisms for the assessment and evaluation of sustainable procurement and to harmonize sustainable public procurement with trade policies.

**Sustainable Consumption**

19. Building on a review undertaken for the Sustainable Development Research Network in 2004, the chapter on sustainable consumption looks at a range of issues, from social, economic and geographical trends affecting consumption levels to individual behaviour and the role of the government. The efficacy of a range of policy responses are assessed and current debates about the current state of consumption and possible remedies are outlined. Central players in the consumption process are the state and the consumer. The review examines ‘consumer sovereignty’, where the state practices a ‘hands-off’ approach to consumer behaviour, allowing the market to dictate the nature and levels of consumption.

20. Global consumption has risen markedly in recent years as global wealth increases. This wealth, however, is distributed disproportionately. Inevitably, oil is a principle issue for the literature and actual policy, and the urbanization of the world’s population is significant, begging a reassessment of consumption patterns and issues. There is also a theoretical debate concerning the role of government in controlling consumption levels, which is clearly pertinent to the search for effective policy responses, and raises more general philosophical questions about the very role of the state.

21. In Europe, notable attention is being paid to a reassessment of the relationship between economic growth and consumption with different theoretical perspectives towards consumption and the approach governments should take being presented based on notions of a pluralist, individualist or an egalitarian Europe. The question of how to turn seemingly niche markets into mainstream ones for green and sustainable produce recurs in debates about consumption levels in Europe.

22. There is considerable concern about the rate at which consumption levels are increasing in Britain, raising fundamental questions about the robustness of previous policy interventions and the need for a more rounded approach. Information and communication are seen as undervalued policy tools in efforts to move individuals towards more sustainable consumption behaviours. Scotland reflects the concerns that are being engaged in at the
‘higher’ international levels. Progress towards a less carbon intense economy is a priority, and reducing unnecessary car use has been seen as central to this.

23. Stressing the links between obesity, nutrition and the sustainability of people’s daily lifestyle is likely to be one of the most effective ways of promoting more sustainable levels of consumption and encouraging people to consume and waste less. In tandem with such information campaigns, people need to be offered the opportunity to buy more eco-friendly products and to adopt less environmentally damaging lifestyles.

**Green Jobs and Enterprise**

24. Unlike other sectors that seem more comfortable with looser definitions of sustainable development, business often expresses a need for a clearer definition in order to understand what sustainable development means for enterprise in practical terms. There is widespread variation as to what can be included within ‘green jobs and enterprise’ and important academic debate about whether ‘green growth’ and reliance on market forces can be relied upon to deliver sustainability.

25. In the developing world, there is concern over the erosion of local and community-based production as a result of engagement in global employment markets. The contentious nature of the World Trade Organisation’s General Agreement on Trade in Services embodies this debate. In relation to green enterprise, heavy emphasis has been laid on efficiency and innovation at the global level, seemingly at the expense of ignoring deeper structural problems.

26. A reassessment of the classical economic doctrine that more growth is the answer to high unemployment is underway in Europe. This is evident when analysing the various policy initiatives coming from the EU, with questions being raised as to how to harmonize the Sustainable Development Strategy, or Cardiff Process, with the Lisbon Agenda on increasing competition. Enlargement of the EU has accentuated these tensions.

27. Lifecycle or whole-life thinking is becoming increasingly popular at the UK national level and there has been a push to decouple economic growth from environmental degradation by improving resource productivity and efficiency. The lack of a clear definition of sustainable development has hampered business practice changes and impeded the spread of corporate social responsibility. A move away from the weaker, trade-off perception of sustainable development would help to address this.

28. In Scotland, the benefits of more efficient resource use are also not always evident to businesses, although the Executive has been reviewing how it supports resource efficiency initiatives. There has been some uncertainty about the extent to which initiatives under the Green Jobs Strategy can help to create more entry-level jobs, particularly given the skilled nature of many jobs in industry. Other Scottish business priorities include the need to address the peripherality of Scotland from national and European markets, especially given the country’s greater reliance on exports compared the UK as a whole; and the need to simplify funding mechanisms.
The Built Environment

29. The review examines a number of environmental issues that come under the broad umbrella of ‘the built environment’, such as regeneration, planning, rural development, sustainable communities and environmental inequalities. It points to tensions and synergies between these diverse, but often complementary, areas of policy delivery and describes the key policy responses at the different national levels.

30. The uneven socio-economic effects of globalisation and the continuing urbanisation of the global population are key areas and new ideas like ‘creative destruction’ (the transformation ensuing from radical industrial innovations) and ‘mixed communities’ have emerged as a response to this. Procurement, subsidies, minimum standards and information are all seen as central to adding a sustainable dimension to the way urban environments are being developed and managed.

31. Greater energy conservation and moving away from a reliance on fossil fuel-derived energy, in both the construction and lifetime use of housing and other buildings, are seen as critical within the European-level literature. Eco-efficiency is currently being touted as the most appropriate policy response in this respect, while the future of the social rented sector has become a topic of debate, given the trend in Europe towards more home ownership and the growing role of housing associations and corporations. The future of urban policy across Europe generally is also being reassessed more generally.

32. In the UK, the last five years has seen a challenge to neo-liberal, market-based approaches to planning and housing issues, with the importance of sustainable development gaining increasing recognition in the built environment policy literature. There is, however, considerable friction between a trend for more sustainable development in the built environment and the current legislative and regulatory framework. The use of public space is a prominent theme of debate at the UK level, not least of all because of its links to crime prevention strategies, community harmony and social justice.

33. Just as at the other levels, there is a very strong focus on improving energy efficiency in the context of the built environment, with particular emphasis in Scotland on addressing fuel poverty issues, to positively align social justice and environmental concerns. There is a strong commitment to improved design as essential to successful communities. Reforms to the planning system, which are underway, have adopted a more systematic, spatial approach to nationally significant infrastructure and will lead to greater opportunities for public participation. Planning policy is also focussing on reducing resource-consumption, notably in the context of travel, and by encouraging high quality, sustainable design. Community planning could more directly recognise sustainable development and proactively aim to promote this through planning decisions. Strategic Environmental Assessment in relation to plans and programmes and Environmental Impact Assessment in relation to particular development applications may be suitable mechanisms.

Environmental Protection

34. A major issue at the international level is the lack of an institutional framework or international body to address concerns about global threats to the natural environment. This is coupled by legitimacy concerns and the conflicting demands of nation-states. There is a
critical divide between international community members who accept the need to reduce carbon emissions and those emphasizing technological innovation as responses to global warming, reflected in policy responses from different groups of nations and the lack of authority from international institutions. There is a distinct division between the developed world’s demand for environmental protection and the needs of developing countries to exploit natural resources in an attempt to secure the funds to promote social justice.

35. At the European level, the need for renewable energy and cleaner technologies has long been recognised, as has the need to remove or decrease subsidies to fossil fuels, but a debate still rages within the literature as to how best to achieve these transitions. The ‘value-action gap’, between the views of individuals and their actual behaviour, is a considerable problem, increasing an emphasis on the need for participative decision-making. The need to integrate policy to achieve optimum effect has been highlighted, alongside the need for a concerted information campaign that best utilises educational opportunities.

36. The effects of neo-liberal policy-making have had a considerable impact, particularly on the way the UK government approaches industry and the business community. Various policy responses have been implemented, from mandatory measures to awareness-raising, with an emphasis on education. There is a growing realisation at a UK level also of the need for coordination between local authorities and central government, and the relationship between environmental protection and areas such as housing and social mobility is also becoming more salient.

37. Considerable efforts have been made in Scotland to implement EU Directives in effective ways, the approach taken sometimes differing from that in England and Wales. Notable attention has been paid to enhancing the enforcement of environmental law to increase its effectiveness and public confidence in the regulatory system. A strong emphasis on the law to address environmental justice issues has developed and provides a new focus for regulation in addition to environmental risk. A range of measures to implement the Aarhus Convention (1998) obligations, on access to environmental information and public participation, have also been introduced. The establishment of evaluative structures to measure the success of information and participation mechanisms against stated objectives would be a welcome step forward, as would the evaluation of successes or otherwise of recent developments in enforcement.

**Education for Sustainable Development**

38. Approaches to education for sustainable development are increasingly trans-disciplinary, with a view beyond formal education, to informal and non-formal contexts and to the engagement of the media. The review, therefore, explores the literature on the integration of sustainable development in the formal education curriculum, alongside life-long learning and training and skills for sustainable development.

39. Globally, the primary concerns are improving basic education, re-orienting education and improving public understanding, as embodied by the UN Millennium Development Goals.
40. The principal problem at the European level is the differing concerns of member states towards sustainable development and how this is reflected in their respective syllabuses. ‘Campus greening’ also has some prominence.

41. The latest UK focus is on the lack of ‘earth-literacy’ or ‘eco-awareness’ amongst both the generation of current leaders and the new generation, which reflects an anxiety that is felt also at ‘higher’, national levels. There is also concern that the citizenship syllabus has given sustainable development a tokenistic place on the curriculum.

42. There is, in Scotland, a strong focus on the economic and social dimensions of sustainable development in education, in terms of enhancing productivity and closing skills and opportunity gaps. Integration of sustainable development throughout the curriculum is limited, however, with much more attention being given to schools (particularly 5-14 education) than to the further or higher education sectors. School campus ‘greening’ also needs to be better explored for FE and HE than it has to date.

Environmental Justice

43. Environmental justice (EJ) is based on the human right to a healthy and safe environment, a fair share to natural resources, the right not to suffer disproportionately from environmental policies, regulations or laws, and reasonable access to environmental information, alongside fair opportunities to participate in environmental decision-making. Environmental justice movements have commonly campaigned around six main issues: poverty, race, institutional change, law and policy, land tenure and management of natural resources, health and pollution. The chapter on environmental justice takes a different approach from the chapters based on policy themes, given its cross-cutting nature and because examples of relevant thinking and policy are most easily found in US experience, due to the long-term nature of both federal involvement in the delivery of EJ and grassroots activist movements and campaigns.

44. In a speech in 2002, the First Minister acknowledged that there had been far too little research in Scotland into the social effects of environmental degradation. References to EJ have followed in key policy and consultation documents and there have been a small number of significant research projects undertaken with the purpose of informing environmental justice policy. Awareness of the concept and how to address it in policy terms has grown. For instance, the Scottish Ministers have provided SEPA with guidance on the contribution it can make to sustainable development which stresses that the agency should address environmental justice issues insofar as its functions permit. NGO literature has voiced environmental justice concerns and provides research on issues such as good neighbour agreements between communities and business. The planning system has a role in furthering both substantive and distributive elements of environmental justice, but community planning needs to directly recognise the disproportionate negative impacts of planning decisions and their positive potential to address social injustices arising from the environment. Introduction of a social equity audit or community impact assessment as part of SEA and EIA would go some way to address this further.
Conclusions

45. To achieve truly sustainable development in Scotland, for all its communities, economic activity would need to be bent towards social progress and would happen within both Scottish and global environmental limits. A systematic and transparent sustainable development audit of policies and government-funded programmes would help to inform efforts towards pursuing this.

46. Better environmental policy integration and delivery, on the vertical and horizontal planes, although not in themselves representing successful sustainable development, are prerequisites of sustainability. For a policy to be integrated it must be comprehensive, aggregated and consistent, and policy priorities must be decided democratically. Sustainable development strategy should reflect local values and be deliverable through existing national and local decision-making frameworks. Better understanding is needed, therefore, of the scale, level, magnitude and spatial dimensions of both the problem of unsustainable activities in Scotland and their solutions.

47. In the areas of policy that it cannot directly influence, such as reserved matters or global issues, the Executive could, nevertheless, act as a lobbyist to encourage relevant agencies to enact needed change.

48. Sustainable development actions should reflect risk and uncertainty based on the precautionary, polluter- and user-pays principle, intergenerational equity, intra-generational equity, free prior and informed consent and helping (involuntary) risk-bearers to participate in decisions as well as risk-takers.

49. The biggest gains for sustainability are most likely to result from legislative and institutional changes rather than from individual or household behaviour change. The Executive should, therefore, consider separate areas of policy delivery, like waste, transport, energy, and decide whether public behaviour, institutional or legislative change would be the most appropriate and effective route for advancing a given sustainability goal.

50. Where public behaviour change is considered the most fruitful way forward, a step-by-step approach is needed, in which external barriers are removed before psychological or attitudinal factors are addressed. Research has shown that it is easier to influence behaviour in terms of stimulating automatic responses to changes in opportunity than it is to challenge ingrained attitudes and perceptions. The provision of practical information would be a core element in efforts to achieve behaviour change, but campaigns need to be well targeted and co-ordinated with other measures.
CHAPTER ONE  INTRODUCTION

Background

1.1 In 2004, the Scottish Executive, the UK Government, the Welsh Assembly Government and the Northern Irish Assembly undertook a joint review of government strategies relevant to sustainable development. Following on from this review and joint consultation on the document, *Taking it on – Developing a UK sustainable development strategy* (REF), all four administrations committed themselves to a new, shared sustainable development framework in the form of *One future, different paths*, launched in March 2005. The UK Government published its own strategy, *Securing the Future*, to coincide with the common framework, and the Welsh Assembly Government had already produced its Sustainable Development Action Plan in 2004. Throughout 2005, the Northern Ireland Executive and the Scottish Executive have been producing their own strategies. This report coincides with publication of the latter.

1.2 Five shared over-arching, guiding principles were set out in *One future – different paths* for the different strategies, the first two underpinned by fulfilment of the other three:

- Living within environmental limits
- Ensuring a strong, healthy and just society
- Achieving a sustainable economy
- Promoting good governance
- Using sound science responsibly

The common framework also presents four priority areas for action:

- Sustainable consumption and production
- Climate change and energy
- Natural resource protection and environmental enhancement
- Sustainable communities

1.3 The Scottish strategy reflects the shared principles and key priority areas set out in the joint framework, but there are clearly distinct, Scottish issues which have required approaches, sets of policies, and actions unique to the Scottish context.

1.4 Sustainable development represents and consists of complex, varied and contested concepts, with application across the range of public policy areas. Views about what government should prioritise and how it should then pursue its goals are diverse. And, as the Scottish experience takes place in a global context, the Scottish strategy had to be informed by an understanding of international thinking and action on sustainable development. The review on which this report is based was, therefore, commissioned by the Scottish Executive Sustainable Development Directorate as a contribution to the process of formulating a sustainable development strategy.
**Introduction to the review**

1.5 The report offers an overview of contemporary academic and expert literature, policy and of the prevailing debates on a number of themes which are key to sustainable development. Its sources are mainly published literature, policy documents, legislation and appropriate web resources. The themes are outlined at a global, European, United Kingdom and, finally, a Scottish level and the evidence, analysis and perspectives drawn out from the review’s sources are explored in relation to the principles and priorities for a Scottish Sustainable Development Strategy.

**Key aims**

1.6 The key objectives for the review have been to:

- reflect upon the various conceptual and theoretical aspects of sustainable development;
- consider the different methods and practices that have been employed to promote sustainable development as a policy ideal in different policy domains;
- identify practices and lessons, transferable in relation to Scotland’s devolved responsibilities and commitments, within the UK, Europe, the UN and globally.

**Scope of the review**

1.7 The review has concentrated on English-language texts published in the period since the previous UK sustainable development strategy in 1999. Its key focus has been on publications with direct relevance to the formulation and delivery of public policy, but it has also considered the main theoretical literature that underpins such work. It begins with a brief description of the Scottish context and the key structures for the delivery of sustainable development, drawing out differences between Scotland and the rest of the UK that may require special attention or different policy approaches.

1.8 Secondly, it reviews the international literature published in the last five years on general theories and guiding principles for sustainable development, as a conceptual background for the eight topic-based chapters that follow.

- Food
- Sustainable procurement
- Sustainable consumption
- Green jobs and business enterprise
- The built environment
- Environmental protection
- Education for sustainable development
- Environmental justice
The topic areas for review were selected on the basis that they are considered important issues for future policy on sustainable development in Scotland; up to date synthesis reviews have not already been undertaken in these areas; and because there was no other review work being undertaken in these areas for the Executive. Wherever possible, the review has aimed to identify, synthesise and build upon previous reviews of each of these topics.

It should be noted that various policy strategies, including Scottish government ones, are discussed throughout the report. Several significant one are currently being reviewed or refreshed in Scotland, so the published ones described here cannot always represent latest government thinking but do, nevertheless, indicate the policy context in which discussion, reflection and action have been taking place in recent years.

**Review methodology**

In order to make the task manageable, whilst ensuring a thorough and comprehensive search across the evidence-base, in a very constrained time-period, the research adopted a ‘systematic review approach’. This involved the following tasks:

- Identifying a set of clearly defined review objectives with the client
- Developing a set of search terminologies from this list of questions (for example, ‘sustainable consumption’, sustainable procurement’)
- Using a mapping framework to categorise search outputs, so that common themes, synergies, tensions and gaps in the literature could be easily identified
- Undertaking computerised searches of the university libraries, the Web of Knowledge, government and NGO sites and specialist electronic databases using the set search terms
- Downloading and cataloguing full documents where available, or abstracts where they were not
- Scanning abstracts to identify additional key words for further searches and additional publications that could be relevant to the review
- Repeating searches using newly identified key words as necessary

Past experience had demonstrated that appropriate peer review is an important element of a scientific review of this nature. To this end, the *ad hoc* group of academic experts which had been convened by the Sustainable Development Research Network, for reviews it had undertaken for the Sustainable Development Unit of Defra, was asked to comment on the content, comprehensiveness and validity of the draft outputs from this review. Their deliberations have been incorporated into this report.
CHAPTER TWO  THE SCOTTISH CONTEXT

Geography and demography

2.1 Although Scotland comprises one third of the UK’s landmass it is home to less that one tenth of the UK’s total population, and this population is not spread evenly, as the vast bulk is fairly densely concentrated in the central belt and parts of the North-East. The rest of Scotland is predominantly rural and sparsely populated. This contrasts with England, for example, where population density is on average much higher across the whole country and, therefore, more evenly spread.

2.2 For some time, Scotland’s population has been declining and, while this tendency recently appeared to have temporarily halted, the downward trend is expected to persist (Scottish Executive, 2005: 4). Furthermore, the profile of the population is an increasingly ageing one, which has considerable implications for sustainable development, not least given Scotland’s lower than average productivity within the UK. Meanwhile, the number of households in Scotland increased by 18% between 1981 and 2002 and continues to rise, with additional impacts for sustainable development in terms of the additional land and materials needed for housing and an increased demand for the goods and services which are required at household level.

2.3 Scotland’s location raises obvious issues of peripherality within the EU and the UK. The impact of EU enlargement on Scotland’s peripherality, which has arguably been exacerbated by recent enlargement shifting the centre of gravity further east, is noted in the National Planning Framework for Scotland (Scottish Executive 2004c: para 3). Additionally, Scotland also has to contend with substantial internal issues given the distances of the Highlands and Islands from the population concentrations of the central belt. Internal peripherality clearly has implications for transport, waste management, energy generation and transmission, economic development and enterprise, digital connectivity, housing, public service provision, and agriculture. There are, however, some important positive examples of such issues being addressed, for example, through the Highlands and Islands Telecom Initiative (Scottish Executive, 2004c: 10).

Natural heritage and environment

2.4 In general terms, Scotland enjoys high quality natural heritage. This is not simply intrinsically valuable but also has very significant economic implications for tourism and other activities such as food and drink production and indeed the attractiveness of the country for inward investment (Scottish Executive, 2000: 12). Much of the information in this section derives from Key Scottish Environment Statistics 2005 (Scottish Executive, 2005) and Indicators of Sustainable Development for Scotland: Progress Report 2005 (Scottish Executive 2005a).

Habitat and landscapes

2.5 Scotland contains extensive, remote and valuable habitats and landscapes. For example, the area of land designated for nature conservation purposes has expanded
considerably since the early 1990s. Areas designated as Sites of Special Scientific Interest (SSSIs) have increased from 804ha in 1991 to 1008ha in 2005 (Scottish Executive, 2005, 35). This amounts to 13% of the land area of Scotland. The amount of land used for agricultural purposes declined by 4% between 1982 and 2004, while set-aside land increased from 17900ha in 1990 to 71700 ha in 2004, a fall from 93600ha in 2003, but still of considerable benefit in the terms of wildlife (ibid).

2.6 Agri-environment schemes have helped to minimise the impact of agriculture on the environment (Scottish Executive 2005, 36). Of thirty-one key habitats, 16% are increasing and 29% stable, with 26% declining (Scottish Exec, 2005a, Indicator 10). The picture in relation to 173 priority species is perhaps not so positive, however, with 3% becoming extinct, 18% at various rates of decline, 5% fluctuating with no clear trend, 27% stable, only 2% increasing and no less than 46% being unknown (ibid).

**Water quality**

2.7 Generally, Scotland enjoys very high water quality, and the overall length of Scottish rivers that are categorised as either seriously polluted or poor has declined from 1169km in 1999 to 768 km in 2004 (Scottish Executive, 2005a, Indicator 9). Notably, the seriously polluted category has declined from 91km to 51km in the same period. Bathing water quality, which is particularly significant in the context of tourism, has also improved, increasing from 52% compliance with mandatory standards and 9% compliance with guideline standards in 1988 to 93% compliance with mandatory standards and 55% compliance with guideline standards in 2004.

2.8 The number of identified coastal bathing waters increased from 23 in the period 1988-1999 to 58 in 2000. Compliance with discharge consents has increased from 73% in 1996-97 to 86% in 2003 (Scottish Executive, 2005: 27). Diffuse pollution issues connected, for example, with agricultural run-off have been identified but are being addressed, for example, through the system of Nitrate Vulnerable Zones which now cover some 15% of the land area of Scotland and through the statutory Prevention of Environmental Pollution from Agricultural Activity Code of Practice (SEPA, 2004).

**Landfill and waste**

2.9 Reliance on landfill is an environmental problem for Scotland, in terms of the amount of land devoted to landfill, the loss of potentially valuable materials and the consequent environmental problems of substances such as leachate and methane gas (SEPA, 1999). These are being addressed through higher landfill engineering standards (Environmental Protection Act 1990 Pt II, Waste Management Licensing Regulations 1994 and the Landfill (Scotland) Regulations 2003) which implement the requirements of the EU Landfill Directive.

2.10 Landfill reliance has decreased overall from a peak of 15.8 mt in 1994 to 7.88mt in 2003, but this is largely due to the reduction in the amount of construction and demolition waste going to landfill (SEPA, 2005). However, the amount of biodegradable municipal waste (BMW), which is going to landfill, has remained fairly constant with minor fluctuations between 1991 and 2003 at around 1.8mt (Scottish Executive, 2005: 31). This is
despite the fact that BMW is subject to major binding reduction targets under the EU Landfill Directive with an initial target of a reduction of 25% based on 1995 levels by 2006 (Directive 99/31 on landfill).

2.11 Indeed, although the levels of recycling of household waste more than doubled between 1999 and 2000 (5.1%) and in 2003-04 (12.9%) (Scottish Executive, 2005: 31), and although recycling and recovery infrastructure is clearly developing, these increases may, to date at least, merely be preventing an increase in the amount of BMW going to landfill rather than actually bringing about a reduction. Furthermore, recycling levels are still relatively low compared with other EU member states such as Denmark and Germany. The National Waste Strategy (1999) seeks to achieve the Landfill Directive BMW reduction targets using the voluntary principle.

2.12 There are doubts about whether this principle will enable achievement of the targets and mandatory targets have been advocated, supported by the judicious use of financial resources (Birley, 2001, paras 25, 39). Although the Local Government in Scotland Act 2003 requires local authorities to produce integrated waste management plans by February 2007 to indicate how they will meet the targets the Executive has so refrained from moving towards a mandatory regime (Scottish Executive, 2005a).

2.13 Reliance has been placed on the £335 m in the Strategic Waste Fund to assist local authorities in this regard (ibid). This has helped a number of local authorities to roll out doorstep-waste separation and collection schemes to boost recycling rates. However, more recently, a mandatory scheme has been established with the Landfill Allowances Scheme (Scotland) (Regulations 2005, SSI 2005/157), which will see tradable landfill allowances given to all local authorities to facilitate their achievement of Landfill Directive targets.

2.14 Some limited industrial pollution problems remain (SEPA, 2004) although notably SO2 and NOx emissions have declined significantly as a result of international and EU commitments and domestic implementing legislation (Scottish Executive, 2005: 21). However, recent research by Fairburn et al (2005) has pointed to environmental justice issues in the context of industrial pollution in that such plants tend to be located in or near disadvantaged communities.

2.15 There are undoubtedly air quality problems in some urban areas brought about principally by emissions from road traffic. There are currently three Air Quality Management Areas designated in Scotland, an increase from one in 2000 (Scottish Executive, 2005a – Indicator 8).

2.16 Scotland also suffers from a range of “environmental incivilities”, including notably fly-tipping, noise and graffiti, all of which are linked to the environmental justice agenda. It is more often than not disadvantaged communities who suffer, disproportionately, from such problems (First Minister, Environmental Justice Speech, 2002; SNIFFER 2005).

Natural resources and energy

2.17 Scotland benefits from very considerable natural resources, such as coal, oil, gas, fish, water and timber and has great potential as a major source of renewable energy. Oil is not
considered here since its extraction is the subject of UK regulatory structures and the Executive has no direct control over oil as a resource.

Coal

2.18 Scotland remains a considerable source of coal despite the demise of the deep mining industry. Recent research indicates that while Scottish opencast production represented 31.5% of UK production in 1994 it represented no less than 54.3% in 2002 (Pollock, 2004). Although opencast production peaked at 8.0mt in 2001, 7.1mt was produced in 2002 and consented reserves have also increased marginally from 32.4mt in 2000 to 36.1mt in 2003 (ibid). The continued extraction of coal raises a range of sustainable development issues. First is the sustainable consumption of an exhaustible fossil fuel. Second, there are transport issues, given that most of the coal is destined for English power stations. Thirdly, there are considerable local environmental impacts caused by the mining (dust, noise, traffic), although this have to be seen against the lesser environmental damage from Scottish coal due its relatively lower sulphur content, which poses less of problem through acidification caused by acid rain. The Executive has recently enhanced planning guidance to protect communities from the negative effects of opencast mining (Scottish Executive, 2005b).

Fishing

2.19 Although there is obviously evidence of the over-exploitation of fish stocks, there is recent evidence of some improvement in the level, with 24% of such stocks within safe biological limits in 2003, significantly better than the 14% in 2000 and 2001 (Scottish Executive, 2005a: Indicator 11). Perhaps surprisingly, there is no target beyond an “ambition” that all major stocks within Scottish waters are within safe biological limits. However, outside coastal waters, the EU Common Fisheries Policy is applicable so the Executive has little direct role to play in the regulation of fish stocks, although it may clearly seek to influence EU policy.

Water

2.20 Water is obviously significant in Scotland, not simply for the production of renewable energy, but as a key resource for food and drink production and also for recreation. In those contexts, the quality of water is very significant.

Woodland

2.21 The area of woodland in Scotland has significantly expanded from 435,000ha in 1924, to 656,000ha in 1965, to 920,000 ha in 1980 and 1,330,000ha in 2005 (Scottish Executive, 2005: 37). Obviously not all this area is devoted to timber production and clearly the expanding area of woodland is very valuable in terms of habitat and the environment generally as well as providing opportunities for human recreation. Aside from environmental or economic consideration, the health benefits of being able to access outdoors areas, including forests, are being increasingly recognised.


**Electricity**

2.22 There has previously been estimated to be almost 100% over-capacity in generating capacity in Scotland, although it should be noted that a proportion of electricity is exported to England through the Interconnector and further electricity will be exported to Northern Ireland via a separate Interconnector. The relative contributions of nuclear and coal fired power stations are likely to decline within the next 20 years because of the decommissioning of end-of-life plant.

2.23 The Executive is free to set its own targets for electricity generated from renewable sources under the Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc) (No 2) Order 2000, SI 2000/3253). It has set a target of 18% by 2010 and a mandatory target is set by the Renewables (Scotland) Obligation, which requires generators to supply 5.5% from renewable sources in 2005-6, rising year on year to 10.4% in 2010-11 and 15.4% by 2015-6. The obligation remains in force until 2027.

2.24 The percentage of electricity generated from renewable sources has varied considerably since 2000, largely due to variations in hydro-electricity production, which is dependent on precipitation levels in catchment areas. Thus, in 2000, 9.9% of electricity came from renewables, falling to 8.6% in 2001, rising again to 10.3% in 2002, but falling back to 10.3% and in 2003 to 7.7%. However, behind these figures is a steady increase between 2000 and 2003 in the amount of renewable energy produced from wind (predominantly), wave and solar power (0.4 to 0.9%) and other sources (0.2% to 0.8%), with more wind and hydro capacity to come on line.

2.25 Although there has been notable and considerable opposition to on-shore wind farm developments in Scotland, the Executive is currently engaging in a public debate to attempt to persuade the public of the benefits of wind energy. Nonetheless, it is clear that the benefits of certain renewable energy developments may be offset to some extent by localised environmental impacts and possible longer-term socio-economic impacts, through, for example, the effects on tourism if the landscape becomes less attractive and accessible because of the presence of large-scale developments.

**Transport infrastructure**

2.26 The transport infrastructure has received considerable attention from both commentators and the Executive itself. The state of Scotland’s transport infrastructure has been identified as a weakness in the context of the country’s economy (Scottish Executive, 2000: 12) and is plainly significant to the issue of peripherality. The Executive and the Scottish Office before it made significant commitments towards enhancing sustainable transport through improving public transport. This has not simply been a commitment to reduce car use but also to enhance the opportunities of those without cars to access education and jobs, so transport policy has contained a strong social justice element. Planning guidance has also encouraged travel minimisation, reduced car use and development well served by public transport.

2.27 Research has certainly indicated some progress although public transport enhancements have been delivered much more slowly than anticipated and there has been a considerable expansion of the road-building programme, and expansion of air travel and
airports also very much on the agenda (Transform Scotland, 2003). Research by Transform Scotland (2003) characterised this as a “more of everything” agenda rather than a more sustainable approach to transport.

2.28 However, since that research was published there has been significant progress with rail projects in particular, although their delivery remains slow (Modern Railways, 2005), enhancements to park and ride (Croy and Ferrytoll, 2005), and bus services in some areas. Funding for rail and water freight facilities grants has also been maintained, while equivalent schemes in England have been put on hold (Scottish Executive, 2002: 23). Legislative provision also exists to introduce congestion charging by the Transport (Scotland) Act 2001 (Scottish Executive, 2002: 16), but has yet to generate any schemes.

2.29 One possible factor in the delay of rail projects was that rail functions were not fully devolved under the original devolution arrangements. This has recently changed with the devolution of most railway functions to the Executive, (Scotland Act 1998 (Modification of Schedule 5, Order 2004, SI 2004/3329; Railways Act 2005).

2.30 Meanwhile, a number of major road schemes have either been completed, received approval, or are under construction, for example, the M77 and A1 extensions have been completed, the M74 extension has been approved (although it is subject to a legal challenge) and the A8000 M9-Forth Road Bridge replacement dual carriageway link road was under construction at the time of writing. However, the Edinburgh Congestion Charge was not approved by a referendum conducted in the city in 2005.

2.31 Reviewing the Executive’s spending on transport, it is apparent that, firstly, the total spend (at 2000-01 prices) has increased from £256m in 1995-96 to £586 m in 2003-04 and, secondly, that the motorway and trunk road share of this budget has declined from 88% in 1995-96 to 43% in 2003-04 with the public transport budget expanding from 12% in 1995-96 to 62% in 2003-4 (Scottish Executive, 2002: 23). This suggests much greater prioritisation for public transport than, for example, Transform Scotland has so far acknowledged. However, the figures do require further disaggregation in that the public transport budget has, since 2001-02, included the subsidy paid to Scotrail, which in that year amounted to £171.5m (Scottish Executive, 2002: 23). Thus, the figure cannot be said to represent investment in public transport alone.

**Economy**

2.32 This section provides a brief outline of some notable features of the Scottish economy, in terms of both the service and manufacturing sectors, including overall strengths and weaknesses and long-term trends. The growth of the service sector and the relative decline of manufacturing have for some time been dominant trends shaping the current economy (Scottish Executive, 2002). Within the former, both tourism and retail are major industries along with financial services. Oil and gas and construction remain major sectors, and there has been growth in the food and drink and renewables sectors within manufacturing. Agriculture, forestry and fisheries are relatively small sectors overall, in terms of numbers employed and percentage of Gross Value Added (GVA), but are an important part of the Scottish rural economy. For example, best estimates suggest that in the Western Isles, Shetland and Berwickshire over 20% of jobs are fisheries-dependent, while in Banff and Buchan the figure is estimated to be 33%. In terms of agriculture, crofting is also
significant in the Highlands and Islands with around 25% of the area’s agricultural land devoted to crofting and about 10% of the Highlands and Islands population engaged in it in some way.

2.33 Overall strengths of the Scottish economy include: adaptability to structural change, strengths in specific sectors (such as finance, tourism, oil and gas, and whisky); inward investment; strong export performance relative to the whole UK (17% as compared to 15% of gross output); generally high quality of life and natural environment; and a high proportion of graduates in the population (Scottish Executive, 2000). Weaknesses include low productivity, lagging behind Europe, Japan, the USA and indeed the rest of the UK (Scottish Executive, 2000: 2.1 and 4.1); relatively low spending on R and D compared with the rest of the UK, Europe and the US; low business birth-rate; over-dependence on the electronics sector; poor levels of workforce training; geographic peripherality; a culture of risk-aversion in Scottish society; problems of poverty and social exclusion combined with a downward population trend; and physical infrastructure problems, particularly in relation to, for instance, the transport infrastructure and digital connectivity.

2.34 Scottish GDP index increased from 56.8 to 104.9 over the period 1970 to 2004, representing an annual growth rate of 1.8%, and indeed a growth rate of 2.1% since 1990 (Scottish Executive, 2005), which does not necessarily indicate sustainable growth. Although not dealt with in detail in this report, Scotland is having to engage in debates over the relative meaningfulness of GDP as a measure of progress within the context of moving towards more sustainable development.

2.35 There is evidence that the carbon intensity of the economy is declining (Scottish Executive, 2005a, Indicator 1) furthering the goal of decoupling growth from environmental pressure. However, there is insufficient data on energy consumption to identify any trends at present (Scottish Executive, 2005a, Indicator 12).

2.36 Another clear long-term trend is the decline of manufacturing. Its share now represents one fifth of total output, whereas it was one-third in 1966 (Scottish Executive, 2000: 11). Within the manufacturing sector, there has been a significant shift away from heavier and traditional manufacturing, such as metal and metal products, food; drink and tobacco, and textiles and leather goods, to lighter manufacturing industries where 140% growth has been seen in the engineering and allied sector (largely electronics sector growth) and 37% in chemicals.

2.37 In the primary sector, there has been strong growth in productivity in agriculture, forestry and fisheries against a backdrop of a falling share of Scottish output. The service sector has increased from one half of output in 1966 to two thirds today with strong growth in all service sectors, including 79% in business, financial and public services, 70% in distribution, hotels and catering and 53% in transport, storage and communications. Trends in the labour market have reflected the changes in the output of the various sectors with the share of employee jobs in manufacturing falling from 23% to 15% in 2005 and the share in the service sector growing in the same period from 65% to 75% (ibid). There has also been a shift towards greater female and part-time employment. Average weekly earnings placed Scotland tenth out of the eleven British regions in 1970 but Scotland had risen to sixth place in 1999.
2.38 The percentage of unemployed people of working age in Scotland has fallen from 10.2% in 1993 to 5.9% in 2004 (Scottish Executive, 2005a, Indicator 2). In 1999, urban and rural areas had similar unemployment rates, 7.6% and 7.4% respectively. Since then unemployment in rural areas has reduced by a greater extent: by 2004, unemployment in urban areas was 6.7%, whereas in rural areas it was 4.2%.

**Governance and structures for promoting sustainable development**

2.39 Since 1999, Scotland has enjoyed a system of legislative devolution rather than simply administrative devolution, which existed prior to that. The relative competences of Westminster and Holyrood are established by the Scotland Act 1998, which reserves certain functions to Westminster; if a function is not reserved, it is devolved to Holyrood. A very wide range of issues which touch on sustainable development are devolved to Scotland, including the promotion of economic development, housing, health, education, environmental protection, and town and country planning. Some key areas, however, are reserved, such as energy, although planning and related processes for energy projects are devolved and the Executive is now free to set its own targets for electricity generated from renewables in Scotland. Importantly, taxation is reserved, so economic instruments, like the Climate Change Levy, can only be established by UK Parliament. Since the original devolution arrangements, more powers over the railways, for instance, have been devolved, which significantly enables the Executive to pursue a more integrated transport agenda.

2.40 Constraints on the ability of the Executive to promote sustainable development inevitably include the need to comply with EU Directives, which may limit the scope for a different approach from the rest of the UK.

2.41 Although the Labour administration pledged in 1997 that all new public bodies established by it would be made subject to a duty to further or contribute to sustainable development, or to draw up a plan to promote sustainable development, and this was applied, for example, in the case of the Welsh Assembly (Government of Wales Act, 1998), such a duty was not imposed on the Scottish Parliament or Executive (for a general discussion, see Jenkins, 2002). Many bodies within Scotland are, however, now under obligations (usually qualified) to act sustainably or to contribute to sustainable development. Local authorities in their capacity as planning authorities are also obliged to take account of government planning policy, which includes a strong commitment to sustainable development.

2.42 All primary legislation is subjected to a “sustainable development compliance test”, and the policy memorandum accompanying all Executive Bills in Parliament contains a statement as to whether the Bill touches on sustainable development and, if so, how. The approach is similar to that taken in relation to human rights compliance (Scotland Act 1998; Human Rights (Scotland) Act, 1998). Parliamentary scrutiny of Executive action on sustainable development has been characterised by insufficient by Birley (2001), who called for a specific committee to assume that role. At UK level, the Environment Audit Committee performs that role and considerable research has focused on its effectiveness (Ross, 2000, 2003 and 2004).

2.43 The need for leadership within the Executive to ensure the centrality of sustainable development across government area was stressed in an early report by the Secretary of State’s Advisory Group on Sustainable Development (AGSD, 1999). Birley (2002)
subsequently identified a lack of leadership on the issue of sustainable development as a problem for Scottish government, which had resulted in a failure to put sustainable development at its heart. Despite pre-devolution, high-level rhetoric and a widely supportive context, Birley (2002: paras 9-10, 20) argued there had been little follow up by Ministers and indeed a relative downgrading of commitments from the comprehensive aim of integrating economic, environmental and social policies in 1999 to a concern in 2001, focusing on waste, energy and travel.

2.44 Although this approach was criticised by the UK Sustainable Development Commission as an inadequate basis for a sustainable development strategy, Meeting the Needs, the last sustainable development strategy for Scotland (Scottish Executive Environment Group, 2002) was overly focused on the themes of waste (characterised more positively as resource use), energy and transport. However, Meeting the Needs did also highlight the need for holistic thinking, beyond a simple focus on W-E-T. It received a qualified welcome, as did the Executive’s Indicators of Sustainable Development, which were published at the same time and on which the Executive has since reported annually (for the latest progress report, see Scottish Executive, 2005a).

2.45 The First Minister’s speech on environmental justice in February 2002, and his decision to chair the Cabinet Sub-Committee on Sustainable Development provided significant indication of a strong lead being taken on sustainable development at the centre of the Executive and have received a qualified welcome (Birley; 200; Scottish Environment Link, March 2003: 21-23). The theme of that speech also gives some clues as to how significant and influential the social justice dimension has been to recent thinking on sustainable development in Scotland.

2.46 The Secretary of State’s Advisory Group on Sustainable Development undertook early supporting work on sustainable development in Scotland (AGSD, 1999). However, this body and a number of others, notably the Education for Sustainable Development Group and the Scottish Environmental Education Council, were stood down in 1999 pending the establishment of a Scottish Sustainable Development Commission, the establishment of which had been recommended by the AGSD.

2.47 The Cabinet Sub-Committee on Sustainable Development, which replaced the Ministerial Group on Sustainable Scotland, is chaired by the First Minister and currently has three external members. It was established to co-ordinate and support the Cabinet on sustainable policy decisions and information is available on the Executive’s website. Its remit includes:

- Identifying priorities for action on sustainable development in Scotland;
- Deciding issues of timing and implementation relating to the action to be taken forward in each portfolio;
- Determining how the resources agreed by Cabinet should be used;
- Monitoring the overall Executive performance in relation to environmental commitments in the partnership agreement;
- Supporting Cabinet colleagues in embedding sustainable development in their policies and programmes.

2.48 The Sustainable Scotland Network brings together Scottish local authorities to advance sustainable development action, previously under the name Local Agenda 21. This
group includes representatives from all local councils and encourages networking and
discussion on the implementation and monitoring of policies and projects on sustainable
development.

2.49 As part of the Executive’s Action Plan on Sustainable Development, the Minister for
Environment and Rural Development, Ross Finnie, announced in autumn 2001 that the
Executive would set up a forum to bring together members of the UK Sustainable
Development Commission, business, the trade unions, NDPBs and NGOs to build broad
partnerships to work towards a sustainable Scotland. The Scottish Sustainable Development
Forum is now well established and provides a forum across Scotland for any organisation of
individuals interested in debate, participation, awareness-raising and good practice-sharing.
CHAPTER THREE  THEORIES AND PRINCIPLES FOR SUSTAINABLE DEVELOPMENT

Early conceptual thinking

3.1 A great deal of both academic and policy literature in the ten years immediately following the Brundtland announcement (World Commission on Environment and Development, 1985) concerned itself with understanding and articulating the core principles of sustainable development (see Dresner, 2002 for a useful discussion of key theories and main actors at that time). Much of this activity has dwindled over the last five years, and those still discussing theory are much more likely to be found doing so in relation to a specific aspect of sustainable development delivery (see below for current concerns in this debate and the topic-based chapters which follow for sector-specific discussions).

3.2 Two key conceptual approaches were clearly evident in this earlier debate, namely:

- Strong sustainability – a position which accepts that non-ecospheric natural capital (minerals) can be depleted but the ecosphere must be protected absolutely – ‘there is no substitute to the planet’ – a planet over people approach;

- Weak sustainability – a position that propounds that human made capital (e.g. technology) will substitute for natural capital so this can be run down, providing a critical minimum level is maintained – essentially a willingness to pay approach.

3.3 Theorists are virtually unanimous in their assessment that sustainable development as a concept has largely evolved from the latter position. It is often criticised as a have your cake and eat it doctrine, suffering from two fundamentally conflicting aims and ideals. For example, Dresner finds that:

“Sustainability is a concept which combines post-modernist pessimism about the domination of nature with almost Enlightenment optimism about the possibility to reform human institutions.” (Dresner, 2002: 164)

3.4 Even supporters of the stance taken in Brundtland agree that it developed the concept as a necessary political compromise between the global environmental management and protectionism aims of the North and the human health and development needs of the South (Dresner, 2002; Purvis and Grainger, 2004; Bigg, 2004). Despite their frustrations with the woolly thinking of sustainable development, many Western academics, policy-makers and practitioners have been prepared to work within the framework of its overarching guiding principles because they approve of their moral and practical intentions.

3.5 Purvis and Grainger (2004) find that, despite its weaknesses, the uniqueness of sustainable development as a concept is the attempt to incorporate environmental and inter-generational dimensions within neo-classical economic development theory. This has inevitably resulted in the development of an approach that is intended to work within the existing economic system of production and distribution and a focus on the use of economic instruments for securing its intended outcomes.
In simple terms, working within neo-classical economic development theory means that sustainable development delivery must rely upon the traditional and often criticised belief that increased economic growth (albeit more equitably distributed) will deliver the necessary improvements to the human condition, as measured by the Human Development Index (HDI) in developing countries. In addition, it demands that economic activity to achieve this must take account of both environmental capacities and the needs of future generations, so that any rise in income today is not at the expense of social or environmental welfare today or tomorrow.

**Greening the economy**

Many of the academics with an interest in sustainable development in the late eighties and early nineties approached the subject from an economics background (for instance, Dasgupta, 1993; Pearce, 1989) attempting to price the environment through a framework of fiscal controls and incentives (see Dresner, 2002 for a comprehensive discussion of this). This argues that the best way to protect the natural environment is to assign it an economic value based on people’s willingness to pay. The aim is to internalise all the external costs to the economy in terms of pollution, resource depletion and human health.

There have been numerous criticisms of this approach, including how to price irreplaceable resources, how to ensure equitable or fair distribution, or both, within and between nations, and how to reflect the resource needs of future generations within the current market place. Indeed, Aubrey Meyer has gone as far as to describe the approach as the economics of genocide (quoted in Dresner, 2002). Nevertheless, economic tax reform has been taken up as the most likely way for the western world to control the environmental impact of our systems of production and consumption. And it has the added advantage of generating government income, which can be targeted at new technologies and other interventions to improve environmental improvements.

**Environmental utilisation space**

Another popular approach, which was particularly evident in early Dutch policies for sustainable development, has been the environmental utilisation space concept (Siebert, 1982; Opschoor, 1987). This aims to reflect limits or thresholds to the amount of pressure that the ecosystem can withstand without irreversible damage and to use these to determine the operational boundaries of the environmental space that can be utilised. The ecological footprint method applies a similar set of conceptual principles.

Critics of the environmental space approach, of which Pearce (1989) is one, claim that a reduction of resource consumption in the North will not necessarily improve the well-being of people in the South, unless this leads to a slump in resource prices internationally, which would allow developing countries to consume more for the same price. However, it could equally make the South worst off if they are the exporters of these resources and thereby could reduce their opportunity to develop.
**Resource and energy efficiency**

3.11 In the 1970s, Amory Lovins first drew attention to the potential for energy savings to resolve the ‘energy crisis’ rather than resorting to the use of nuclear fuel (cited in Dresner, 2002). Factor 4 argued that energy and resource efficiency could be quadrupled with the widespread adoption of existing energy efficient technologies. It identified 50 technologies around the world for reducing energy and material intensity and the market failures that prevent their more widespread adoption, including hidden subsidies and other perverse incentives.

3.12 More recently, the Factor 10 Institute and Factor 10 Club have published extensively on the need to reduce energy and resource consumption by a factor of 10 if we are to secure both our economic and environmental sustainability (Factor 10 Institute, 2005). Some more radical commentators even propose that Factor 20 and 30 solutions are necessary. This ongoing debate led to growing policy awareness throughout the 1990s of the need for integrated and consistent policy-making and the potential to develop ‘win-win’ policy scenarios.

**Emergent theoretical approaches from 1998 onwards**

3.13 That sustainable development is still chasing a divergent set of policy goals, at the international level at least, is highly evident in the more recent academic literature (Ayre and Callway, 2005). The Northern sustainability agenda is still predominantly focusing on an environmental protection (e.g. climate change, biodiversity, protection of species and habitats), whilst the South struggles to secure improvements to human health, develop its enterprise-bases and achieve the necessary economic growth for its development.

3.14 Conceptually, there has been some movement towards greater sophistication of understanding, as demonstrated by a move from simple Venn diagram explanations for the interactions between the economic, environmental and social pillars of sustainable development towards a ‘Russian Doll’ or embedded model of understanding (O’Riordan, 1998; see Figure 3.1).

3.15 The Russian doll model upholds the basic principle that all economic activity should be bent towards social progress and that this must be achieved within environmental limits. There is, therefore, suggestion of a slight move away from the ‘weak sustainability’ model that was originally put forward by Brundtland towards a more eco-essential approach. The potential to achieve ‘win-win-win’ scenarios is increasingly being rejected as over-simplistic and practicably unattainable.
New approaches to evaluation

3.16 Measuring and monitoring progress towards sustainability was a central focus of 1990s sustainable development policy, both globally and within the UK (IIUE, 1998), as demonstrated by the plethora of indicator sets that were developed at every level of policy delivery. In the period post-1999 there has been far less academic activity in this respect, although indicator development work has far from ceased. There have been some new approaches to policy evaluation in relation to sustainable development, which help to enhance the understanding of theoretical developments in this area. However, these are outwith the scope of this limited review.

Indices of human development and environmental performance

3.17 Qizilbash (2001) examines the links between human development and environmental protection. Building on earlier research by Desai (1995) and utilizing the Human Development Index (HDI) and the Ordinal Green Index (OGI), Qizilbash uses a variety of indices of social progress and environmental exploitation to determine the sustainability of 59
different developing and 15 industrialized countries. Desai’s earlier work suggested that where HDI was poor environmental degradation was lower and vice versa. Qizilbash demonstrates that this does not always hold true for all 59 developing countries, with some, such as Nigeria, scoring poorly against both scores, and others, such as Costa Rica, performing well in both instances. He finds that the picture for the 15 industrialised nations is less robust, due to data shortfalls for the poverty indices, and no overall conclusion is drawn in this respect.

Measuring environmental policy integration

3.18 In their 2003 paper, Lafferty and Hovden identify environmental policy integration (EPI) into non-environmental policy sectors as a defining feature of sustainable development. They claim that successful EPI is an essential and indispensable part of the concept of sustainable development and that, although of itself EPI does not constitute successful sustainable development, it is:

“... semantically inconsistent to conceive of sustainable development without successful policy integration.” (Lafferty and Hovden, 2003: 2)

EPI has three core goals, namely:

- to achieve sustainable development and prevent environmental degradation;
- to remove contradictions between policies as well as contradictions within environmental policy;
- to realise mutual benefits and make policies mutually beneficial.

3.19 For a policy to be integrated, they advise, it must be comprehensive, aggregated and consistent and policy priorities must be decided democratically. EPI has both a vertical and horizontal dimension. Vertical environmental policy integration (VEPI) indicates the extent to which a particular government sector has adopted and sought to implement environmental objectives as part of their central portfolio. Horizontal environmental policy integration (HEPI) is the extent to which a central authority has developed a comprehensive cross-sectoral strategy for EPI. According to the authors, Germany provides evidence of a useful working example of VEPI and Canada of combining strong VEPI with HEPI. In a recent review of the Cardiff Process, launched in 1998, to integrate environmental considerations into policy areas in the European Union, the European Commission noted the need for further HEPI (in Lafferty and Hovden’s terms) in agriculture - with opportunities to integrate rural development policy, reform of the Common Agricultural Policy and our approach to pesticides and organic farming – and for increased VEPI in fisheries policy (EC, 2004).

A framework for integrated decision-making

3.20 Brandon and Lombardi (2005) also focus on policy integration, as a central tenet for the evaluation of sustainable development. They claim that what is required is an integrating mechanism or framework to obviate the interconnectedness and interdependence of systems. To this end, they have identified fifteen ‘modalities’, based on Dooyeweerd’s theory of the ‘Cosmic Idea of Reality’ for explaining the functioning of complex systems.
3.21 The fifteen modalities are nested within each other to provide continuity between modalities, with each adjacent modality affecting and informing the level above. For example, the economic modality is dependent on the social, the social on the lingual, the lingual on the historical, and so on. The greater the distance between the ordered modalities, the less influence they have on each other. These modalities, as described by the authors in relation to the built environment, are identified in Table 3.1 below.

3.22 The proposed framework does not claim to cover all dimensions of sustainable development, but rather is aimed to guide the planner or policy-maker through a process of understanding and evaluating sustainable development in the planning context, on the basis of a new holistic structure that can act as both a prompt and a checklist. It also aims to encourage collaborations between disciplines, experts and people and act as a learning tool.

Table 3.1 modalities for understanding the interconnectedness of the built environment

<table>
<thead>
<tr>
<th>Modality</th>
<th>Meaning</th>
<th>Definition for SD</th>
<th>Issues for SD Issues for Built environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical</td>
<td>Quantity</td>
<td>Numerical accounting</td>
<td>Population, available resources, number of species and their population levels, census statistical office, information</td>
</tr>
<tr>
<td>Spatial</td>
<td>Continuous extension</td>
<td>Spaces, shape and extension</td>
<td>Layout, shape, building footprint, location, proximity, terrain, area type, etc</td>
</tr>
<tr>
<td>Kinematics</td>
<td>Movement</td>
<td>Transport and mobility</td>
<td>Infrastructure, roads, motorway, railways, cycle routes, pedestrian streets, car parking, transport and mobility, wildlife movement, mobility, accessibility.</td>
</tr>
<tr>
<td>Physical</td>
<td>Energy, mass</td>
<td>Physical environment, mass and energy</td>
<td>Energy for human activity, energy for bioactivity, physical environment, structure of ground, building materials, components, buildings, districts, settlements.</td>
</tr>
<tr>
<td>Biological</td>
<td>Life function</td>
<td>Health, biodiversity, eco-protection</td>
<td>Food, shelter, housing, air and air quality, water and water quality, hygiene, green areas, pollution, soil quality, biodiversity, habitat diversity, health and health services, hospitals, gyms, etc</td>
</tr>
<tr>
<td>Sensitive</td>
<td>Senses, feelings</td>
<td>People’s perceptions towards the environment</td>
<td>Feelings engendered by living there, well-being, comfort, fitness, noise, security, provision of peaceful surroundings, counselling services, asylums, housing for domestic animals.</td>
</tr>
<tr>
<td>Analytic</td>
<td>Discernment of entities</td>
<td>Analysis and formal knowledge</td>
<td>Clarity with which issues are aired in community, letting people clearly know facts and issues, quality of analysis for planning and evaluation, diversity, functional mix, knowledge, tendency to understand rather than react to issues, schools, universities, education services, research.</td>
</tr>
<tr>
<td>Historical</td>
<td>Formative power</td>
<td>Creativity and cultural development</td>
<td>Encouraging creativity in the community, innovation, heritage, history of community and area,</td>
</tr>
<tr>
<td>Category</td>
<td>Subcategory</td>
<td>Aspect</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Communicative</td>
<td>Information</td>
<td>Communications and the media Ease of communication in and with community, quality of communication, lingual networking, symbols, information provision, monuments, signs, advertising, the media.</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>Social intercourse</td>
<td>Social climate and social cohesion Social relationships and interaction, recreational places, social climate, cohesion, plurality, competitiveness, collaboration, authority structure, social register, clubs and society.</td>
<td></td>
</tr>
<tr>
<td>Economic</td>
<td>Frugality</td>
<td>Efficiency and economic appraisal Use of land, use and replacement of renewable resources, use of non-renewable resources, recycling schemes, attitudes to finance, efficiency, financial institutions, offices, banks, stock markets, industrial plants, employment.</td>
<td></td>
</tr>
<tr>
<td>Aesthetic</td>
<td>Harmony, beauty</td>
<td>Visual appeal and architectural style Beauty, visual amenity and landscape, architecture and design, architectural style decoration, social harmony, ecological harmony and balance, art galleries, theatres.</td>
<td></td>
</tr>
<tr>
<td>Juridical</td>
<td>Retribution, fairness</td>
<td>Rights and responsibilities Laws and law-making with regard to property, ownership, regulation and other policy instruments, contracts for building, rights, responsibilities, inequities, property-market interests, democracy, participation, tribunals, administrative offices, legal institutions, political structure.</td>
<td></td>
</tr>
<tr>
<td>Ethical</td>
<td>Love, morality</td>
<td>Ethical issues General demeanour of people towards each other, goodwill, neighbourliness, solidarity, sharing, equity, morality, health of the family, voluntary centres.</td>
<td></td>
</tr>
<tr>
<td>Credal</td>
<td>Faith, trustworthiness</td>
<td>Commitment, interest and vision Loyalty to the community, general level of morale, shared vision of what we are, and aspirations, religious institutions, churches, synagogues, etc.</td>
<td></td>
</tr>
</tbody>
</table>

Source: adapted from Brandon and Lombardi (2005)

**Geographical and spatial analysis**

3.23 In their book on the subject, Purvis and Grainger (2004) argue that existing theories of sustainable development have limitations when applied spatially. They find that most have been only applied to date at a specific geographical level, whether locally, regionally or internationally, but that the interaction between these spatial scales has largely been ignored. They identify that, as a discipline, human geography is already comfortable with analysis at different ecological (biosphere, biome-type, biome, landscape, ecosystem, community, population and organism) and social (world, supranational regions, state, region, locality, household, individual) scales. Their aim is to develop and apply this analytical approach to different aspects of sustainable development delivery in order to investigate the appropriateness of analysis for a given policy goal at each spatial scale.
3.24 In his chapter of Purvis and Grainger, Soussan argues that the ‘participatory paradigm’ within sustainable development policy can only be effective as far as the legal, policy and institutional frameworks are in place to allow for successful ‘grassroots’ activity. He finds that over-reliance on grassroots delivery has led to the exclusion of legal and institutional activity in the UK and elsewhere. One of the biggest problems for sustainable development is that it has attempted to progress within existing organisational frameworks, within nation states and globally, and this has led to tokenism.

### The institutional or governance dimension

3.25 It is evident from above that a notable addition to theoretical conceptualisation of sustainable development over the past five years has been the argument for incorporation of a fourth ‘institutional’ dimension or imperative, as demonstrated in Figure 3.2 (see, for example, Spangenberg, 2003). The diagram demonstrates that more sophisticated theoretical understandings are beginning to emerge, with greater emphasis on the social equity and participative aspects of delivery and the democratic and political processes for achieving this (see Chapter 11).

3.26 Environmental governance is essentially concerned with the distribution of power within environmental decision-making. It is closely related to the issue of environmental rights and environmental distribution because it regards power-sharing as fundamental to the realisation of human rights and as a balance to the present unequal share of and to the environment. Essentially, environmental governance deals with the operation of civil and political rights to realise individual political and civil expression. As such, environmental decision-making is viewed as central to people’s quality of life particularly for the inclusion of the most vulnerable, excluded by economic or social factors from most forms of decision-making. Who governs is critical, relating to the development of tools capable of improving public participation and decision-making processes.

**Figure 3.2: A multi-dimensional understanding of sustainable development**

Source: adapted from EPA Ireland Technical Document, 2004
Critical theory

3.27 Despite the burgeoning theoretical discourses on what is required for the delivery of sustainable development, critics of the ‘weak sustainability’ model that underpins it have long questioned a policy position that suggests sustainable development can be brought about within the existing system of production and consumption. In his recent paper, Castro (2004) develops this position from ‘an environmental Marxist’ perspective, arguing that sustainable development as it is currently defined in the present literature is basically economic growth on capitalist terms.

3.28 The environmental Marxist perspective questions the very possibility of an environmentally sustainable capitalist economy, arguing that economic growth relies upon exploitation of natural and social capital and the avoidance of wealth redistribution (or equity) both at the national and international level. Therefore, by its very, nature capitalist development does not foster the goals of environmental sustainability, cultural diversity or more equitable social development where poverty is eradicated.

3.29 Whilst Castro and his fellow environmental Marxists could be considered to represent the radical edge of sustainability theory, many of their views were echoed at both the Rio and Johannesburg World Summits by developing countries, which see their hopes for poverty eradication taking a back seat in the global debates surrounding sustainable development policy.

3.30 In his assessment of the role and risk of governments to deliver sustainable development, Howes (2005) also appears to concur with this view. Even from a more mainstream and industrialised perspective, he concludes that despite the considerable resources that have been redirected towards sustainable development by governments over the last ten years, there have been only patchy gains, constituting a small part of a huge countervailing global economy. He suggests that new democratic models are needed to act as a counterforce to the powerful interests of trans-national business. Ayre and Callway (2005) claim that, despite its shortcomings, the UN is the only viable institution capable of working with national governments to achieve this.

The Global perspective

3.31 Numerous observers and commentators of the World Summit on Sustainable Development 2002 (WSSD 2002) have noted that, in the absence of any really substantial international agreements (particularly with the United States (NSSD, 2005)), the gathering appeared to be more about developing national action strategies. Arising from that summit, the Johannesburg Plan of Implementation (JPOI) (UN Department of Social and Economic Affairs, 2004) identifies eight core action themes for national strategies:

- Poverty eradication
- Sustainable production and consumption
- Protecting the natural resource base of economic and social development
- Globalisation
- Health and sustainable development
- Small island developing states
• Africa
• Other regional initiatives

3.32 It is clear that the policy focus for these national strategies will differ significantly in North and South. Northern strategies are predominantly concerned with institutional reorientation, policy integration, regulatory and voluntary standards, local targets, environmental controls and cost savings. Developing countries in the South are placing the main emphasis on creating new institutions and ‘bankable’ projects.

3.33 The United Nations Development Programme (UNDP) and Organization for Economic Cooperation and Development (OECD) have produced a joint resource book detailing why and how to develop a sustainability strategy (UNDP and OECD, 2002). It includes approaches to measuring and analysing sustainability, facilitating stakeholder participation in strategy development and delivery, the use of communication strategies, the scope of strategy decision-making at different institutional levels, mobilizing finances and a range of other essential information. It identifies a set of core values and principles for the development of national strategies that must reflect local values and work through existing national and local decision-making frameworks, and which include the following.

• Strategies need to address new global values introduced by the emerging universal normative framework (1947 Declaration of Human Rights; 1986 Declaration on the Right to Development; 1992 Declaration on Environment and Development).
• Strategy decisions should reflect risk and uncertainty based on the precautionary, polluter and user pays principle, intergenerational equity, intra-generational equity, free prior and informed consent and helping (involuntary) risk bearers to participate in decisions as well as risk takers (such as government and investors).
• The strategy’s institutional framework must help and support decision-making.
• All relevant stakeholders should be involved using recognised negotiating procedures where possible and focusing on rights and risks. Negotiation is particularly important in setting decentralised targets.

A human rights approach

3.34 Adebowale (2004) has articulated the case for adopting a human rights and environmental justice approach to sustainable development. She argues that existing legal research suggests that the application of human rights within an environmental context is justified on the grounds that a healthy environment is a fundamental prerequisite for upholding the human right to life. This is because, at the most basic level, a dignified life can not be realised without access to clean water, air, land. This approach is largely informed by the environmental justice legalistic model, which has developed from a predominantly ‘grassroots’ movement over the past 40 or so years in the USA.

3.35 Within the discourse, human rights and the environment are essentially perceived in two ways, the first in terms of civil and political rights and the second in terms of economic, social and cultural rights. Civil and political rights provide for moral and political order, including the right to life, equality, political participation and association. They are couched most clearly in the Universal Declaration of Human Rights (1948) and International Covenant on Civil and Political Rights (1966). Civil and political rights are crucial to
guaranteeing good governance, essentially protecting public participation around environmental protection and achieving greater equity.

3.36 The second set of rights, economic, social and cultural, establish the right to a healthy environment and support the right of all peoples to manage their own natural resources. These rights can be sourced in a number of international human rights conventions, such as the International Covenant on Economic Social and Cultural Rights (1966) and Conventions on the Rights of a Child (1989).

The European perspective

3.37 In 2001, the European Council adopted the EU Sustainable Development Strategy (European Commission, 2001) which provides a long-term vision that involves combining a dynamic economy with social cohesion and high environmental standards. It requires a new emphasis on policy coordination and integration. As part of the implementation of the Strategy, the Commission has introduced a system of extended impact assessment for all major policy proposals. This approach provides information on the tradeoffs between the economic, social and environmental dimensions of sustainable development to inform decisions. By allowing a full appraisal of the potential environmental costs and benefits of all major Commission proposals, as well as of the costs and benefits of specific environmental measures, it helps promote environmental integration.

3.38 The importance of integration of environmental programmes into other aspects of European policy was reaffirmed in the Sixth Environmental Action Programme (European Commission, 2002). The new programme identified four priority environmental areas to be tackled for urgent action and improvement, namely:

- Climate change
- Nature and biodiversity
- Environment and health and quality of life
- Natural resources and waste

3.39 The main avenues for action identified by the Sixth Programme are:

- Effective implementation and enforcement of environmental legislation: necessary to set a common baseline for all EU countries.
- Integration of environmental concerns: environmental problems have to be tackled where their source is, frequently in other policies.
- Use of a blend of instruments: all types of instruments have to be considered, the essential criterion for choice being that it has to offer the best efficiency and effectiveness possible.
- Stimulation of participation and action of all actors from business to citizens, NGOs and social partners through better and more accessible information on the environment and joint work on solutions.

3.40 The EC claims it will take a wide-ranging and integrated approach to these challenges. However, inspection of other areas of EU policy (such as employment, economic development and transport) suggests that little progress has yet been made in this respect. There are also fears that the Lisbon Agenda, which was adopted in 2000 with the aim of
making Europe the most competitive and dynamic knowledge-driven economy by 2010, could place sustainable development beneath an over-arching aim of increasing economic growth (see CEC, 2005 for full details of the Lisbon Programme).

The UK perspective

3.41 The UK Government has clearly made progress in its thinking on sustainable development since the production of its last strategy in (DETR, 1999), demonstrating both greater clarity of understanding of the issues and the need for more tailored and sophisticated ways of addressing them. The economic pillar of the new strategy (HM Government, 2005) now involves,

“Maintaining a sustainable, innovative and productive economy that delivers high levels of employment ...”

The social pillar requires,

“A just society that promotes social inclusion, sustainable communities and personal wellbeing...”

The environmental pillar encourages methods that promote and enhance the physical and natural environment and use resources and energy as efficiently as possible.

3.42 There is recognition of both the national and international dimensions of these endeavours and of the need for intergenerational considerations, which was entirely absent from its predecessor. Five overarching principles have been agreed between the United Kingdom Government and the devolved administrations, namely:

- Living within environmental limits
- Ensuring a strong, healthy and just society
- Achieving a sustainable economy
- Promoting good governance
- Using sound science responsibly

3.43 The four shared priorities areas for action are:

- Sustainable consumption and production
- Climate change and energy
- Natural resource protection
- Sustainable communities

3.44 Achieving improved environmental equity both within the UK and between it and developing nations has also been identified as an important theme cutting across several aspects of policy delivery. The strategy recommends that whilst there is a need for regulation and enforcement, other levers and controls need to be used in a consistent way to support behaviour change at both the individual and institutional level. The government casts itself in the role of catalyst, exemplifier and facilitator in the delivery of this strategy.
3.45 In an extensive desk review for Defra and the COI (the UK Government’s Central Office of Information), Darnton (2004) examined the behaviour changes that could undertaken by the public which would help in the pursuit of sustainable development objectives and policies. The report identifies that many tools are already available to government to deliver progress in sustainability. He notes, however, that some of the bigger gains for sustainability do not relate to individual or household behaviours at all but rather require institutional or legislative changes.

3.46 Darnton recommends that policymakers should consider each aspect of individual or household behaviour in isolation and decide whether or not public behaviour change is the most appropriate and effective route for advancing a given sustainability goal. If it is, then a step-by-step approach to public behaviour change is needed (such as that provided in Stern 2000), in which external barriers are removed before internal (psychological) factors are addressed. Most importantly, members of the public should be provided with the opportunities to pursue a sustainable lifestyle before they are exhorted to do so.

3.47 In common with numerous academic commentators, Darnton also noted that there are numerous and considerable barriers to behaviour change. Not only are behaviours complex, and the factors influencing them multiple, but barriers apply to different behaviours in different combinations, and are experienced by different individuals to varying extents. While some barriers are shown to be actual or physical and other barriers perceived, many are a messy blend of both. Simply removing the physical barriers to an activity may still not change people’s attitudes towards it. Equally, attitude change is not strictly necessary in order to provoke a change in behaviour. For example, people in London might still prefer to drive their cars into the centre, but may stop doing so because they cannot afford the congestion charge.

3.48 Darnton has identified nine key barriers and eight drivers of change that UK policymakers should consider in the development of an action plan for sustainable development.

**Barriers to change**

- Willingness to act - basic reluctance or refusal to change;
- Low-level behaviours – lack of conscious or awareness of the behaviour being undertaken;
- Norms and habits - people need to be “unfrozen” from their habits before behaviour change can be undertaken;
- Convenience - the excuse most often given by people for not undertaking behaviour change is that it is less convenient than their existing behaviour choice;
- Cost – perceived cost is seen as a major barrier to the take-up of more sustainable options;
- Psychological effects - different psychological processes such as fear, apathy, etc., serve to filter other factors influencing behaviour;
- Agency - people’s lack of belief in their own ability to bring about change and not believing that one’s own behaviour can make a difference;
- The terminology of ‘sustainable development’ - numerous studies have show that people either have not heard of or do not relate to the language of sustainable development;
- Relative sustainability - confusion relating to behaviours not being single, but inter-related into patterns, or ‘clusters’.
Drivers of change

- Norms and habits - while habits tend to be described as barriers to behaviour change, norms are often shown to be drivers;
- Key influencers - social norms are most effectively established by engaging key influencers and role models to encourage the adoption a particular behaviour by a community;
- Groups - pre-established and trusted groups such as faith groups and voluntary organisations have a key role to play in supporting the adoption of behaviours for sustainability. In addition, different groups and sectors of society often need to be treated in different ways to provoke a change in their behaviour;
- Infrastructure - putting in place the physical provision for people to change their behaviour;
- Saving money - quality and cost are the top two criteria applied by people in their purchasing decisions;
- Financial instruments - financial measures can be particularly effective in driving public behaviour change for sustainability, e.g. ‘plastax’ levy on plastic bags and the tax breaks for cars with catalytic converters used in Eire;
- Information - provision of practical information is however regarded as a key element in behaviour change campaigns by several sources, but campaigns need to be well targeted and co-ordinated with other measures;
- The role of government - most people express doubts that the government is serious about delivering on the objectives of sustainability, as environmentalism is believed to be contrary to their interests, particularly economically.

3.49 On the basis of Darnton’s useful synthesis alone, it is possible to identify that considerable progress has been made, at the UK level, in understanding the theories and principles underpinning behaviour change. Nevertheless, the task is considerable, particularly given the scale and breadth of the problems faced.

The Scottish perspective

3.50 There is little distinctively Scottish academic literature on sustainable development, although there is a certainly Scottish contribution to the wider debate about sustainable development (Ross, 2000, 2003, 2004) and some relevant social research has been commissioned by the Executive (for example, Scottish Executive Social Research, 2005; Derek Halden Consultancy, 2003). This has included a survey of Public Attitudes to the Environment in Scotland (Scottish Executive Social Research 2005), which reveals little general awareness of the term sustainable development (27%), marginally below that found in similar research conducted in England and Wales (28%). Of those who had heard of the term only around a third were able to provide a definition, which showed a reasonable understanding of the concept. This correlates to only 2% of the Scottish population showing a reasonable understanding of the concept with no fewer than 82% either never having heard the term or, if they had, having no understanding of it.

3.51 It does appear, in the main, that Scottish debates about sustainable development reflect the issues and perspectives of the UK, European and international debates, so distinctions between a strong or eco-centric and weak or anthropocentric version of sustainable development are very much relevant and present (Pillai, 2005). Generally,
Scottish approach has focused on, and been shaped by, the weak version of sustainable development although counter examples do exist. For instance, Scottish Natural Heritage (SNH) first outlined its approach to sustainable development in 1993, emphasising the wise and sparing use of non-renewable resources, intergenerational equity and the precautionary principle, and this continues to be reflected in SNH’s more recent policy statement (2001). However, this is uncommon and the predominant Scottish perspective has been the weak version, which is perhaps unsurprising since the Scottish perspective has always stressed the social (and more recently environmental) justice dimensions of sustainable development.

3.52 For example, in the land reform debates concerning the introduction of a community right to buy (implemented by Land Reform (Scotland) Act 2003 with sustainable development undefined in the legislation), the Land Reform Policy Group emphasised the social and economic aspects of sustainable development over the environmental protection dimension (LRPG, 1998). This may reflect the fact that with a sparse rural population and concentrated landownership, which has tended to promote monopolistic practices and a relatively high quality environment, it is perceived that the carrying capacity of the environment was generally not considered to be at risk if there was to be additional development.

3.53 The issue of stewardship has also featured in debates and thinking on land reform in Scotland. Formal consultation on proposals for land reform resulted in a considerable call for stewardship obligations to be imposed on community landowning bodies and, indeed, on private landowners (Wightman, 2000). Such obligations were seen as stronger than sustainable development obligations as they carried with them both intergenerational and carrying capacity dimensions and were less amenable to trade-offs. However, the Land Reform Policy Group did not support this approach and it was not incorporated in the Land Reform (Scotland) Act 2003.

3.54 In 2001, Birley argued that the Executive’s stance on sustainable development was wanting in a number of respects. Not only was there seen to be a lack of political commitment, after some positive early announcements, and institutional weakness but the perceived focus of the Executive’s efforts on waste, energy and travel (W-E-T) was seen as too narrow and as unacceptable as a strategy. Many of the key energy and waste developments had already been underway by 2000 and the move to a more sustainable transport system was being undermined by a massive expansion of the road-building programme. Priorities for sustainable development published in 2002 seemed to communicate a continued focus on W-E-T, but also stressed wider resource-efficiency issues in addition. For the Executive (2002), energy has also been seen as very much a matter of dealing with fuel poverty in addition to developing renewables.

3.55 There is at the very least a strong commitment to more holistic thinking and promoting integration rather than about making trade-offs and this has received a qualified welcome, for example, by Birley (2002). Furthermore, the latest Executive thinking contains a strong commitment to social and environmental justice as well as intergenerational equity and respect for the carrying capacity of the planet.
Key areas of policy action

3.56 It is already clear from this overview of the main theoretical texts that a number of key areas have been identified for the targeting of policy and action towards sustainable development. Poverty eradication, access to clean water, human health, protecting our natural resource bases, climate change and sustainable production and consumption consistently appear as priorities at all levels of policy-making. Transport, waste, energy, land use and the built environment are also common topics within the sustainable development policy agenda.

3.57 The following sections of this report consider eight key areas of policy action for sustainable development, as determined by the Executive, and examine the available literature in direct relation to these. From a global, European, UK-wide and Scottish perspective each section examines the following:

- Key concepts and priorities
- The main policy and practical responses
- Where these have been applied
- Whether there is good practical reporting and/or solid research evidence of good practice available
- Potentially transferable or adaptable approaches for Scotland.

3.58 The policy themes of the review are, clearly, not an exhaustive representation of the relevant issues and areas for action in the context of the Scottish sustainable development strategy. Instead, the review is designed to augment existing syntheses and overview literature and also to compliment other work being undertaken for the Executive.
CHAPTER FOUR FOOD

Summary

4.1 This chapter reviews the larger policy picture (the Common Agricultural Policy, the World Trade Organisation, international food problems), and then make the links with Scottish agriculture and fisheries, food processing, procurement and distribution, health and education. Wider issues like fair trade versus free trade are also explored.

Definitions and concepts

4.2 Concepts such as ‘fair trade’, which encourages the redistribution of profits back to the producer, versus ‘free trade’, the trade of goods unfettered by government subsidy, price support or tariff barriers, are assessed in this review. ‘Food miles’ refers to the distance a product travels between production and consumption and the resultant effects on the environment. ‘Diversification’ is generally seen as the opposite to specialisation, encouraging the production of different food types, scales of production and agricultural practices within an economy, whether in organic or conventional farming.

Global

4.3 Changes in international trading system in recent years, have had significant effects on agriculture and food production. Conversely, there has been little change on subsidies and the dumping of subsidised goods. Food aid, genetically modified food, and fair trade and its relative merits versus free trade are all being reassessed.

European

4.4 At the European level, unsurprisingly, the key issue remains CAP reform. Localisation, diversification and the promotion of organic farming have been suggested as the potential future of farming in Europe, beyond the core agricultural areas. The encouragement of countryside stewardship and sustainable farming practices, shifting the emphasis away from production, marks a considerable development in policy at the European level. Issues around eco-labelling and food security are also becoming more salient.

UK

4.5 There is a concerted push for more organic and small-scale farming in Britain, and food miles are being reassessed. Food safety remains high on the agenda, with calls for the entire food chain to be better monitored and effectively regulated. Information campaigns and awareness-raising are seen as key to food and sustainability.
Scottish

4.6 The principal driver of food policy is the need to achieve higher nutritional standards to improve health, including support for improving the availability of high quality food in low-income areas. There is considerable support for organic farming in the overall context of 55% of the UK’s organically managed land being in Scotland and there are also other agri-environment measures to support a more sustainable approach to agriculture. Policy on GM is similar to overall UK policy and a cautious approach is being taken. There is considerable interest in public procurement measures as a means of promoting use of healthier local produce, fair trade and reducing food miles although overall progress is somewhat hampered by the tight, EU-derived regulatory regime that applies to public procurement.

Global

Priorities

Fair trade

4.7 The late nineties saw the end of International Commodity Agreements. The need to eliminate market distortions is as present as ever, with diversification often proposed as an option to solving persistent over-production. For this diversification to be successful, credit, training, information and resources will be needed in Lesser Developed Countries (FAO, 2004).

4.8 There has yet been little research on the relative merits of fair trade versus free trade, and certainly no conclusive findings. The alternative trading system (ATO) of fair trade, it has been argued, can be effective, but the concept and movement needs to be more rooted in the natural environment of groups fixed in poverty (Bradley et al, 2005). There are, significantly, differences as well as convergences, between fair trade (terms of trade with small-scale producers) and ethical trade (working practices and conditions in mainstream production) (Smith and Barrientos, 2005). The challenge for the fair trade system now, arguably, lies in governance with the new emphasis on social and environmental impacts of trade (Leigh Taylor, Douglas and Raynolds, 2005).

4.9 Another current debate concerns the efficiency of low external input technology (LEIT) versus biotechnology or expensive external investment. LEIT is often criticised as labour-intensive, but does serve to increase social harmony and learning (Richards and Suazo, 2005, and Longley, Mango, Nindo and Mango, 2005 and Tripp, Wijeratne, Piyadasa, 2005).

4.10 There appears to be optimism about the Millenium Development Goals and their potential to increase food security (Thompson, 2004). There is, however, growing concern for the rural poor in the developing world and the lack of national policy agenda in this area. Identifying agricultural extension and information services as being vital to a national food security network would be a constructive start, along with agricultural training and extension services to increase the developing world’s food security. Food security must be seen as having a public as well as an economic benefit (McLeod Rivera and Qamar, 2003).
4.11 Food aid has also been used for less noble aims, such as the dumping of surplus production and promotion of donor country exports, once again, distorting international trade and hurting rural farmers (Oxfam, 2005).

**GM production**

4.12 GM production is still principally confined to the US, Canada, Argentina and China. Europe still places a heavy emphasis on risk assessment, labelling and traceability, something likely to continue to incur the wrath of the US. The EU has a moratorium on the authorisation of the release of GM food, based on the precautionary principle and the emphasis on risk assessment, though the European Commission has begun to soften its stance following the largely negative environmental impacts from the Farm Scale Evaluations in the UK. A WTO decision on the EU’s approach is awaited. In the US, acreage of GM crops is increasing, but sentiment toward them, fuelled by lost export markets, seems to be cooling. Opposition in the UK rests more on the precautionary principle, than any specific scientific risk (Purvis and Smith, 2004), and concerns persist about cross-fertilisation (NIAB, 2002) and evidence of strong public opposition (Soil Association, 2002).

**Industry**

4.13 Disillusion with the neo-classical hegemony, mentioned throughout this review, has filtered through to food production and security. It has been argued that sustainable development entails more than simply achieving an appropriate level of production in an environmentally sensitive way. Instead, it means a huge redistribution of resources, economic diversification and a reduction of rural poverty (Purvis and Smith, 2004).

**Safety**

4.14 One point eight million people, most of whom are children, are killed annually by food-borne diseases. There is an increased demand for food safety research, given recent trends in food production, processing, distribution and preparation. New methods of risk analysis are beginning to be applied to all stages of the food chain, from production to consumption (WHO, 2005), with the WHO and Food and Agriculture Organisation of the United Nations at the forefront of this research.

**Policy responses**

4.15 Developing countries were given ten years (1995-2004) by the WTO, after the Uruguay round, to reshape their agricultural sectors to become more market oriented, though this is a ‘tariffs-only’ approach, ending non-tariff barriers and quotas, but leaving tariffs in place (WTO, 2001). The activities of the UN International Fund for Agricultural Development (IFAD) are guided by the Strategic Framework for IFAD 2002-2006: Enabling the Rural Poor to Overcome Their Poverty. The framework’s three strategic objectives are to:

- strengthen the capacity of the rural poor and their organizations;
- improve equitable access to productive natural resources and technologies;
• and increase access by the poor to financial services and markets.

Possible lessons


4.17 Malawi has adopted a Starter Pack approach to overcoming chronic food insecurity, with government and donors implementing a free inputs programme for smallholder farmers. The Starter Pack programme distributes tiny packs of maize, legume seed and fertiliser, enough to cultivate an area of 0.1 hectares (ODI, 2004).

4.18 The Food Security Network (2005), an independent, non-profit coalition, promotes debate and discussion, addressing global food security concerns through sustainable agricultural practices.

European

Priorities

4.19 Much recent thinking has suggested that the decline of agriculture in Europe, outside of a few core areas, is not necessarily inevitable, and that it is possible to increase emphasis on organic, small-scale and low-input systems, while reforming or removing subsidies (Purvis and Smith, 2004). Coupled with this, is the renewed focus on farming methods. There are still considerable disparities in the EU budget. For instance, 46% of the EU budget goes on CAP, and 46% of CAP goes to arable farmers, often farmers who are relatively better-off (Wyn Grant’s Homepage, 2005).

4.20 There is growing concern over the place of eco-labels at the distribution end of the food chain. The accountability and legitimacy of labelling institutions has been called into question, with eco-labels being accused of not being totally verifiable and failing to take into account the life-cycle of a product (Lavallee and Plouffe, 2004).

Policy responses

4.21 The European Union is looking to increase competitiveness in the agricultural sector, encourage ‘cross-compliance’ and set-aside (Europa, 2005). Furthermore, any GM foods intended for sale in the European Union are subject to a rigorous safety assessment, which is the responsibility of the European Food Safety Authority (EFSA). The safety assessments are carried out in accordance with the GM Food and Feed Regulation (EC) No. 1829/2003 (Europa, 2003).
Possible lessons

4.22 In 2001, the Slovenian Ministry of Agriculture, Forestry and Food introduced the Slovenian Agri-Environmental Programme, attempting to preserve a ‘garden of Europe’ in the countryside. The programme links sustainable agriculture to environmental protection and, in turn, to the tourism that Slovenia increasingly relies on. Livestock producers receive support to reduce flock density and prioritize indigenous breeds. In 2004, Slovenian organic farmers and their counterparts in neighbouring provinces of Austria and Italy created the world’s first organic bioregion, with the intention of preserving bio-diversity in the region, along with coordinating marketing programs and attracting more eco-tourists to organic farms (Food First, 2004).

4.23 In response to the growing ubiquity of fast food in western culture, a movement pushing ‘slow food’ has developed over the last decade or so (originating in Italy), opposing the standardisation of taste and promoting biodiversity and the need for greater consumer information (Slow Food, 2005). There is also a considerable academic debate around the concept (for example, Pretty, 2002). A Cittaslow (‘slow city’) scheme was set up in Italy in 1999 with the aim of engendering Slow Food values in local communities (Ludlow in Shropshire and Aylsham have been approved as slow cities (BBC, 2005)).

UK

Priorities

4.24 The social and environmental costs of food transport are around £9 billion a year, and in 2002, it was estimated that food transport produced 19 million tonnes of carbon dioxide, 1.8 percent of total annual emissions (Defra, 2005). However caution is required in the handling of such figures, and the concept of ‘food miles’ is not so much being reassessed as having its limits exposed. It is felt that, on its own, the concept is too simple to capture the impacts of food transport (ibid).

4.25 There needs to be increased investment in research and development and near-market technologies, along with financial and tax incentives to increase the uptake of emerging technologies, as well as legislation, such as the Climate Change Levy Agreement, or existing regulatory measures, such as the IPPC regime. This is of considerable relevance for the food industry. For example, with Combined Heat and Power, the Government needs to provide major fiscal incentives to make the cost of on-site electrical generation economically competitive with the cost of electricity imported from the National Grid. Again, this needs to be coupled with consumer education, and awareness should be a priority for Government to enable consumers to understand, firstly, the implications of their purchasing decisions, and, secondly, the way goods and services are used after purchase (Food and Drink Federation, 2005). All parts of the food chain need to work together if progress is to be achieved. The development of common food chain initiatives are needed, which in turn necessitates agreement with all parts of the food chain on a suitable set of Key Performance Indicators (ibid).

4.26 As with thinking on agriculture at the European level, there is also a national push to support local and organic food (CPRE, 2005). In Wales, mechanisms to provide sustainable development of local, small to medium-sized scale agri-food enterprises have been proposed
to help overcome agri-food problems there. Initiatives include community and education projects (through valley-wide agri-food regeneration strategies), technology transfer education policy that links colleges to agri-food SMEs, and support to help agri-food SMEs make use of new information technologies (Sparkes and Thomas, 2001).

4.27 Potential problems around human host status, such as MRSA, along with food-borne diseases, are becoming more salient, with clear implications for the food industry (IFFR, 2004). It has also been argued that health should be central to any vision and indeed policy for farming and food in the UK because of the interconnections between crises in health, agriculture and along the food chain (Lang and Rayner, 2002).

Policy responses

4.28 The Government’s *Strategy for Sustainable Farming and Food - Facing the Future* aimed to introduce an agri-environment scheme to encourage country-side stewardship and a ‘whole-farm’ approach to remove bureaucracy (Defra, 2002). This has since been superseded by the 2005 draft *Food Industry Sustainability Strategy* (Defra, 2005a), which builds upon the sustainability strategies developed by the Food and Drink Federation and the British Retail Consortium, covering all food and drink sectors beyond the farm gate.

4.29 Of the fifteen UK Government sustainable development headline indicators, energy, water and waste have been identified as priorities for the food and drink industry. Consultation has begun on a draft Food Industry Sustainability Strategy that will cover all stages of the food chain, beyond the farm gate.

4.30 The government has begun consultation on a new BSE testing system, to replace the Over Thirty Months (OTM) rule.

Possible lessons

4.31 The Soil Association ‘Cultivating Communities’ Project (2005), funded by the Lottery Community Fund, provides a nation-wide network for all community-based local food initiatives, supporting the development of mutual understanding and novel arrangements between farmers and consumers.

4.32 The East Sussex Food and Health Partnership brings organisations together from across the food system to ensure a co-ordinated approach to addressing food supply, access and consumption (Sustainable Development Commission, 2005). The vision is to promote a sustainable local food system that supports good nutrition, human and animal health, which reconnects, and works for the benefit of consumers, producers and the environment.

Scottish Priorities

4.33 Scotland has for long had an unenviable poor health record although there has been a reduction in premature deaths from heart disease and cancer and overall life expectancy has
risen. In common with other developed states there is a problem with increasing rates of obesity and rising consumption of processed and junk food (Scottish Executive, 2003). Considering the interface between the Scottish diet and sustainable development issues, evidence of how people think and behave in Scotland is often complex and apparently contradictory. For example, one public attitudes survey found that only 1% of respondents indicated they would change their diet to ensure a good quality of life and environment for future generations (Scottish Executive Social Research, 2005: 62), while, simultaneously, demand for organic produce in Scotland is stronger than all but one other part of the UK (Soil Association, 2004), indicating personal concerns about diet.

4.34 In the broad context of the Scottish economy, no less than 17% of the Scottish workforce work in the food and drink industry so it is critical that overall policy is sustainable.

4.35 The Partnership Agreement (Scottish Executive 2003a) reinforced the need to improve nutritional standards for school meals and includes an end to the advertising of unhealthy food in schools, working with local authorities to promote health eating, and actively discouraging the availability of unhealthy food and drink in schools as a condition of becoming health-promoting schools. The Partnership Agreement also recognises that improving the availability of affordable quality food in low income areas and ensuring adequate nutritional standards for food served in hospitals, day care centres, hospitals and prisons are priorities.

4.36 In common with the rest of the UK there has been evidence of hostility towards GM food (Soil Association, 2002; Scottish Executive Social Research, 2005; Friends of the Earth Scotland, 2005). Although there is some evidence from England and Wales that opposition to GM food has softened opposition remains strong (Defra, 2002; Gaskell et al, 2003) but it is not clear whether this is echoed in the current Scottish situation (Scottish Executive Social Research, 2005).

4.37 There is strong support for organic farming in Scotland (Soil Association, 2004; Friends of the Earth Scotland, 2005). Indeed, almost 55% of the UK’s organic managed land is in Scotland, amounting to 7% of all Scotland agricultural land compared to a figure of 4% for the UK as a whole. Soil Association research has shown that more Scottish consumers will sometimes purchase organics than in any other part of the UK apart from the south-west of England where there is also the highest concentration of organic producers (Soil Association, 2004).

4.38 Although sea fisheries are regulated at EU and UK level the Scottish Executive is committed to maintaining a viable sea fishing industry (Scottish Executive, 2005c).

4.39 The issue of food miles and environmental damage caused by agricultural production nationally or overseas is being debated (WWF Scotland, 2005). A major challenge for promoting greater sustainable development in relation to food stems from the lack of public understanding and awareness, and the frequently vague or erroneous perceptions, of how food is produced, ends up on their plates, and what happens to any wastage.
**Policy responses**

4.40 Improving health is seen as a cross-cutting issue across Government policy (Scottish Executive, 2003b). Key actions include the need to increase and then supply the demand for healthy food; provide support, education and skill development to allow people to make healthy choices; to promote the consumption, preparation and provision of foods for a healthy, balanced diet; increase access to healthier food choices, particularly in low income and rural areas; work with the food manufacturing, processing and retailing industries to further develop healthier food choices; and to ensure that agriculture and fisheries interests contribute fully to the achievement of national dietary targets. Supporting the integrated programme, launched in January 2003, communication and public education (in the context of the wider health improvement agenda) to increase demand for, confidence in, and skills for, healthy eating has been regarded seen as vital. Taking this work, which had been started in the Scottish Diet Action Plan on 1996, the Executive’s strategic framework, *Eating for Health. Meeting the challenge*, was launched in 2004.

4.41 One way that the promotion of a healthier diet amongst local communities is being taken forward is through the Scottish Community Diet Project (2005), which is funded by the Scottish Executive Health Department and provides small grants for projects aimed at improving the diet of local communities.

4.42 *Hungry for Success, A Whole School Approach to School Meals* (Scottish Executive 2002a) was a report by an Expert Panel on School Meals, which included several significant recommendations for improving the nutritional value of school meals to promote child health, as well as wider social justice goals. The key recommendation in *Hungry for Success* was that Scottish Nutrient Standards for School Lunches should be adopted and education authorities and schools should have them in place in all special schools and primary schools by December 2004 and in all secondary schools by December 2006. The Executive accepted all of the recommendations made in the report and issued a circular (2003c) to local authorities to advise them on the implementation of the recommendations, explain funding arrangements and telling them about forthcoming practical guidance tools. Implementation is to be monitored and enforced by performance management mechanisms (also Healthy Living, 2005).

4.43 The Executive (2005d) has adopted a free fruit initiative, funded to provide one portion of fruit, three times per week during the school term, to every pupil in primaries 1 and 2 in local authority managed schools, intended to offer a natural progression for children from pre-school education who in many instances are used to having fruit at nursery. Targeting the youngest children, where eating fruit is most likely to be habit-forming, aims to bring the greatest health gain in the long term.

4.44 Free school meals are also provided for children of parents meeting eligibility criteria (Scottish Executive, 2002a). Campaigns to have free school meals for all have so far failed.

4.45 Overall Executive agricultural policy, in *A Forward Strategy for Scottish Agriculture* (Scottish Executive 2001), is currently being revised and will reflect changes to the EU regulatory framework which indicate an increased recognition in Europe of sustainable development. There are also comprehensive strategies for sea fisheries (Scottish Executive, 2005e) and aquaculture (Scottish Executive, 2004), both of which attempt to ensure the integration of sustainable development into the respective strategies.
4.46 The Land Management Contract Menu Scheme (Scottish Executive, 2005f) provides a new approach to sustainable land management in Scotland. A range of measures can be chosen by farmers including agri-environment measures such as buffer areas which have a five-year obligation and there is the option of a yearly incentive payment for those seeking membership of quality assurance or organic schemes.

4.47 An Organic Action Plan (Scottish Executive, 2005e) and Organic Aid Scheme (Scottish Executive, 2004) to promote organic agriculture have also been adopted by government.

4.48 Executive policy on GM is primarily to safeguard human health and the environment, with a cautious, precautionary approach being taken. The Executive acknowledges that the benefits of GM are not necessarily unarguably apparent and recognizes that allowing GM planting is not simply a scientific issue. It argues that the Farm Scale Evaluations have shown that the issue of GM planting needs to be addressed on a case-by-case basis and does not advocate the dismissal of GM technology out of hand because of possible longer term benefits.

4.49 The Executive has produced guidelines on sustainable procurement of food and catering produced by the Executive (see Sustainable Procurement chapter), which raise the issue of local production and hence the issue of food miles.

4.50 In recognition of the importance of shortening the food supply chain, the Partnership Agreement (Scottish Executive, 2003a) includes a commitment to encourage local distribution, processing and local marketing schemes (with accreditation and labelling of local produce and food produced by sustainable and organic methods), and support for regional co-operatives. However, there still appears to be a lack of integration of the different policies which would be relevant to local food.

4.51 Scottish Food and Drink, a strategy for the industry produced by the eponymous arm of Scottish Enterprise which advises the sector, sets growth targets for the industry, but says little about sustainability (Scottish Food and Drink, 1999). This is an area where there are particular challenges regarding how to integrate sustainable development into strategies for the industry without threatening it economically.

Possible lessons

4.52 Blantyre and North Hamilton Baby Weight Gain Project: North Lanarkshire Social Inclusion Partnership and Lanarkshire Health Board, with assistance from the Lanarkshire Primary Care Trust and ASDA, promoted this project after identifying low birth-weight as a problem in the area (Scottish Executive, 2002: 19). The scheme provides pregnant women with £50 of ASDA vouchers a month from when they discover they are pregnant. The vouchers can be used to buy nutritional food until up to three months after the birth as long as the women are still breast feeding.

4.53 Forth Valley Food Links was established in 2002 and is funded by the Scottish Executive, Forth Valley NHS Board and Clackmannanshire, Falkirk and Stirling Councils. It works to promote local food and offers advice to help those involved in increasing access to, and diversity in, local food.
CHAPTER FIVE  SUSTAINABLE PROCUREMENT

Summary

5.1 This review provides an overview of both the literature and policy landscape in procurement, looking at policy and practice in both the public and private sectors, the mechanisms currently being adopted to ensure more ‘ethical’, ‘green’ or ‘social’ procurement, the barriers to these mechanisms and the possible tensions and conflicts between them.

Definitions and Concepts

5.2 Procurement is the process by which organisations, companies, institutions or statutory bodies procure works, supplies, services or utilities, and the contractual process required. ‘Green Procurement’ and ‘Social Procurement’ are the key terms being used to link the whole procurement process within business to more environmentally sustainable or more socially equitable practices. This has been termed ‘linkage’ and ‘conditionality’.

Global

5.3 A new international system of procurement is currently evolving, with concepts such as linkage and the growing role of green and social procurement. Policy responses from international institutions such as the World Bank, the UN and the World Trade Organisation suggest an internationalisation of procurement, accelerated by economic liberalisation and increased global trade.

European

5.4 At a European level, there is concern that procurement is being used as a stand-alone policy instrument, given the erosion of state-level powers from international agreements and conventions. Procurement processes are being pulled in different directions by the drive for continued EU market integration, on one hand, and the need for increased environmental policy integration and regulation on the other. There is a raft of legislation.

UK

5.5 A more strategic approach to public procurement is evident in Britain, with inter-departmental co-ordination and long-term partnership relations with suppliers. The effects of the global economy on the public sector and public procurement are increasingly being felt, with large institutions like the NHS attempting to reform their procurement policies in line with more sustainable practice.
Scottish

5.6 The ability of the public sector to lead by example in sustainable procurement has been taken up positively by the Executive with guidelines for purchasers and suppliers being adopted. Specific guidelines are in place for food and catering procurement. Other public bodies, such as Communities Scotland, have also taken up the challenge of sustainable procurement. However, what appears to be lacking is systematic measurement and reporting of practice.

Global

Priorities

5.7 A new international system of public procurement is currently evolving, spurred on by international agreements, increased trade liberalisation and international institutions such as the World Bank and WTO (Arrowsmith, Linarelli and Wallace, 2000). This is balanced by the spreading influence of Corporate Social Responsibility (Ocampo, 2004), which, in turn, is complemented by the growing use of ‘linkage’ or conditionality with the awarding of contracts to encourage a more sustainable approach (Erridge and Greer, 2002), such as the linkage of contracts to labour rights in the South, as the take up of projects that are labour-intensive and, therefore, help employment levels is encouraged.

5.8 Contracts that build in social clauses are becoming more prominent (ILO, 2004), with, for instance, UNICEF insisting on writing in clauses on anti-personnel mines. However, there is still a risk that the eagerness to attract foreign investment to developing countries will encourage companies more interested in low labour costs and lenient environmental legislation. On top of this is the dynamic between economic globalisation, a considerable hindrance to the promotion of linkage, and social globalisation, a potential aid.

5.9 Coupled with ‘Social Procurement’ is the concept of ‘Green Procurement’, both key to sustainable development, though not necessarily complementary. Indeed, there are problems with the inherent trade-offs between the two. Much has been written on ‘Environmentally Responsible Public Procurement’ (ERPP) and its potential, coupled with an integrated life-cycle approach, to push environmental policy. The need for inter and intra-industry collaboration with the support of public policy-makers, a prominent theme throughout the topics in this review, is pertinent in sustainable procurement (Hartshorn, Maher, Crooks, Stahl and Bond, 2005).

5.10 There is an additional pressing need to introduce mechanisms whereby assessment and evaluation can be undertaken – though this is not a problem specific to Green Public Procurement - and a need to harmonize Green Procurement with trade policies (OECD, 2003).

Policy responses

5.11 Key international policy responses and initiatives on public procurement and their relevance to sustainable development are outlined here. In its Agreement on Government Procurement, the World Trade Organisation currently has a plurilateral system of integrating
government procurement markets (Arrowsmith and Hartley, 2002), with a trend towards multi-phase tendering and electronic procurement. The WTO Agreement on Government Procurement has failed to liberalise the market, despite the success of the organisation in liberalising most other areas (Arrowsmith, 2002). Two fundamental perspectives, the first being international free trade policy and the need for value for money and the second the deterrence of corruption, have brought intense scrutiny to bear on public procurement practices in nearly every country. Paradoxically, in developed countries, a less prescriptive, more flexible approach to regulation, in which a degree of transparency is sacrificed, is becoming more prominent, conflicting with the general move for accountability expressed by international institutions (Arrowsmith and Trybus, 2002).

5.12 In 2000, the UN launched the United Nations Global Compact (UN 2000), an international initiative to bring companies together with UN agencies, labour and civil society to promote universal social and environmental principles. Its ten principles are in the areas of human rights, labour, the environment and anti-corruption. Two years later, the Global Reporting Initiative (GRI) - now an independent institution – was initiated by the UN as a multi-stakeholder process to develop and disseminate globally applicable Sustainability Reporting Guidelines. However, this reporting on the economic, environmental and social dimensions of member countries’ activities, products and services is entirely voluntary. The UN Growing Sustainable Business initiative, which facilitates business-led enterprise solutions to poverty in advance of the Millennium Development Goals, came out of the Johannesburg Summit in 2002.

5.13 The World Bank Group addresses, in its own procurement process, vendor commitments to fair wages and benefits, safety, environmental programs, and diversity of its supply chain. Procurement in projects financed by the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) are conducted in accordance with the Bank’s Articles of Agreement, requiring that proper attention is paid to efficiency and ensuring that loan proceeds are used only for the purposes for which the loan was granted (The World Bank, 2005). Political and other non-economic considerations must not influence the procurement process. The institution also has a supplier diversity programme.

5.14 There is apparent growing support for the use of Green Public Procurement programmes and policies, as expressed in the Organisation for Economic Cooperation and Development’s Environmental Strategy in 2001 and endorsed by OECD Ministers for the Environment.

Possible lessons

5.15 In September 2000, IKEA launched The Ikea way on purchasing home furnishing products, containing a ‘code of conduct’ for its 2,000 suppliers, focusing on environmental impacts and working conditions. Good practice highlighted by Ikea’s suppliers is verified by external auditors. Companies are asked by IKEA to remedy any bad practice and the code warns suppliers, “Repeated violations of IKEA’s requirements will result in the termination of co-operation.” After pressure from lobby groups a policy prohibiting the use of wood from intact natural forests, except those certified by the Forest Stewardship Council, was also introduced.
European Priorities

5.16 It is argued that currently in Europe public purchase is being utilized as an instrument of governance. The procurement process has also been seen as a non-tariff barrier in Europe. The EU has in place a legal structure for procurement that is intended to harmonize with the fundamental freedoms of the common market, envisaging market integration and trade facilitation, though it remains to be seen if these changes will fit in with Environmental Policy Integration (Arrowsmith and Hartley, 2002; Arrowsmith and Hartley, eds, 2002).

5.17 In the food sector, EU procurement legislation has been criticised as prohibiting ‘buy local’ policies and the development of local food chains that could provide a more sustainable approach to food (Morgan and Morley, 2002).

Policy responses

5.18 The emphasis at the European level very much echoes the WTO approach, encouraging freer trade and transparency. European Union Directives on Public Procurement enact the requirement that member states should not impose quantitative restrictions, or measures with the equivalent effect, on trade between each other. These Directives also endorse certain provisions of the WTO – formerly the General Agreement on Tariff and Trade (GATT) - on government procurement. EU Public Procurement Directives are intended to guarantee fair and non-discriminatory international competition in bidding for goods, services and works above specified threshold values.

5.19 EU procurement rules apply to member states and to the European Economic Area (which includes Iceland, Norway and Liechtenstein). Contracts above the threshold levels affected by the rules must be advertised in the Supplement to the Official Journal of the European Communities.

5.20 Though the following directives were implemented before 2000: they still comprise the bedrock of EU legislation:

- The Services Directive 92/50/EC as amended by Directive 97/52/EC
- The Utilities Remedies Directive 92/13/EC (1992)
- Compliance Directive (89/665/EEC)

The newest directives are:


Although these will not be implemented until 2006, these two directives clarify the possibilities for public purchasers to integrate environmental considerations into their respective tender documents, and are, therefore, of considerable environmental benefit (Office of Government Commerce, 2004).

Possible lessons

5.21 Norway and Sweden are good examples of joined-up policy and practice, the need for which is mentioned above, both having considerable sectoral integration. Norway, Sweden, Netherlands, the UK and Portugal are implementing regular strategic planning and green accounting, which is also having a positive effect.

UK

Priorities

5.22 In the realm of public procurement, successive administrations in the UK have aimed to develop a more strategic approach to public procurement with inter-departmental co-ordination and long-term partnership relations with suppliers. In an increasingly interdependent world, one challenge has been adapting the public sector to the demands of the global economy. This is proving a difficult task as the operating framework and culture of the public sector appear, in some regards, to be non-compliant or incompatible with aiming towards this. Partnerships between the private and public sectors have had positive and negative effects (Erridge and Greer, 2002).

5.23 There is, however, increasing evidence of environmentally and socially responsible procurement in the NHS, being the UK’s biggest employer and spending £1,000 per second (Lockwood, 2005), as it responds to the need for greater sustainability in its procurement practice, as well as in areas like employment and skills, new building and facilities management.

5.24 The Sustainable Development Commission’s ‘Healthy Futures’ programme emphasises the need for good corporate citizenship, with the public sector learning lessons from the private. This is being funded by the Department for Health with a commitment laid out in the white paper Choosing Health (Department for Health, 2004). The Chief Executive of the NHS has declared good corporate citizenship to be one of his top five priorities (Lockwood, 2005).

Policy responses

5.25 The National Audit Office publication Sustainable Procurement in Central Government provides a statement of intent from the Government, looking to embed sustainable development into spending and investment decisions, though there is
considerably more focus on environmental considerations than economic or social factors (NAO, 2005).

5.26 The Government is currently encouraging contracting authorities, be they local authorities, statutory bodies, or general public service providers, to take a more sophisticated approach to supply chain management through public procurement. As at the European level, the bedrock of procurement policy at a UK level is grounded in a number of pre-2000 regulations:

- The Public Supply Contracts Regulations SI 1995 No 201
- The Public Services Contracts Regulations SI 1993 No 3228
- The Public Works Contracts Regulations SI 1991 No 2680
- The Utilities Contracts Regulations SI 1996 No 2911
- The Utilities Contracts (Amendment) Regulations SI 2001 No 2418
- The Public Contracts (Works, Services and Supply) and Utilities Contracts (Amendment) Regulations SI 2003 No 46

5.27 The Treasury aims to provide a transparent public expenditure delivery framework, based on public service agreements (PSAs), focusing on delivering public services in areas integral to achieving sustainable development in the UK, including unemployment and poverty. There is arguably more scope to spread this approach into other areas of the Treasury’s remit.

5.28 The Sustainable Public Procurement Task Force is charged with drawing up an action plan by April 2006 to bring about a step-change in sustainable public procurement so that the UK is among the leaders in the EU by 2009 (HM Government, 1999). The Government has pledged itself to take a comprehensive approach to value for money and whole life costs of goods and services, building relevant sustainability issues into the procurement process as early as possible. This is reflected in English Partnerships procurement policy, with the number of tenders required depending on the amount of expenditure and where there is also an emphasis on value for money and under no circumstances may expenditure be disaggregated to allow movement between the particular brackets.

Possible lessons

5.29 Suffolk County Council Direct Tender Selection for the South Lowestoft Relief Road: tenders were assessed first on quality, with bidders required to outline their approach to innovation and the use of in-situ recycling and local materials, before the qualifying tenders were compared on price.

5.30 The Environment Agency’s procurement strategy ‘Constructing a better environment’, based on the ‘Achieving Excellence’ principles of the Office of Government Commerce and the Framework agreements. The Agency aims to deliver a 15% cost saving over five years setting requirements for materials recycling, initially at 50% recycled material, now increased to 60%. Experience has led the Agency to believe that the use of recycled materials can often deliver cost savings (Environment Agency, 2005).
Scottish

**Priorities**

5.31 The first action-point in *Scotland the Sustainable? 10 Action Points for the Scottish Parliament* (Secretary of State for Scotland’s Advisory Group in Sustainable Development, AGSD, 1999) was that the Scottish Parliament and Executive should show committed leadership in relation to sustainable development. That report recommended, “The Scottish Executive should use its ability to direct public resources to support sustainable development in local government and voluntary agencies”, an element of which would be through sustainable procurement.

5.32 Whole-life costing is seen as a key mechanism for securing sustainable procurement and specifications for goods and services should address sustainable development objectives (Scottish Executive, undated). In terms of food and catering procurement, it is also recognised that local sourcing can be used to support rural communities and fair trade (DTZ Pieda, 2005). It is unclear whether there has been any evaluation of the success of the Executive’s policies in this field although there has certainly been some relevant research evaluating public procurement in the area of food (Morgan and Morley, 2002).

**Policy responses**

5.33 Procurement, including sustainable procurement, is a devolved responsibility, although clearly there are constraints on the extent to which Scotland can take a different course because of EU Public Procurement Directives.

5.34 The Scottish Procurement Directorate (SPD) formulates policy on behalf of the Executive, providing guidelines for purchasers and suppliers in relation to sustainable development in public sector procurement. The policies apply to the Executive, Executive Agencies and associated departments. The Guidelines for Purchasers (Scottish Executive, undated) indicate that while it is essential that best value is secured for the taxpayer’s money, nonetheless public purchasers can make a significant contribution towards meeting the Executive’s wider objectives on sustainable development.

5.35 Whole life costing is a central requirement of the Scottish Executive’s procurement policy: only by taking account of all aspects of cost, including running and disposal costs, as well as the initial purchase price, can genuine value for money can be achieved. Examples of the factors that need to be considered in assessing whole-life costs include:

- running costs such as the energy or water consumed by the product over its lifetime;
- indirect costs caused by, for example, less energy-efficient equipment or plant administrative costs (created, for instance, when the use of staff must spend time ensuring compliance with regulations applying to the use of hazardous substances);
- investing to save revenue costs (‘spend to save’ measures);
- not insisting on new items when refurbished parts or products could be used;
- recyclability – for instance, purchasers can create markets for their own waste by buying products containing recycled materials;
- and, furthermore, a recycled product, may cost less than a new one.
Purchasers should, however, look to waste reduction and re-use as well as recycling and the cost of disposal arrangements.

5.36 The SPD Guidelines stress that purchasers and end-users must be familiar with, and take full account of, relevant sustainable development objectives when buying goods and services. Key objectives are:

- conserving resources;
- reducing (and avoiding wherever possible) waste;
- phasing out of ozone-depleting substances and minimising the release of greenhouse gases, and other substances damaging to health and the environment;
- encouraging manufacturers, suppliers and contractors through specifications to develop environmentally preferable goods and services at competitive prices;
- ensuring that any products derived from wildlife are from sustainable sources, and comply with EC and international trading rules such as CITES;
- encouraging contractors to improve environmental performance;
- and meeting all relevant current and foreseen statutory regulations and official codes of practice and specifying contractors do the same when working on departmental premises.

5.37 Perhaps the most significant contribution that public purchasers and consumers can make, alongside the reduction of consumption and waste, is by ensuring that specifications for goods and services take full account of sustainable development objectives.

5.38 Another important policy initiative has been the production of guidance on the integration of sustainable development into the procurement of food and catering services (Scottish Executive, 2004a). This guidance advises that purchasers should take account of relevant sustainable development and healthy eating objectives when awarding contracts for food and catering services. Value for money, probity and compliance with procurement law remain paramount considerations, but buyers should take advantage of the possibilities for legitimately pursuing a sustainable food policy including the encouragement of fair trade. Whilst recognising that, in the main, sustainability impacts in food supply may be in processing, packaging or distribution and not just at the stage of producing raw materials, the guidance also encompasses the need to meet appropriate assurance standards and to operate in a way that takes account of sustainable development priorities across a range of Executive policy areas.

5.39 The guidance also acknowledges that local sourcing can contribute to the development of rural economies - the maintenance of economic growth and employment being a key objective of sustainable development. While it is not possible to discriminate in favour of local suppliers, public sector buyers can support local sourcing by considering and removing obstacles to tendering by local suppliers, especially as this may help to achieve value for money. Small local producers and suppliers should be encouraged to collaborate on organising collective responses to demand, recognising that many small producers miss out on large government supply contracts because they are not generally organised to work collectively. Furthermore, the guidance suggests the specification of fresh, seasonal produce that can be grown in the UK or EU and fewer exotic fruit and vegetables that local growers are unable to produce, where such requirements meet users’ needs. Where purchasing is decentralised (for instance in health trusts and education authorities and schools) the guidance suggests structuring contracts in relatively small sizes where this is consistent with value for
money and reducing barriers to local agriculture and horticulture, for example, by: facilitating the inclusion by large contract holders of smaller growers and producers as second and third tier suppliers; promoting the use of lots during the tendering process, to allow small and medium sized enterprises to bid for certain parts of supply contracts; and tendering more frequently for smaller quantities and establishing more flexible specifications (all where this is consistent with EU rules).

5.40 Although there are positive developments in the food procurement field nonetheless they are fairly tightly constrained by the need to achieve best value (although this term could be more widely interpreted) and the EU framework generally (DTZ Pieda, 2005). Currently, the procurement of supplies to schools is decentralised, 23 authorities are organised into six purchasing consortia, and the remaining nine act individually.

5.41 The Executive has been accredited under the ISO 14001 regime since 1998 and has reported – albeit in a non-systematic way – on improving its environmental performance, in part through sustainable procurement (Scottish Executive, 2002: 28). SPD Guidelines for Suppliers also set out the ways in which the Executive intends to take account of environmental issues in its procurement of goods, works and services.

5.42 There are also positive developments amongst other public bodies such as Communities Scotland which has adopted a new approach to the construction, repair and maintenance of social housing known as “Rethinking Procurement” which builds on the UK Government’s Rethinking Construction (EGAN) Initiative (Scottish Executive, 2002). A key outcome is intended to be the more effective use of resources and waste minimisation.

Possible lessons

5.43 The Canny Buyer Initiative (2005), managed by Aberdeen City Council and funded by the Scottish Executive Sustainable Action Grant, encourages organisations and companies to practice more sustainable procurement. Case-study organisations have included Edinburgh University and Shell Expro.

5.44 Communities Scotland’s “Rethinking Procurement” initiative, noted above, may also offer useful lessons beyond the organisation.
CHAPTER SIX SUSTAINABLE CONSUMPTION

Summary

6.1 Building on the findings of an evidence-review undertaken for the Sustainable Development Research Network (Jackson, 2005b), this chapter looks at a range of issues, from social, economic and geographical trends affecting consumption levels to individual behaviour and the role of government. The efficacy of a range of policy responses are assessed and current debates about the current state of consumption and possible remedies are outlined.

Definitions and concepts

6.2 Two key players in the consumption process are the state and the consumer. The review examines ‘consumer sovereignty’, whereby the state practices a ‘hands-off’ approach to consumer behaviour, allowing the market to dictate levels of consumption, in relation to the need for more sustainable futures.

Global

6.3 Global consumption has risen markedly in recent years as global wealth increases. This wealth, however, is shared disproportionately. Oil is a key issue, particularly its role in the international economy. The urbanization of the world’s population is significant, begging a reassessment of consumption patterns and issues. There is also a theoretical debate underway as to the role of government in controlling consumption levels, which has a bearing on the search for effective policy responses, but also raises more philosophical questions about the role of the state.

European

6.4 There are different theoretical perspectives towards consumption and the approach governments should take are evident, with a pluralist Europe, an individualist Europe and an egalitarian Europe all being outlined. The relationship between economic growth and consumption is being analyzed. The question of how to turn seemingly niche markets into mainstream markets for green and sustainable produce also features in debates about consumption levels in Europe, particularly given the effects of globalisation.

UK

6.5 There is considerable concern about the rate at which consumption levels are increasing in Britain, raising fundamental questions about the robustness of previous policy interventions and suggesting the need for a more rounded approach. Information and communication are seen as much undervalued policy tools in the battle to change individual behaviour.
Scottish

6.6 Scotland inevitably shares many of the challenges experienced at the UK, European and international levels. The need to progress towards a less carbon intense economy is seen as a central priority, with reduced car-use seen as key.

Global

Priorities

6.7 Due to a range of independent factors - an increase in the planet’s population, advances in technology and business structures, cheap energy and generally rising prosperity - we are currently witnessing something of a ‘consumption revolution’, with private household consumption topping $20 trillion in 2000, up from $4.8 trillion in 1960 (based on 1995 US dollars). These figures do, however, hide an enormous disparity in spending, with the 12% of the world’s population in North America and Western Europe accounting for 60% of global consumption. This disparity is most apparent in household expenditure on food, a startlingly regressive pattern. For example, 1998 figures show the average Tanzanian household spent $375 on food (a share of 67% of total household expenditure) with the average American household spending $21,515 (a 13% share) (Gardner, Assadourian and Sarin, 2004).

6.8 Unsurprisingly, from a global perspective a principle area for concern and considerable discourse is the consumption of oil and its future as an energy source and as a contributor to the international economy (Sabour, 2005).

6.9 The problem of obesity in industrial societies, alongside other central health issues such as nutrition and the sustainability of our daily life-styles, is increasingly salient (Von Schirnding and Yach, 2002). It is significant that obesity and nutrition (and the consumption patterns associated with them) in developed societies are being seen as global issues.

6.10 With the growing urbanization of national populations the world over, a trend recognised in Chapter 8, is that levels of car use in cities and towns is becoming a greater concern (Lafferty, Meadowcroft and Turnock, 1997). That this is seen in consumption terms, rather than as a transport or planning issue, suggests a refocusing of the issue onto lifestyle and cultural factors, which is particularly pertinent given the links between social mobility and levels of car use. China is a foreboding embodiment of this, with industry analysts expecting 150 million cars to be jamming the country’s streets, 18 million more than US levels in 1999 (Gardner, Assadourian and Sarin, 2004).

6.11 With such reassessments in mind, a search has begun for stronger indicators of consumption with a firmer theoretical underpinning. A notion that the US, Europe and Japan, having industrialized and created the world in their own image through colonialism and manipulating global markets, should take responsibility for spiralling global consumption patterns is reappearing and gaining prominence (Lorek, Spangenberg and Joachim, 2001). This is not an echo, however, of dependency or neo-Marxist theories, but stems from an assessment of household consumption.
6.12 From a theoretical perspective, a considerable debate has emerged over the last five years as to whether increased consumption necessarily means a rise in quality of life (for example, Jackson, 2005). This is coupled by a considerable critique of previously commonly held beliefs. The neo-classical assumption that consumers are rational and autonomous actors, with the market effectively displaying consumer preferences, is beginning to be debunked. Mass consumption economics, accepting unlimited consumption, conflicts fundamentally with life patterns of the natural world (Gardner, Assadourian and Sarin, 2004), and, indeed, consumption is widely being seen as something inherently more complex, with considerably more complicated social, cultural and psychological factors than a simple economic model can account for (Jackson, 2004). The shortcomings of the neo-classical hegemony in sustainable development policy and practice are noted in later chapters of this review. The concomitant notion of ‘consumer sovereignty’, key in an industrial society, is also becoming more vulnerable, raising questions of when and how a liberal state can interfere with individual consumption (Jackson, 2005a). Libertarian ideology presents particular difficulties for governments and intergovernmental organisations trying to make sense of ‘sustainable consumption’. Some have argued that sustainable consumption is about consuming differently, not less, that it is about consuming more efficiently, or choosing sustainable products (Michaelis, 2005).

6.13 Businesses mostly interpret sustainable consumption as the consumption of sustainable products. An approach based on using technology to attempt to reduce the throughput of resources, a response with similarities to the, arguably too, heavy emphasis placed on innovation in business enterprise, has been criticized as misguided and failing to address the basic, principle problems with global consumption. The technological community are seen by some as being some way behind the policy community and civic organisations when it comes to sustainable consumption (International Institute for Applied Systems Analysis, 2002; Taylor, 2005). Harder approaches to engagement would involve fundamental shifts in the business model (Haywood, 2005).

6.14 Echoing other topics in this review, is recognition of the need for policy integration when approaching consumption and sustainable development (Taylor, 2005).

Policy responses

6.15 As a recap of the ideas set out at the Rio Earth Summit in 1992, the UNEP report, Consumption Opportunities: Strategies for change, places a strong emphasis on shared responsibility, not wishing to portion out blame to one area, sector or industry (UNEP, 2000). At the Johannesburg Summit of 2002, a ten-year framework was presented, placing the burden of leadership with the developed world, and encouraging an integrated approach to implementation (UN, 2002). Chapter III of the WSSD Plan of Implementation, Changing Unsustainable Patterns of Consumption and Production, aims to promote social and economic development within the carrying capacity of ecosystems, delinking economic growth and environmental degradation. The need to increase investment in cleaner production and eco-efficiency, while promoting an integrated approach to policy-making at the national, regional and local levels, is also outlined.

6.16 The UNEP report (2000a), Sustainable Consumption – a global status report, significantly sought a clearer conceptual framework and a definition of sustainable development, recapping on progress made since Agenda 21. This was followed up with the

**Possible lessons**

6.17 Travel Smart, Perth, Western Australia, is a community-based programme that encourages people to use alternatives to travelling in their private car.

6.18 The Australian Federal Government’s Bag Yourself a Better Environment campaign, launched December 2002, is an education campaign to persuade shoppers to stop using plastic bags, while pushing the use of calico bags. The National Working Group on plastic bags, after assessing the campaign, concluded that a mandatory levy was necessary (DEMOS, 2003).

**European**

6.19 The link between globalization and sustainable household consumption is becoming more apparent and better appreciated. Shifts in political capacity brought about by capital concentration and trade liberalization, the increased diffusion of information and increased technological innovation, are changing the nature and quality of regulation, information and intervention regarding the three consumption clusters of food, mobility, and energy (Fuchs, Lorek and Sylvia, 2001). This is a considerable challenge for Europe.

6.20 Economic growth is one of the highest priorities for governments in Europe. There is an assumption that consumption patterns will faithfully reveal personal preferences, with greater levels of consumption increasing consumers’ personal utility, in line with neo-classical economics.

6.21 However, there are competing narratives present in European society, suggesting a more complex picture than the widely established ‘rational theory’ approach - a pluralist Europe, an individualist Europe and an egalitarian Europe, all with different implications for consumption. Two indicate a reassessment of blind faith in the market mechanism, ‘hierarchists’ advocating a strengthening of social responsibility and law and order, along with a revival of traditional values; ‘egalitarians’ advocating a strengthening of community, direct democracy and shared values, with an emphasis on social and environmental concerns. Neither narrative is exclusive to the last five years, but when applied to consumption both perspectives offer a clear alternative to more individualist market-driven approaches.

6.22 Governments potentially have an extremely significant role to play, particularly given that, as supply chains become cleaner and more efficient in Europe, household consumption accounts for a growing share of resource use and the environmental burden. There is seemingly a need for new systems of consumption that decouple economic development and quality of life from environmental and cultural deterioration, developed in collaboration with all stakeholders.

6.23 With this in mind, thinking is being directed toward the question of how to turn niche markets (green products) into mainstream markets, along with the necessary institutional
changes needed to achieve this, increasing the use of informative instruments (eco-labels, environmental product declarations) and life-cycle analysis. Research into the concept of ‘household metabolism’ and its potential value has also been undertaken.

**Policy responses**

6.24 The *EU Sustainable Development Strategy* encourages individual and collective responsibility toward consumption, emphasising recycling and bio-fuels for transport. The European Environment Agency publication *Late lessons from early warnings: the precautionary principle 1896-2000* encourages accessible science-based information and more effective stakeholder participation in the governance of economic activity, targeting environmental and health costs, while trumpeting innovation.

6.25 EU regulatory measures to promote sustainable production and consumption are:

- Waste Electrical and Electronic Equipment (WEEE) Directive,
- The End of Life Vehicles (ELV) Directive
- The Packaging and Packaging Waste Directive,
- The IPPC Directive (including BAT requirement)
- The Water Framework Directive

**Possible lessons**

6.26 International Institute for Industrial Environmental Economics (IIIEE), Sweden, 1995, was created by the Swedish Parliament to undertake interesting work on consumer acceptance and product-service systems, life cycle and integrated product policy.

6.27 The 2000 W per capita society initiative, of the Board of the Swiss Institutes of Technology, targets the identification of major technological breakthroughs to reduce the per capita primary energy use of Switzerland by two-thirds within five decades (ETH Zurich, 2005).

6.28 The BioEnergy Village, Göttingen, Germany, is a pioneering project to convert the entire heat and electricity supply of a village of 800 people in Lower Saxony to biomass.

6.29 *Waste Management (Environmental Levy Plastic Bag) Regulations* saw the Irish Government impose a point-of-sale levy on plastic bags in 2002, leading to a 90% reduction in use.

**UK**

**Priorities**

6.30 There is considerable concern about Britain’s current levels of consumption. The concept of consumer ‘lock-in’, a product of incentive structures, institutional barriers, inequalities in access, and restricted choice, is a considerable problem. Habits, routines, and social norms, as well as dominant cultural values, contribute to this. Prevailing concepts such as ‘consumer sovereignty’ and ‘hands-off’ governance are widely coming to be seen as
ineffective and need to be reassessed. Added to this is the fact that, given the lack of impetus from Government, there needs to be better understanding of the nature of voluntary actions and behaviours. Community change initiatives such as Global Action Plan’s ‘Action at Home’ initiative, the Quakers’ ‘Living Witness’ project and the Environmental Issues Network of ‘Churches Together’ in Britain and Ireland’s ‘eco-congregations’ are good examples of this.

6.31 There is a need for a combination of all approaches from government and statutory bodies, from ‘hard tactics’ like taxes and regulation to ‘soft tactics’ like informational campaigns. There are signs that mistrust in society is expanding from a mistrust of criminals to increasing mistrust of governments and the corporate sector, a level of wariness having a disabling effect on communication strategies aimed at changing consumption patterns (Onora O’Neill’s 2002 Reith Lecturer, cited in Demos/Green Alliance, 2003). There is, furthermore, considerable ethnographic evidence to suggest that people will be sceptical of or ignore a pro-environmental campaign if it appears inconsistent with other government policy, or is seen to be at odds with the behaviour of other statutory bodies, companies and key social actors (Demos, 2003).

6.32 Inadequate knowledge and information, along with low levels of awareness, are cited as obstacles to the implementation of sustainable practices such as ethical purchasing, recycling schemes and composting. In Britain, recycling at work is significantly less common than recycling at home, a disparity that very much needs to be addressed. The relative merits of eco-labelling are also being re-examined, while a distinction has been made between green consumerism and sustainable consumption (Cooper, 2000).

6.33 Sustainable consumption, it has been argued, requires a combination of efficiency and sufficiency. Increased product durability could be one way of offering this (Cooper, 2004, 2005).

Policy responses

6.34 To put policy responses in context: forty-five per cent of all consumer spending in 2002 was on recreation and transport (mainly spending on the purchase and running of cars). Water consumption per head in households increased by seven per cent between 1992 and 2002 in England and Wales. However, average demand, as measured by water entering public supply, was four per cent lower in 2002 than in 1993, partly as a result of a reduction in leakage. New refrigerators in 2002 consumed on average 36 per cent less electricity than new models bought in 1989 and pesticide residues in food have continued to fall.

6.35 Transport is a central area of concern, with progress clearly not being made in overseas travel or in freight by mode. Overseas flights by UK residents more than quadrupled between 1980 and 2002, and visits to the UK by air more than doubled. Total freight movement increased by 81 per cent between 1970 and 2001. In 2001, 64 per cent of freight transport was by road, similar to the proportion in 1970, whilst the proportion moved by rail fell from 18 per cent to 8 per cent.

6.36 Defra and the DTI (2003) jointly produced Changing Patterns: UK Government Framework for Sustainable Consumption and Production, the first major statement from a government since the WSSD in Johannesburg. In this, programmes for decoupling
environmental degradation from economic growth, including funding of the Business and Resource Efficiency and Waste Fund, the waste strategy review, and the review work by the Sustainable Development Research Network on more sustainable consumption and production, are outlined.

6.37 *The Sustainable Consumption and Production: Business Support Review* (Defra, 2004) contains key objectives such as breaking the link between economic growth and environmental pollution and improving resource efficiency. The review focuses on areas where environmental damage is greatest, examining the whole life-cycle of a product, through design, production, use and disposal, to help reduce its effect on the environment, while enabling consumers to receive more information on products and services.

6.38 Chapter Three of the UK Government’s Sustainable Development Strategy, *Securing the Future*, looks for a major shift in our consumption behaviour, placing an emphasis on innovation. An international vision has been adopted, looking to create a ‘one planet economy’. The Government will also convene a new Sustainable Consumption and Production Business Task Force and, significantly, challenges the FTSE All Share and large private companies to report their sustainability performance transparently.

6.39 The Environmental Audit Committee (2004) concurs with this more radical approach:

> “If the UK takes an enthusiastic approach to the development of a sustainable consumption and production strategy, it could pave the way for a radical review of the use of resources in the UK. The preparation of such a strategy offers a key opportunity to weave together strands of existing energy, waste and procurement policy and ensure that each reinforces sustainable resource use. We look to the Government to produce a clear vision for sustainable resource use which avoids merely cobbling together existing policies into a strategy for business as usual.”

6.40 In terms of communication and attempts to achieve behaviour-change the apparent failure of Defra’s *Are You Doing Your Bit? Campaign* has been significant. When approaching consumption, policy in general is either info-intensive or tax-based and interventionist. In the UK, cigarette advertising offers a good example, though the results are not necessarily positive. (A lesson could be learnt from the example of a California utility which spent more money on advertising the benefits of home insulation than it would have cost to install the insulation itself in the targeted homes.) Traditionally, policy-makers have taken too basic an approach to complex behavioural patterns. A variety of different obstacles and barriers are blamed for this, but generally there is a need to think outside the existing policy option parameters.

**Possible lessons**

6.41 The Department of Health’s Five-a-Day plan: encouraged people to eat five pieces of fresh fruit and vegetables a day and provided free fruit in schools, but was undermined by conflicting and confusing advertising campaigns from different food manufacturers.
6.42 Gap EcoTeams: groups of households who, for four months, commit to monitoring their consumption habits with regard to waste, gas, electricity, water, transport and shopping and aim to make them more sustainable.

6.43 Lambeth’s Private Landlords Energy Award Scheme involves the local authority offered landlords 50% grants towards energy efficiency improvements, with interest free loans of up to 25%. Uptake was very low, with the council concluding that although landlords valued the idea of reducing costs through energy efficiency (this concern was not great enough to make them pay upfront).

6.44 Harlock Hill Wind Farm, Cumbria: the UK’s first co-operatively owned wind energy project, constructed in 1997 and consisting of five 500kW Wind World turbines.

6.45 Awel Aman Tawe Community Energy Project, Wales: supports and promotes community renewable energy projects and offers advice on energy efficiency to local residents.

6.46 Bedzed, Beddington: the UK’s largest ‘carbon neutral’ eco-village. Initiated by BioRegional, Bedzed provides 100 sustainable, low-energy living for around residents.

6.47 Environmental Action Fund: a Defra-funded scheme; priorities for 2005-2008 include community-based initiatives on sustainable consumption.

6.48 Small Change, East London: a community project run by Global Action Plan, aimed at helping primary school children and their families to use energy more efficiently, eat more healthily and reduce waste and pollution.

6.49 Woking Borough Council: a progressive local council strategy aiming to serve the local community with community heating, combined heat and power and renewable energy.

Scottish

Priorities

6.50 Sustainable consumption embraces a wide range of policy concerns, some of which the Executive has little influence over. For example, product lifecycle issues are a reserved matter for the DTI, as is overall energy policy, although the Executive can set distinct targets for electricity generated by renewables and can promote energy efficiency. Thus, although there was in the past a certain focus on waste–energy–travel (which was not without its critics), there are certainly some constraints on what the Executive can do in this context as regards energy and product lifecycle issues.

6.51 One priority for government concerns implementation of EU Directives that promote sustainable consumption, largely in relation to industry but also, indirectly, to citizens. For instance, the Landfill Directive places obligations on states but clearly has implications for waste separation to facilitate recycling. One of the most significant aims of the Water Framework Directive is the provision of a sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use.
Breaking the link between economic development and increased consumption, and hence pollution, has been presented as a key priority in debates (Birley, 2001, para 32). This is recognised in the Executive’s Indicators for Sustainable Development, which includes an indicator note of progress towards a less carbon intense economy. There is an aim to work towards more efficient use of resources including the reduction of unnecessary car use although this had been hampered by the lack of a national spatial framework and restricted Executive responsibilities in the railway sphere, both of which have now been addressed (see below).

**Policy responses**

6.53 Scottish legislation to implement relevant EU Directives in this area has included:

- Pollution Prevention and Control (Scotland) Regulations 2000, SSI 2000/323;
- the Landfill (Scotland) Regulations 2003, SSI 2003/235;
- the Water Environment and Water Services (Scotland) Act 2003;
- and the Water Environment (Controlled Activities) (Scotland) Regulations 2005, SSI 2005/348.

6.54 At a general level, much of the focus of *Meeting the Needs*, the last Scottish sustainable development strategy from 2002, did concern the theme of sustainable consumption, given that its priorities were more efficient resource use, promotion of renewable energy and travel minimization.

6.55 Internally, the greening of the Executive’s procurement agenda is designed to promote more sustainable consumption and to lead by example. The wider issue of efficient use of resources in the business sphere is addressed in the *Green Jobs Strategy* (2005g) and is considered more fully in the section of the report dealing with Green Jobs and Enterprise, while efficient resource use is also being promoted through the Executive’s renewable energy policy and enhanced thermal standards for new buildings.

6.56 There are a number of policy initiatives to reduce car use, such as the *National Planning Policy Guideline 17, Transport and Planning* and public transport initiatives, including the transfer of most rail functions from Westminster to facilitate devolved control over rail infrastructure and service enhancements. The National Planning Framework adopted in 2004 also provides a clear spatial context for major public transport improvements and shifts the policy framework away from competitive bidding for funds for such projects towards a more coherent national approach, making the delivery of such projects more likely.

6.57 The White Paper *Modernising the Planning System* envisages that certain types of projects will be regarded as national developments or major developments and the Scottish Ministers will, therefore, be given the opportunity to call them in to deal with them on a national basis. The development planning system is to be reformed to ensure better delivery of policies within such plans. These are policy reforms which certainly have the potential to lead to more sustainable levels of car use. Lorry use has been targeted by the system of Freight Facilities Grants or Track Access Grants available from the Executive to assist a shift to rail or waterborne freight, an initiative which has been largely suspended in England over the past two years, although the Executive has been fairly active in awarding such grants. Provision has also been made for the introduction of congestion charging schemes, but this is
counterbalanced by a significant road-building and air travel expansion programmes and the failure of some attempted initiatives, notably the proposed Edinburgh Congestion Charge.

6.58 The importance of communication strategies in trying to encourage more sustainable consumption has long been recognised and acted upon, in for instance, television advertising campaigns that have targeted, for example, energy-saving and car use reduction.

Possible lessons

6.59 Slateford Green, in Edinburgh, is a car-free, low-energy sustainable housing development consisting of 120 mixed tenure units, which has been the subject of positive, independent evaluation (Young 2001).
CHAPTER SEVEN    GREEN JOBS AND ENTERPRISE

Summary

7.1 This chapter describes the wider context of business enterprise and ‘green jobs’ for Scotland drawing out links between these and policies on business energy efficiency, waste, climate change, sustainable communities, and the role of stakeholders in this area.

Definitions and concepts

7.2 Generally, ‘green jobs and enterprise’ refers to employment and business opportunities that are created through new technologies for greater eco-efficiency or through the demand for environmental services and eco-management, and there is widespread variation as to what can be included within this category. At the same time, there is academic debate about how and, indeed, whether ‘green growth’ and dependence on market forces can be relied upon to deliver sustainability.

7.3 Unlike other sectors and disciplines that appear more comfortable with looser definitions of sustainable development (for instance, referring to democracy or justice), business often expresses a need for a clearer definition in order to understand what sustainable development means for the private sector in practical terms.

7.4 In the developing world, and, increasingly, in run-down post-industrial settlements in the northern hemisphere, there is concern over the erosion of local and community-based production as a result of engagement in global employment markets. Community-based initiatives have been used in attempts to ameliorate some of the worst social and economic effects of this, with varying degrees of success. However, transfer of knowledge and evidence of what works in this respect are generally poor.

Global

7.5 Heavy emphasis is being placed on efficiency and innovation at the global level, seemingly at the expense of deeper structural problems. There is concern over the erosion of local culture with the continuing spread of economic globalisation and the drive towards increased market liberalisation; the contentious nature of the WTO’s General Agreement on Trade in Services embodies this debate.

European

7.6 A reassessment of the classical economic doctrine that more growth is the answer to high unemployment is currently underway in Europe. This is evident when analysing the various policy initiatives coming from the EU, with questions being raised as to how to harmonize the Sustainable Development Strategy or Cardiff Process with the Lisbon Agenda on increasing competition. Enlargement of the Union has accentuated these tensions.
UK

7.7 Lifecycle or whole-life thinking is becoming increasingly popular at the UK national level, in terms of procurement, production and consumption in industry. There are also some moves towards decoupling economic growth from environmental degradation by improving resource productivity and efficiency. The lack of a clear definition of sustainable development is hampering reform of business practices and halting the spread of corporate social responsibility, with businesses sceptical of reforming their activities without knowing for what and why they are reforming. A move away from the trade-off perception of sustainable development would greatly reduce this problem.

Scottish

7.8 The benefits of more efficient resource use are not always evident to businesses. However, there is a commitment by the Executive in its 2005 green jobs strategy to review the way in which it supports resource efficiency initiatives. There has been some uncertainty about the extent to which initiatives under the green jobs strategy can help to create more entry-level jobs, particularly given the skilled nature of many jobs in industry. Other business priorities include the need to address the peripherality of Scotland from UK, European and global markets and the need to simplify funding mechanisms.

GLOBAL

Priorities

7.9 At the global level, prominent debates in academia stem from concerns with the very concept of ‘green growth’ (as a theoretical concept see Chapter 2) and an over-reliance on ‘eco-efficiency’ as a policy solution. It has been argued that too much emphasis is being placed on innovation and efficiency and too little on structural issues (DeSimone and Popoff, 2000). Rather than having a role in possibly educating the market themselves, businesses instead look to cater to an increasingly eco-educated market (Baron and Murry, 2004). It is argued that the displacement of political power upwards to international institutions, though embedding the neo-liberal hegemony in the global economy, does at least allow for some reconciliation between economic growth and environmental concerns, rather than arguing for stronger environmental regulations through protectionism (Hartwick and Peet, 2003).

7.10 There has also been increased criticism of market-based, ‘debt-for-nature’ solutions that often perpetuate unsustainable practices or lead to the disempowerment of women. This in turn helps entrench the view that trade-offs must be made between economic, environmental and social concerns, a view receiving growing criticism. The bi-lateral trade agreements between Canada and Costa Rica exemplify this problem (Isla, 2001).

7.11 There is considerable concern over the erosion of local culture by global pressures, and much praise for local and community-based initiatives that help to stop or reduce such processes. Attention is also being paid to the ‘digital divide’ between developed and developing countries and the effect this has on business activity (Griese, Mueller, Reichl and Stobbe, 2001).
The challenges faced in achieving sustainable development at the global level are well illustrated in one current example: subsidised cotton from the US and EU is deflating cotton prices, which in turn is having a damaging affect on West and Central Africa (Gillson, Poulton, Balcombe and Page, 2004).

Policy responses

In 2000, the World Bank published *The Quality of Growth*, advocating a broadening of the growth framework to a complementary agenda that involves key quality aspects in the structural, human, social, and environmental dimensions of sustained growth, emphasizing a more equitable investment in people, the need to sustain natural capital, deal with global financial risks, improve governance and control corruption (Thomas et al, 2000). The World Business Council for Sustainable Development report (2005), *Creating Business Value and Accountability*, restates the need to increase accountability and change the business approach to sustainable development. Accountability and value creation must be made mutually reinforcing throughout any enterprise, integrating sustainable development amongst all areas of business practice, rather than creating a ‘specialist silo.’ Although not specific policy responses, the two reports suggest a change in the policy outlook of international institutions (WBCSD, 2005).

The World Trade Organisation’s *General Agreement on Trade in Services* (GATS), first conceived back in 1995, has increasingly garnered criticism from the voluntary sector and civil society, especially over the last five years. The WTO has been at pains to point out that under the GATS national treatment rule (Article XVII) national treatment commitments are perfectly legitimate and that market-access commitments neither remove the right to regulate services nor oblige governments to permit the entry of unlimited numbers of service suppliers. Regulations do not have to be submitted for approval, nor do member governments have to demonstrate that they are employing least-trade-restrictive practices. There is, however, an apparent contradiction in the WTO’s approach to licensing, in that licensing should not be a restriction to the supply of services. In the GATS agreement, the term ‘restriction’ seemingly acts as a euphemism for regulation. Article XIV contains a General Exception stating that:

> "nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures necessary to protect human, animal or plant life or health." (WTO provisions described in Love, 1999)

The GATS agreement encourages Foreign Direct Investment (FDI) which will lead to important challenges over the financing of health care in developing countries, particularly with the growing mobility of health professionals and the power of multinational corporations (Smith, 2004).

The International Organisation for Standardisation published the *ISO Action Plan for Developing Countries: 2005-2010* in December of 2004, looking to build capacity and empower stakeholders in the developing world, with the aim of creating a standardization infrastructure. Information technology and communication are seen as key to this process.
Possible lessons

7.17 *Fortune* magazine compiles an annual list of ‘The World’s Most Admired Companies’, those companies demonstrating best sustainable practice, which offers one example of non-formal education influencing the agenda, in this case with multi-national corporations.

7.18 In response to the conditions laid out in the Kyoto Protocol, Peugeot has created a carbon sink - a recreated eco-system capable of absorbing large amounts of CO² - in the State of Mato Grosso in the Brazilian Rainforest. 5,000 hectares of deforested agricultural land will be replanted, plus 7,000 hectares of old and second-growth forest mixed with cultivated land (Allen, Bonazzi and Gee, 2001).

European Priorities

7.19 At the European level, there is academic questioning of the assumption that more economic growth is the answer to high unemployment. This is particularly pertinent for countries like France, Germany and Spain, who are experiencing low growth and high unemployment. As regards implementation, much research has been undertaken on the benefits of focusing on the local level when analyzing the relationships among socio-economic activities and the environment.

Policy responses

7.20 At a Stakeholder Forum on Sustainable Development, in Brussels, April 2005, Margot Wallström, Vice-President of the European Commission with responsibility for Institutional Relations and Communication Strategy, announced a significant development in the EU’s approach to business development and competition.

> “Sustainable development has become a core issue on the world’s political agenda, and is a top priority for the European Union. With Europe facing rising un-employment and low growth rates in many countries our immediate concern has been the re launch of the Lisbon strategy. But as the European Council confirmed – Lisbon has to be seen within the wider context of sustainable development.” (EuropaWorld, 2005)

7.21 It remains to be seen how the *EU Sustainable Development Strategy* and commitments made under the *Cardiff Process*, putting Article 6 of the EC treaty on environmental integration into practice, will fit with the *White Paper on European Governance* and the *Lisbon Agenda* on competitiveness. One ‘positive synergy’ clearly picked up on by the European Union elites is eco-efficient innovation, something in keeping with the neo-classical hegemony in theoretical developments. The *Lisbon Agenda* constitutes the driver of this relationship between competitiveness and clean technologies.

7.22 At a meeting of the Council of the European Union, in Luxemburg in October 2004, it was agreed that a major challenge was to reinforce and exploit the ‘positive synergies’
between environmental protection and competitiveness. Heavy emphasis was placed on eco-efficient innovations and the creation of new lead markets for these innovations. This will entail considerably more collaboration and joint working with business and stakeholders, as well as a swift implementation of the Environmental Technologies Action Plan. Eco-efficient innovations must be provided with a fair and competitive market perspective, external costs will need to be internalized through instruments such as performance-based green public procurement, fiscal incentives, reform of subsidies and risk-sharing facilities, especially for small and medium scale enterprises.

7.23 This approach of creating effective market conditions for eco-efficient innovations must be coupled with the effective conditions to innovate. There is, however, still considerable strain on the EU budget from the Common Agricultural Policy and little money for research, development and innovation, with considerable intransigence from particular member states on addressing this imbalance.

7.24 The last five years or so have seen a gradual move in various member states to environmental taxes and environmental tax reform, as well as market-based approaches at the EU-level that are starting to have an effect on business (for example, emissions-trading, where the European Emissions Trading Scheme is the key fiscal instrument) and spatial planning. Analysis is currently being undertaken on the growing use of regulatory impact assessment and how this is likely to affect business and investment.

7.25 Other key European Directives for the business community are:

- The Control of Major Accident Hazard Regulations 1999 (COMAH): aims to prevent major accidents involving dangerous substances and limit the consequences to people and the environment of accidents that occur.
- The End-of-Life Vehicles (ELVs) Directive (2000/53/EC): passed into European law in October 2000, vehicles are subject to ‘depollution’, use of certain hazardous substances during production are limited and treatment facilities operate to higher environmental standards.
- The Landfill (England and Wales) Regulations 2002: came into force on 15 June 2002, implementing the Landfill Directive (Council Directive 1999/31/EC), and will have a major impact on waste regulation and industry in the UK. The regulations aim to prevent, or to reduce as far as possible, the negative environmental effects of landfill.
- Waste Electrical and Electronic Equipment (WEEE) Directive: aims to reduce the amount of WEEE being produced and encourages reuse, recycle and recover of equipment. It also aims to improve the environmental performance of businesses that manufacture, supply, use, recycle and recover electrical and electronic equipment.

Possible lessons

7.26 At member-state level, Sweden appears to be becoming something of an exemplar of a socio-economic framework realigning itself to become sustainable. At the start of 2005, the Swedish government created the Ministry for Sustainable Development, with responsibility for environmental and energy issues, alongside, significantly, construction and housing. This level of policy integration, it is hoped, will reconcile good economic progress with social justice and protection of the environment. The Swedish model of a Green Welfare State
might not be to the liking of all members, but Sweden has one of the better rates of economic growth amongst the pre-enlargement states. Ireland, with an impressive forecast of 3.6% growth for 2006 is being monitored, in academia in particular, as an example of an emerging economy needing to make decisions as to how it becomes more sustainable as a society and an economy (Kennelly and Bradley, 2005).

UK

Priorities

7.27 Across the UK, level lifecycle or whole-life thinking has gained prominence, with clear implications for the business world. The DTI’s Sustainable Development Strategy was published in October 2000, following consultation with key stakeholders from government, business and environmental NGOs, with its main focus being the need to accelerate the decoupling of economic growth from environmental degradation by improving resource productivity.

7.28 Compared to sectors such as education, which generally are more comfortable with less clear delineations of what sustainable development means, the business community appears to need a more definite definition; business leaders and the private sector seem to need to have a firmer grasp of what sustainable development means before they can do substantially more towards becoming more sustainable.

7.29 Such conceptual and, to an extent, cultural, challenges posed by this topic, are coupled with growing recognition of the need to move away from the trade-off approach to the social, economic and environmental pillars of sustainable development, or the arguably false dichotomy of economic growth versus environmental protection and resource-conservation. There is the impression that a culture of sustainability has failed to permeate the private sector, in large because too many problems have been dealt with on a one-problem-one-solution basis. For example, climate change has not been approached as a risk to profitability and there is seemingly a lack of mid and long-term planning in business in general (Haywood, 2005).

7.30 Problems have also been encountered in relating Local Agenda 21 to the supply side of production, particularly with SMEs (Rotheroe, Keenlyside and Coates, 2003). One suggestion has been that investors should accept longer pay-back periods, although this in turn might hamper small and medium scale business creation (Haywood, 2005).

Policy responses

7.31 The consultation document, Taking it on - developing the UK sustainable development strategy together, was launched on 21st April 2004, based on an integrated approach from the ODPM, Defra, the DTI, DfT and other stakeholders. All government departments will have produced a Sustainable Development Action Plan by the end of 2005, which, it is hoped, will offer some progress towards addressing problems of clarity in defining sustainable development for government policy.
7.32 As regards harmonized regulation for the business community, the Environment Agency assesses compliance with its regulations by using a risk-based approach. A key component of risk-based regulation is Operator and Pollution Risk Appraisal (OPRA). This is an Agency tool for assessing the environmental risks of sites that the agency regulates and the competence of site operators. The Compliance Classification Scheme (CCS) is aimed at ensuring consistency across all regulatory regimes. The Monitoring Certification Scheme (MCERTS) aims to improve the quality of monitoring data and assure users of certified instruments and services that they meet performance standards set out in current international standards, EU Directives and relevant national regulations.

7.33 The DTI has been working closely with Defra, DfT and other key stakeholders to implement the Energy White Paper, *Our Energy Future - Creating a Low Carbon Economy*. This sets out a strategy for delivering sustainable, reliable and affordable energy supplies through competitive markets, which aims to reduce carbon emissions by 60 per cent by 2050, with real progress by 2020, highlighting the need for sufficiently diverse energy sources in the future. Furthermore, in line with Kyoto, the government is also aiming to reduce greenhouse gas emissions by 12.5 per cent from 1990 levels by 2008-12; move towards a 20 per cent reduction in carbon dioxide emissions from 1990 levels by 2010; and increase the proportion of UK electricity produced from renewable energy sources to ten per cent in 2010. This has clear implications for business and enterprise.

7.34 Meanwhile, the DTI is looking to promote corporate responsibility and integrate sustainability into other DTI policy areas and business support. The Advisory Committee on Business and the Environment has published *Value, Growth, Success - How Sustainable Is Your Business? (2000)* and *Realising The Value, Enhancing Business Success (2003)*.

7.35 Key Treasury aims include making use of the fiscal system, where appropriate, to tackle environmental externalities through developing further existing environmental taxes (such as the recent increases in the standard rate of landfill tax); creating tax incentives for cleaner technologies through enhanced capital allowances; and adding an environmental dimension to transport taxation, for example, through fuel duty differentials to encourage the use of cleaner fuels. Significantly, the Treasury professes a commitment to strong local government, supporting local authorities in their delivery of key public services to all communities, for example through the introduction of the three-year revenue and capital settlements, emphasizing the need for long-term thinking. Whether such a devolved approach to the business community could be adopted, and whether it would lead to longer term thinking, remains an important topic for discussion.

7.36 The Business Resource Efficiency and Waste (BREW) Programme is a new initiative from Defra that uses revenue from increases in Landfill Tax to fund a range of free services for businesses and specifically targets waste-minimisation, the diversion of waste from landfill and improvements to resource efficiency (Defra, 2005).

**Possible lessons**

7.37 KPMG UK has created local Corporate Responsibility forums, seeing local office ownership as key to the initiative. They have undertaken a ‘Responsible Consumption Initiative’, the aim of which is drawing together all environmental activities to help minimize the consumption of natural resources and attain a targeted cost savings. The intention has
been that, if achieved, up to 50% of the savings would be donated to the 2004/05 staff-selected charity, the Children’s Trust, which is also being supported through payroll-giving. Financial and environmental targets were set on an office-by-office basis and, in the first six months of the year, improving environmental efficiency saved more than £150,000 (WBCSD, 2005).

7.38 Caerphilly County Borough Council and its partners received a grant to redevelop a semi-derelict industrial site in Rhymney, in which the Community Furniture Enterprise operates, a part of the county which was greatly affected by the pit closures of the 1980s and too far from Newport and Cardiff to establish strong economic links. There are environmental outcomes, with less dumping and landfill, social gains, with good quality goods at affordable prices, and economic benefits, creating jobs and training and more generally meeting the needs of a deprived local community.

7.39 Building on the Department for Work and Pensions 1998 document, A New Contract for Welfare: The Gateway To Work, part of the New Deal for employment is the Environment Task Force (ETF), which includes a purpose to seek to contribute to the improvement of the local, regional or global environment.’ New Deal placements on the ETF option may find themselves in a variety of roles, such as conservation work, graffiti removal, working with a housing association or local training agency.

Scotland

Priorities

7.40 The environment has, arguably, often been seen, not as a source of employment and prosperity, but as a threat or hindrance to job-maintenance and creation. However, there are signs that this has started to change through ‘environmental modernisation’ (Birley, 2001). The green jobs strategy (Scottish Executive, 2005g) exemplifies this.

7.41 The key drivers for the creation of green jobs are regulatory and economic instruments, with the latter being increasingly preferred. Other priorities for a sustainable Scottish economy include the need to address its peripherality from national, European and global markets and the below average level of entrepreneurial activity in Scotland (Scottish Executive, 2001a).

7.42 In the past, Executive guidance to the Enterprise Networks had been criticised as weak (Birley, 2001). However, the Executive’s 2005 green jobs strategy has now provided the networks with far clearer guidance on what sustainable development means for them and includes a commitment to review the way in which it supports resource efficiency initiatives (underway at the time of writing). This will include the market for environmental technologies, energy technologies and waste management, which should aim to provide jobs and training opportunities.

7.43 The benefits of more efficient resource-use have often not been apparent to, or fully appreciated by, business, as the strategy itself acknowledges. It contains several commitments aimed at improving companies’ understanding of the benefits of resource-efficiency. Environmental Management Systems (EMS) are sometimes used as one method of securing more efficient resource use, but research from Australia and US has demonstrated
that full-scale EMS is particularly problematic for SMEs (Gunningham, 2002). This has considerable implications for Scotland, where SMEs are such a substantial and significant component of the economy.

7.44 The green job opportunities offered by renewable energy projects are often touted. Investment in sustainable industries can provide effective ways of creating long-term, high-value jobs - for instance, wind energy in Denmark and Spain; photovoltaics in Germany and Japan; and fuel cells in the US and Canada. Significant growth opportunities have been identified in renewables, waste management and recylclates and cleaner technologies, with opportunities in wave and tidal technologies being particularly promising in the longer term, not least because of Scotland’s experience with the oil and gas, and indeed aquaculture, industries (for example, Avayl Engineering and Hutt and Johnstone, 2005). However, there is concern that current legislative arrangements (in the Renewables Obligation (Scotland) Order 2005 and its predecessors) are promoting onshore wind energy projects at the expense of developing other sources of renewables (Scottish Executive, 2005h).

Policy responses

7.45 In terms of helping to provide direction and support, in relation to sustainability, to the private sector, A Smart, Successful Scotland: Ambitions for the Enterprise Networks, first launched by the Executive four years ago and refreshed in 2004 (Scottish Executive, 2001a, 2004d), provides ministerial guidance to the Enterprise Networks. While it does prioritises an increase in entrepreneurial activity, e-business, digital and other connectivity and the promotion of global success in key areas. In its current form, it emphasises that sustainability should be at the heart of Scottish enterprise and competitiveness and partly set the scene for the subsequent green jobs strategy.

7.46 Going for Green: a green jobs strategy for Scotland (Scottish Executive, 2005g) provides additional guidance for the Enterprise Networks. Its key priorities are more efficient use of resources and capitalising on the opportunities offered, particularly, by renewable energy and waste management. The focus of the strategy is not on a single business sector but across the board and it envisages an enhanced role for the Scottish Enterprise Network Business Gateway Service in advising on resource efficiency issues. The strategy document covers information, awareness-raising and the delivery of specialist advice, identifying a plethora of sources; access to finance to exploit opportunities; and the government’s role in creating a market and skills.

7.47 Narrowing the gap in economic opportunities and promoting equal opportunities for all of Scotland’s people has been expressed as a cross-cutting Executive priority in the strategy, Closing the Opportunity Gap, and the green jobs strategy has a role to play. One concern about limits on its potential contribution has been that, because of the technical nature of the energy industry, most jobs will be at the skilled craft or technician level or above (Avayl Engineering, Hutt and Johnstone, 2005). Although there is the potential for semi-skilled jobs in the construction of energy projects and in the production, supply and manufacture of biomass and bio-fuels, there has been little evidence of the potential for the creation of entry-level jobs in and it has also been pointed out that job-creation in the renewables sector is very much dependent on government intervention (ibid). It is intended that the proposed Employability Framework for Scotland, expected by the end of 2005, will further seek to improve chances for the vulnerable and disadvantaged, generally with the
purpose of enhancing the number of economically active citizens. However, it is clear from the discussion above, that the opportunities offered by green jobs may be fairly limited.

7.48 There are a number of organisations providing sources of advice for business on resource efficiency and which try to provide examples of best practice, including the Carbon Trust and Envirowise, and lesser players such as the Business Environment Partnership and Forward Scotland. Implementation of the green jobs strategy will be reliant to quite an extent on the role of such bodies in addition to the Enterprise Networks. There are practicable promotion mechanisms such as the Sustainable Action Fund; Regional Selective Assistance and the Forum for Renewable Energy Development in Scotland. However, the current arrangements have been criticised as a somewhat “incoherent array” (Birley, 2001).

7.49 At another level of interaction between the economy, employment and sustainability, the implementation of a range of EU Directives provides indirect legislative mechanisms relevant to business and job-creation. Examples are found in the obligation to use Best Available Techniques in legislation implementing the IPPC Directive (the Pollution Prevention and Control (Scotland) Regulations 2000); and the biodegradable municipal waste landfill reduction obligations from the Landfill Directive (in the Landfill (Scotland) Regulations 2003.

7.50 The Renewables Obligation (Scotland) Order 2002 and subsequent Orders include binding targets on generators to supply electricity generated by renewable sources. As noted above, this regime has been criticised for only encouraging onshore wind energy projects and is currently being reviewed with a view, partly at least, to examine ways in which other renewables can be developed.

Possible lessons

7.51 Social Inclusion Partnership Areas: an example is Renfrewshire Council’s involvement in Going for Green’s Sustainable Communities initiative, based around the principles of LA21, providing funding for three Social Inclusion Partnership areas, complemented by grants from the Executive.
CHAPTER EIGHT       THE BUILT ENVIRONMENT

Summary

8.1 The term ‘built environment’ covers a very broad area, which could be the subject of its own review. This chapter examines a number of environmental issues that can be brigaded under the umbrella of the built environment, such as regeneration, planning, rural development, sustainable communities and environmental inequalities (Chapter 11 deals with environment justice). The chapter aims to identify tensions and synergies between these diverse, but often complementary, areas of policy delivery and describes the key policy responses internationally, at a UK level and within Scotland.

Definitions and concepts

8.2 The built environment is most obviously connected with urban form, land-use and transport, planning, housing and other infrastructure provision, but it also has a significant impact on issues of social justice, energy use and consumption, sustainable communities and lifestyles. The term ‘mixed communities’ describes communities of mixed tenure, mixed households and mixed housing type and ‘creative destruction’ is increasingly being used to describe the process of driving out inefficient and outdated practices within areas of policy delivery relating to more sustainable development of the built environment.

Global

8.3 The uneven socio-economic effects of globalisation and the continuing urbanisation of the global population are dominant concerns. New ideas like ‘creative destruction’ and ‘mixed communities’ have come about as a response to this. The procurement process, the use of subsidies, minimum standards and information are all being seen as key to adding a sustainable dimension to the way urban environments are being developed and managed.

European

8.4 Greater energy conservation and the need to move away from a reliance on fossil fuel-derived energy sources in both the construction and lifetime use of housing and other buildings feature prominently within the European level literature. Eco-efficiency is being touted as the most appropriate policy response in this respect. The future of the social rented sector has become a topic of debate over the last five years, with the trend in much of Europe for increased home ownership and the growing role of housing associations and corporations. The future of urban policy more generally is also being reassessed.

UK

8.5 The last five years has seen a challenge to neo-liberal, market-based approaches to planning and housing issues, with the importance of sustainable development gaining increasing recognition within the policy literature. There is considerable friction between the
new trend for sustainable development in the built environment and the current legislative and regulatory framework. The use of public space is a key debating point at the UK level, particularly given its relationship to crime prevention strategies, community harmony and social justice. Concerns are being expressed about progress towards greater energy efficiency.

Scottish

8.6 There is a very strong focus on improving energy efficiency in the context of the built environment, with particular emphasis on fuel poverty and hence aligning social justice and environmental concerns, which is bringing about positive results. There is a strong commitment to improved quality design, which is seen as essential to successful communities. Reforms to the planning system, which are underway, have adopted a more systematic, spatial approach to nationally significant infrastructure and will lead to greater opportunities for public participation. Planning policy is also focused on reducing resource consumption, notably in the context of travel, and encouraging high quality, sustainable, design.

Global

Priorities

8.7 Globally, the world is becoming increasingly focused around urban living and livelihoods. Although this is nothing new within the developed world (or indeed Latin America and the Caribbean), the proportions of African and Asian populations living in urban settings are predicted to surge from 35% to 50% over the next thirty years (UNCHS, 2001). The overall picture is bleak for these continents in terms of their sustainable development. There is an increasing divide between rich and poor, largely brought on by globalisation, particularly in Asia, with the poor being responsible for building their own housing, often outside of any legal or regulatory framework. The image of slums and high-rise buildings side-by-side powerfully manifests this divide (Ghosh, 2002). The literature clearly identifies the need for an urban culture of inclusion to counteract the uneven socio-economic effects of globalisation, deepening inequality, polarisation, corruption and inadequate sanitation.

8.8 The process of globalisation is also leading to an increase in disused buildings and derelict land arising largely as a result of changes in manufacturing processes and the relocation of industry to the urban periphery or to new countries entirely. As economies, particularly in developed countries, come to rely more on their service sectors and creative industries, commercial branding of the built environment and the growing importance of urban culture, particularly as a motor of economic growth, have become more prominent (UN-Habitat, 2005).

8.9 As with many of the other topic areas of this review, practitioners, stakeholders and policy-makers working in the built environment are calling not only for a common definition of sustainable development, but for a shared framework and classification system, particularly when looking to encourage dialogue amongst stakeholders (Brandon and Lombardi, 2005). The need for inter- and intra-industry collaboration, and among policy-makers, is also a common theme.
8.10 ‘Creative Destruction’, the use of innovative practices and materials to drive out inefficient practices, is a growing concept (Hartshorn et al, 2005), and is seen as one way of approaching the challenge of reducing reliance within buildings on fossil fuel-derived, high-grade energy (Thomas and Fordham, 2003). There is considerable technical potential for improving efficiency, with cost-effective technical advances responding effectively to the market mechanism. Technology procurement, aggregated purchase, targeted rebates and subsidies, improved information to consumers, retailers and other stakeholders, energy labels, negotiated agreements and mandatory minimum standards are all key to this process (Fawcett et al, 2000).

8.11 The need to develop sustainable building technology and policies that are specific to an area’s climate, economic conditions and residential customs, rather than adopting a blanket approach based on policies from the developed world is prominent in the international literature. China is a good example of the need for this approach (Zhu YX and Lin BR, 2004). In the US, the concept of mixed communities and the potential for creating sustainable neighbourhoods are influencing US planning policy (Berube, 2005).

**Policy responses**

8.12 Chapter 7 of Agenda 21, ‘Promoting Sustainable Human Settlement Development’ has been the main policy framework for sustainable development at an international level since the 1992 Rio Summit. This has since been updated and complemented by several additional policy developments. The UN Declaration on Cities and Other Human Settlements in the New Millennium, resolution S25.2 of 9 June 2001, for example, reaffirms that the Istanbul Declaration and the Habitat Agenda remain the basic framework for sustainable human settlement development into this century (UN General Assembly, 2001).

8.13 The UN Habitat Agenda and Istanbul Declaration were a call to action, outlining two priorities in 1996, the need for sustainable human settlements and adequate shelter for all, and were signed by 171 UN member-states (United Nations Human Settlement Programme, 1996). The Agenda also highlighted the need for policy to be holistic, participatory and inclusive (UNCHS, 1996).

8.14 The Istanbul + 5 Review and appraisal in 2001, recognised that globalisation has forced cities to compete to attract capital and that this competition has left the poor behind (UNCHS, 2001). From the national reports that were submitted as part of the review process, urban violence, civil conflict, basic services and housing rights were the main issues faced by cities today, with action being most effective at the local level.

8.15 The Johannesburg Plan of Implementation and Millenium Development Goal 7 both aim for significant improvement in the lives of at least 100 million slum dwellers by 2020 (UN Resolution 55/2, 2000; MDG 2004), along with improved access to land and property, increased utilisation of low-cost and sustainable materials and appropriate technologies for the construction of adequate and secure housing (JPOI, 11 a and b, 2002).

8.16 The outcome of the Commission on Sustainable Development’s 13th Session of 2005 is also significant. The Commission stated that policy options and practical measures should be nationally owned and integrated into existing national strategies, giving due
consideration to urbanization trends and the needs of the urban poor in implementing the Millennium Declaration, preventing new slum formation. The need for increased participation of all stakeholders, in particular women, was also highlighted. Public-private partnerships for financing and developing infrastructure and affordable housing were encouraged, as was the use of local materials (Commission on Sustainable Development, 2005).

Possible lessons

8.17 In Colorado, the company CH2M HILL, a global project-delivery firm with a staff of 12,000 around the world, has sustainable development as a core business principle, guiding its commercial, institutional, industrial or public works projects from concept right through to maintenance (World Business Council for Sustainable Development, 2005). Its integrated services include water, transportation, energy and environment, telecommunications, design-build and facility operations.

8.18 Based in suburban Perth, Australia, the Pinakarri housing cooperative exemplifies how to live in an environmentally sound and socially supportive way (Pinakarri Homepage, 2005 and Government of Western Australia, 2005). A group of mostly single parents (seventeen adults with fourteen children) on low incomes wanted to secure self-managed, rented housing in a safe and supportive environment for its members and visitors. They also wanted the co-operative to serve as a model for those seeking a more sustainable life-style within a suburban context and was designed to facilitate opportunities for social interaction while respecting the need for privacy. Decision-making is participatory and non-hierarchical and the community is not a primary source of income for any member.

8.19 The Ellenbrook Solar Housing Venture was set up to allow homeowners to control their living conditions more sustainably (Government of Western Australia, 2005a). Part of Ellenbrook has been developed as an environmentally friendly village. The buildings have adopted contemporary Australian architecture, incorporating lightweight construction materials, iron roofs, bright colours from the landscape and mixed materials in the house façades; native vegetation has been retained in open public spaces and in front yard landscaping; water efficiency is emphasised; all homes are connected to the town’s fibre optic cable system; there are local employment programs; and there is a homeowners’ solar design package.

European

Priorities

8.20 As European countries continue to urbanise, concern is growing about the potential strains on an infrastructure that was built with a lack of long-term planning (Timmeren, Kristinsson and Roling, 2004). An emerging focus on Sustainable Urban Development (SUD) concentrates attention on cities (CEC, 2000).

8.21 In common with the international perspective, the need for greater conservation of energy in housing is a strong theme in the Europe-level literature (Morawska, 2001), alongside a focus on potential for decreasing reliance on fossil fuel-derived energy sources in
construction and lifetime of housing (Fawcett et al, 2000). In France, where housing and urban policies have progressively incorporated social aspects, and in Germany, where environmental concerns have been integrated into policy, local priority objectives are beginning to take precedence in the push for more sustainable urban environments. However, a lack of shared knowledge of sustainable development and the ambiguous status of citizen participation in relation to representative democracy are seen as slowing down this development potential (Laigle and Oehler, 2004).

8.22 Europe is witnessing a transition in its social housing provision from local authority ownership and management to private ownership, private sector provision and devolved management. It is highly debateable whether this represents a positive direction in terms of the sustainable development of the built environment. What is evident from the literature, however, is that this ‘sea change’ is reflected in the dominant theoretical discourse at the European level. However, creating shifts in the policy discourse of member states and institutionalising new ideas on the ground have not been as easy, as Sweden has demonstrated (Lundqvist, 2004).

8.23 In the Netherlands strategic planning policies on sustainability and state guarantees for social housing have been highly successful in levering private finance. The exposure of capital institutions to housing investment is the highest in Europe at 44%, compared to 1% in the UK (CEM, 2005). There is an argument that housing corporations, being private, independent social entrepreneurs, can ‘ride the storm’, though this remains to be seen, particularly given a move away from social housing provision by the Dutch government, which has traditionally been a champion of the socially rented housing sector (Priemus, 2001).

Policy responses

8.24 There are moves in the European Union towards the promotion of eco-efficiency (EEA, 2000). In the 6th Environmental Action Programme, adopted by the Council and the European Parliament in 2002, a ‘Thematic Strategy on the Urban Environment’ was defined as a priority action. However, there are so far few specific initiatives or strategies beyond improving the quality of the urban environment and reducing the impact that cities have on the wider environment, at present.

8.25 In 2004, the European Commission adopted Communication COM(2004)60 Towards a Thematic Strategy on the Urban Environment, setting out its ideas for such a strategy (due in 2005, at the time of writing), based on four areas: urban environmental management, urban transport, sustainable construction and urban design. Stakeholder consultation is underway (EU, 2005).

8.26 In 2000, the United Nations Economic Commission for Europe (UNECE, 2000) Strategy for a Sustainable Quality in Life in Human Settlements in the 21st Century was adopted by Ministers of the member-states. This identified major trends and developments affecting human settlements, such as globalisation, demographic changes, urbanisation and sustainable development, at the beginning of the new century, and constitutes guidelines to the Commission’s work programme, highlighting the need for a broader policy context of economic and social development and emphasizing participation and the strengthening of the capabilities of local authorities and non-governmental organizations, alongside the
constructive participation of the private sector. Urban and rural development must be seen as important to economy. The main goals of the UNECE Strategy are to promote a system of meaningful and democratic governance that responds to the needs of local communities; to improve urban environmental performance; promote market reform in the housing and urban sector; and improve land and real estate markets, securing private rights in land.

8.27 The Working Party on Land Administration was established in 1999 by the UNECE. It aims to promote a model of land administration through security of tenure, the establishment of real estate markets in countries in transition and the modernization of land registration systems in the market economies (UNECE, 2005).

8.28 The Strategic Environmental Assessment Directive ensures that environmental consequences of plans and programmes are identified and assessed during their preparation, rather than before their adoption (Europa, 2001).

Possible lessons

8.29 The European Commission and the BEQUEST network (Building Environmental Quality Evaluation for Sustainability through Time), provides the BEQUEST toolkit, and aims to build consensus among stakeholders (Deakin and Curwell, 2003).

8.30 The Blackrock Initiative: after extensive local community consultation, this initiative aimed to improve the physical fabric of old urban areas in Dun Laoghaire-Rathdown, Dublin, based on the design for disability concept and ensuring integrated access for all (WHOa, 2005). Every aspect of planning was used to eliminate obstacles to mobility and accessibility posed by the built environment. The County Council developed the project in partnership with an organisation representing people with disabilities, local commercial bodies and statutory organisations, including Irish Rail, Dublin Bus and Dublin Healthy Cities Project.

UK

Priorities

8.31 The sustainability potential of urban living is currently being assessed within the UK-based theoretical literature, with the critical importance of public space to the processes of social learning, public participation, social inclusion and social integration, as a foundation (Magnoli et al, 2002). The Urban Task Force has promoted compact urban forms that support economic prosperity, are environmentally responsible and promote social integration. The Government, conversely, is unlikely to meet its own target that 60% of new dwellings should be built on previously developed land (Urban Task Force, 1999). Problems have also been noted with the Government’s over-reliance on Private Finance Initiative schemes (PFI) in the delivery of sustainable development (Hill and Collins, 2004).

8.32 Derived from an American concept, ‘mixed communities’ is increasingly influential within debates surrounding the sustainability of the built environment, particularly in the policy literature (Bennet, 2005). Encouraging diverse tenures, types of households and varying types of housing is widely acceptable as sustainable practice (Long, 2000), contributing to regeneration that lasts (Evans and Fordham, 2000). This is not without its
critics (Cole and Shayer, 1998). Knowles (2005) suggests a conflict between ‘New Urbanism’, as promoted by the Office of the Deputy Prime Minister (ODPM) and the Commission for Architecture and the Built Environment (CABE), and the crime reduction ideas set out in the ‘Secured by Design’ national scheme of the Association of Chief Police Officers.

8.33 Seemingly in contrast to the prevalent housing discourse identified within the European literature, the UK policy documentation suggests a general need to look beyond autonomous housing to create sustainable communities (Edwards and Turrent, 2000). It has been argued within the literature, however, that the emphasis on tackling a shortage of housing and on reviving the economy in particular areas actually represents a hybrid of neo-liberal and sustainable development concerns (Raco, 2005). For example, the UK Government’s Sustainable Communities: Building for the Future (ODPM, 2003) demonstrates a distinct move away from the neo-liberal hegemony that has been prevalent in both past policies for the built environment and other areas of sustainable development policy delivery to date.

8.34 Daly et al (2003) argue that achieving sustainable urban regeneration on the scale sought by the government depends heavily on bringing in large-scale private investment into private rented housing and mixed-use schemes. Land use and affordable housing requirements are insufficiently defined within planning legislation, leading to failures in implementation. The ‘trial and error’ approach to agreeing the content of schemes with local authorities is also causing considerable problems (Daly, Pottinger and Dixon, 2003).

8.35 The need to reduce CO₂ emissions and energy consumption within the built environment is central to the literature base (Commission for Architecture and the Built Environment, 2004). It is generally recognised that upgrading the energy efficiency of housing stock has wider implications for sustainable development aims and objectives, producing environmental, social and wider macro-economic benefits, as well as producing lower fuel bills to the householder (Goodacre, Sharples and Smith, 2002). Again, there are problems with defining sustainability, with practitioners wasting precious time firstly finding a definition, and then persuading other practitioners of its robustness. This suggests the need for a consensus definition (Long, 2000) and some commentators have argued that the entire concept needs to be reassessed (Keiner, 2004).

8.36 This new demand for sustainable construction does not fit neatly into the current legislative framework for construction professionals in England and Wales (the Building Act, the Town and Country Planning Act, the Planning Policy Statements, the Contaminated Land Regime and the Environmental Protection Act), particularly as it looks to encompass broader economic, environmental and social concerns than the legislation allows. Sustainable housing may be covered by a complicated arrangement of policy aims and guidelines. There is, however, little legislation requiring housing providers to take sustainability into account, short of funding criteria from the Housing Corporation and English Partnerships (Pett, 2004).

8.37 Much of the more contemporary literature promotes a need to place social justice at the heart of planning, housing and energy supply policy, with a devolved, grass-roots, bottom-up approach to the planning process (TCPA, 2005). This requires constructive participation, particularly from Housing Associations (Housing Corporation, 2005), and tenants (Ekins, 2000). Other calls are for a focus on rural poverty and housing issues (LGA, 2003) and poverty and social exclusion (Mullins, McCluskey and Taylor-Browne, 2000).
Another issue is sustainable urban development and crime prevention through environmental design (Cozens, 2002).

**Policy responses**

8.38 Creating ‘Sustainable Communities’ is very much the guiding light in the policy community at the moment. The Urban White Paper emphasised the need to create environmentally sustainable built environments, enabling communities to create and share wealth (ODPM, 2000). The fact that *A New Commitment to Neighbourhood Renewal: National Strategy Action Plan* was published by the Social Exclusion Unit (2001; now part of the ODPM) is a statement of intent from the Government, embodying its vision for narrowing the gap between deprived communities and the rest of the country. Central to the delivery of this action plan are Local Strategic Partnerships (LSP), non-statutory, multi-agency bodies that operate at the local level and aim to bring together different parts of the public, private, community and voluntary sectors. LSPs have been set up across England in recognition of a lack of joint-working at the local level and could provide a forum for early engagement with local communities in the planning process. The Government has commissioned a five year evaluation of LSPs.

8.39 The Neighbourhood Renewal Unit’s three community participation programmes (Community Chests, Community Learning Chests and Community Empowerment Fund) have been merged into the Single Community Programme, with four distinct objectives, to support:

- Community Empowerment Networks so that they engage fully in the Local Strategic Partnership;
- community learning through small grants and the development of learning strategies;
- the development of active and resourceful communities by providing small grants;
- community involvement in neighbourhood-level partnerships so that residents can play a central role in driving neighbourhood renewal (NRU, 2005).

8.40 ODPM’s *Sustainable Communities: Homes for All* (2005) aims to help 80,000 first time buyers and key workers to own their own home, and is complemented by the Homebuy Scheme, which could enable up to 300,000 social tenants to buy a share in their home. Both Registered Social Landlords (RSL) and Local Authority tenants will be able to purchase a home on the open market with the aid of an equity loan from an RSL equal to 25% of the purchase price. The applicant funds the remaining 75% of the purchase through conventional mortgage and savings (ODPM, 2005a). The Government’s MoveUK system brings together information about jobs and homes; extends choice-based lettings nationwide; and includes action to halve numbers living in temporary accommodation by 2010.

8.41 The *Code for Sustainable Buildings* is a voluntary initiative, by Government and industry, to encourage the building industry towards more sustainable practice (ODPM, 2005b). National planning guidance has also been updated to reflect the *Contaminated Land Regime*. The amendment of Part L of the Building Regulations is a welcome example of how government can raise standards of both new and existing buildings.
Possible lessons

8.42 Some affordable housing, good practice initiatives include:


8.43 The Gallions Ecopark housing project also seeks to concentrate on the details of sustainable construction and design and the scheme provides a model that can be adapted or replicated in future housing developments. Details on the design and delivery team, a green assessment example from the Netherlands and procurement and cost assessments can all be found in the Housing Corporation Public Library via the web (Housing Corporation, 2005).

8.44 Good examples of public space projects include:


Scottish

Priorities

8.45 Addressing inequalities in communities that tend to be more concentrated in particular types of urban and rural contexts than in the rest of the UK and a need to know what works particularly in terms of assisting disadvantaged communities are priorities for Scottish policy on the built environment (Scottish Executive, 2002b). The transfer of council housing stock to community ownership is seen as key to regenerating that stock.

8.46 Energy efficiency is central to achieving sustainable development within the built environment (Secretary of State for Scotland’s Advisory Group on Sustainable Development, 1999). Tackling fuel poverty, the implementation of “in principle” commitments to introduce housing energy ratings in vendors’ surveys (should they be adopted), and the need to implement commitment to raise thermal requirements of Building Standards all relate to this.

8.47 The role of the planning system in delivering sustainable development is crucial. It is seen as enabling energy efficiency to be addressed through design and layout, as well as ensuring a reduction in the need for travel or in enhancing access to transport with consequential benefits. Improving the quality of design is acknowledged as a factor in the success of communities (Scottish Executive Development Department, 2001). Better engagement with communities at an early stage in development planning and control has, therefore, been recognised as a key participation mechanism (Scottish Executive, 2002b). Government has underlined the importance of the planning system in ensuring that development is directed to brown-field sites (Scottish Executive, 2000). Taking a wider perspective, Birley (2001) has stressed the need for a systematic approach to strategic
infrastructure provision through a national spatial perspective to replace competitive bidding for infrastructure resources.

8.48 Furthermore, Poustie (2004) has highlighted the centrality of the planning system in furthering the substantive or distributive elements of environmental justice. However, although recent planning consultation papers make passing reference to environmental justice, the Executive has not elaborated how the planning system can contribute to environmental justice except in relation to the procedural dimension of involving people more fully in decision-making. Poustie suggests that Strategic Environmental Assessment, in relation to plans and programmes, and Environmental Impact Assessment, in relation to particular development applications, may be suitable mechanisms, which could begin to address environmental justice issues.

Policy responses

8.49 The Executive has produced a regeneration statement, Better Communities in Scotland – Closing the Gap, which aims to tackle the inequalities between communities by narrowing the gap between the disadvantaged and everyone else (Scottish Executive, 2002b). It acknowledges a need for a more strategic approach to the delivery of core public services to maximise their effect in disadvantaged areas and seeks to ensure that such communities have the necessary social capital to take advantage of opportunities open to them.

8.50 This represents a more focused approach which relies on community planning (implemented through the Local Government in Scotland Act 2003) and seeks to establish more clearly what works (through measures such as Neighbourhood Statistics). Community planning is the way in which local authorities and other national and local organisations agree local priorities with the community and then work together to provide services that are needed at that level. The direct funding of local activities to support social justice through the Social Inclusion Partnerships, Local Rural Partnerships, Glasgow City Alliance and Capital City Partnership has been stressed, as has the need to know more about what works in terms of partnerships.

8.51 The transfer of Glasgow’s housing stock to community ownership is complete. The ‘Glasgow Standard’ which been developed with a very strong commitment to sustainability in terms of minimising consumption of resources, maximising the use of recycled materials, creating energy efficient, long-life, low-maintenance homes, with affordable modern central heating, and in terms of good design.

8.52 The Partnership Agreement committed the Executive to extend the home insulation and central heating programme to improve another 4,000 homes by 2006, with priority initially being given to the over 80s who only have partial or poorly functioning heating systems. By May 2005, 2255 systems had been upgraded for the over 80s. A commitment was made in Building a Better Scotland that, by the end of 2006, all private sector housing occupied by elderly people and all housing association or local authority housing would have central heating (Scottish Executive, 2002). It has been reported that all social sector housing where the householder wishes it now has central heating with the exception of Glasgow Housing Association where the work will be completed in March 2007 (Scottish Executive Development Department, 2005). Furthermore, the programme for pensioner central heating in the private sector will run until the end of March 2006. Overall, there is evidence that fuel
poverty is being reduced significantly. The Housing (Scotland) Act 2001 requires a ministerial statement on fuel poverty. A statement made in August 2002 indicated a significant reduction of households in fuel poverty between 1996 and 2002 from 738,000 to either 369,000 or 262,000. Interventions have included the Executive’s Central Heating Programme and the Warm Deal initiative and work with energy companies and local authorities through the Energy Efficiency Commitment and Community Energy Partnerships. The thermal requirements of new buildings were enhanced in 2002 (Scottish Executive Development Department, 2002) and now the Building (Scotland) Regulations 2004 have also been improved.

8.53 Building a Sustainable Scotland notes that Communities Scotland has embedded sustainability in its Development Programme and that sustainability indicators have been adopted which measure performance relative to carbon dioxide emissions, the use of brownfield sites, average energy cost per household and the adoption of sustainable development policies by Registered Social Landlords (Scottish Executive, 2002). In 2001-2, 96% of new homes funded by Communities Scotland had Standard Assessment Procedure (SAP) ratings greater than 85.

8.54 Strong planning guidance on sustainable development is contained, for example, in National Planning Policy Guideline 8, Retailing and National Planning Policy Guideline 17, Planning and Transport (now replaced by Scottish Planning Policy 17, Planning for Transport) particularly focused on reducing need for travel or making developments accessible by public transport or walking or cycling. It is perhaps less obvious that such policies are being put into practice effectively, given the delays encountered in the delivery of many – particularly rail – public transport projects (including the Edinburgh Park station, Gartcosh Station, and the Stirling–Alloa railway line).

8.55 Strong planning guidance on the redevelopment of brownfield including contaminated land (Scottish Executive, 2000) has led to a considerable decline in the amount of vacant and derelict land in Scotland between 1994 and 2003 (Scottish Executive Development Department, 2004). The role of the planning system has remained paramount in securing brownfield redevelopment with the contaminated land regime in Part IIA of the Environmental Protection Act 1990 playing a background role (Hossack et al, 2004).

8.56 There have been significant developments within the planning system and further reforms are planned. For instance, Birley’s (2001) concerns regarding the lack of a national systematic, spatial, approach to strategic infrastructure provision are being addressed with the adoption of the National Planning Framework for Scotland. This document, which will be a material consideration in the framing of planning policies and the making of decisions on applications, seeks to guide the spatial development of Scotland to 2025, highlighting the importance of place and identifying priorities for investment in strategic infrastructure. It is also designed to reflect the European Spatial Development Perspective (1999).

8.57 The Executive has also promoted design issues as it sees design as a means of creating places of lasting quality as well as helping to address energy efficiency issues in an appropriate context.

8.58 Proposed reforms to the planning system include a raft of measures to enhance public participation, although a Third Party Right of appeal has been rejected (Scottish Executive, 2004b). In particular, the Executive has recognised the importance of early planning and
more effective and meaningful public participation, both in terms of the preparation of development plans and in dealing with planning applications. This is seen as being the way to ensure more community confidence in the system as well as helping to ensuring better quality planning policies and decisions, including those relating to design.

**Possible lessons**

8.59 The transfer of its entire housing stock from ownership by Glasgow City Council in 1997 (when it was the largest social landlord in Europe) to ownership by the Glasgow Housing Association has made possible £1.3bn capital investment over the first ten years of the transfer. Experiences and perceptions of the transfer have been varied.

8.60 Based in Glasgow, ‘SUST: The Lighthouse on Sustainability’ is a campaign intended to raise awareness of the significance of sustainable approaches to design in the built environment. Funded by a grant from the Executive’s Sustainable Action Fund, it provides increased access to guidance, tools and techniques for design teams, clients, and community groups. It works in partnership with key organisations in the sustainability field and has developed unique training, guidance and information to support informed decision-making about sustainable development.
CHAPTER NINE  ENVIRONMENTAL PROTECTION

Summary

9.1  This chapter focuses on protection of the natural environment, including bio-diversity, natural habitats, species, and external threats to these, such as pollution and climate change. It describes the varying policy and institutional arrangements that have been put in place at the international, European and local level to address the rising and increasingly complex threats to the natural environment.

Global

9.2  A key area of debate at the global level is the lack of an institutional framework or international body to address concerns about global threats to the natural environment, coupled by legitimacy concerns and the conflicting demands of nation-states. There is clearly a divide between those members of the international community who accept the need to reduce carbon emissions and those more focused on innovation to solve the problem of global warming. This is very much reflected in policy responses from different groups of nations and the lack of authority from international institutions. As evidenced by the 2002 World Summit on Sustainable Development, there is a distinct division between the developed world’s demand for environmental protection and the needs of developing countries to exploit natural resources in an attempt to secure the funds to promote social justice.

European

9.3  The need for renewable energy sources and cleaner technologies has long been recognised, as has the need to remove or decrease subsidies to fossil fuels, but a debate still rages within the European literature as to how best to achieve the required transitions. The ‘value-action gap’, between the views of individuals and their actual behaviour, is a considerable problem. This has lead to an emphasis on the need for participative decision-making. The need to integrate policy to achieve optimum effect has been highlighted, alongside the need for a concerted information campaign that best utilises education.

UK

9.4  The effects of the 1980s neo-liberal thrust to policy-making have had considerable impact on the way the UK government approaches industry and the business community. A range of policy responses has been implemented, from mandatory measures to awareness-raising, with an emphasis on education. There is a growing realisation of the need for coordination between local authorities and central government, and the relationship between environmental protection and areas such as housing and social mobility is also becoming more salient.
Scottish

9.5 Considerable efforts have been made to implement EU Directives in effective ways, sometimes differing from the approaches taken in England and Wales. Notable attention is being paid to enhancing the enforcement of environmental law (including nature conservation and wildlife law) to increase its effectiveness and public confidence in the regulatory system. A strong emphasis on using environmental law to address environmental justice issues has developed and provides a new focus for environmental regulation in addition to environmental risk. A range of measures to implement the Aarhus Convention (1998) obligations, on access to environmental information and public participation, have also been introduced.

Global

Priorities

9.6 There is still a debate around the alignment of environmental issues with the nation-state global system. No one international body or institution has been able to emerge as a leader to champion environmental issues, exposing a jurisdictional gap in the governance of the environment (Ivanova, 2005; International Task Force on Global Public Goods, 2004). The problem is particularly evident with fisheries, where the needs of ecosystems have failed to be recognised as policies and are instead based on political boundaries, with no international law to provide a framework for agreement between states (Ivanova, 2005).

9.7 Climate change and its increasing influence on the life systems of the Earth is becoming all-pervading, highlighting the importance of adaptive measures to help maintain vulnerable communities, eco-systems and exposed infrastructures. Just a few facts based on present data suggest why there is a need for fundamental integration of the full range of policy measures demanded by the goal of sustainable development. For example, the current rate of warming exceeds anything experienced in the last 10,000 years. If global climate change is kept within two degrees Celsius, there will be considerably more options for biodiversity management. Beyond this figure and the outlook appears to be almost certainly dire (Green et al, 2003). For the last decade or so the North Atlantic has also been considerably warmer than the long-term average (ICES, 2005).

9.8 The literature suggests consensus that more emphasis on pollution prevention and product design will be needed in the future, along with a greater emphasis on monitoring and assessment. This will make our approach to environmental protection more forward-looking, and concentrated on remedying past impacts and controlling current practices (DeSimone and Popoff with the World Business Council for Sustainable Development, 2000). With the example of fisheries, multi-species models are being encouraged in order to assess the actual impact of fishing practices on an eco-system, rather than a specific or targeted species (ICES, 2005a).

Policy responses

9.9 The UN Environment Programme (UNEP) is the principal strategic global environmental authority (although its authority over nation-states is a matter for debate)
providing a focal point for environmental action and coordination within the UN system. The UNEP, working with other stakeholders, plays a key role in the implementation of the environmental dimensions of sustainable development, including commitments from the Millennium Development Goals (MDGs) and World Summit on Sustainable Development (WSSD). The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities is one example of this (UNEP/GPA, 2005).

9.10 The United Nations Convention on Biological Diversity (CBD), an outcome of the 1992 Rio Earth Summit, aims to ensure the conservation of biodiversity and the equitable sharing of its benefits. The Convention relies heavily on action at the national level. Since 2000 each party to the Convention submits a progress report outlining the extent to which the Convention obligations have been met.

9.11 The US, Australia, China, India, Japan and South Korea recently announced their own agreement to end climate change, based on innovation and economic growth. Without time-tables, targets or commitments, this development is seemingly nothing more than an agreement on energy technology (Greenpeace, 2005).

Possible lessons

9.12 The Corporate Sunshine Working Group (2005) is an alliance of investors, environmental organizations, unions and public interest groups, working to enforce and expand the social and environmental disclosure requirements of the Securities and Exchange Commission, where members file enforcement complaints regarding companies’ inadequate environmental and social reporting. The group undertakes research, writing and public education.

9.13 The International Right to Know Campaign (2005) unites more than 200 environmental, labour, social justice and human rights organizations lobbying for international right-to-know legislative proposal. Modelled on domestic right-to-know laws, this would require, for instance, U.S. companies to report on the key environmental, labour and human practices of overseas operations.

9.14 Save Our Wild Salmon (2005) is a coalition of conservation organizations, commercial and sport-fishing associations, businesses, river groups, and taxpayer advocates committed to restoring Pacific Northwest wild salmon and the communities that depend on them. Its mission is to restore runs of salmon to the Columbia and Snake River Basins, and in 2000, the coalition organised a petition of 232,000 Americans (the second-largest number of people ever to comment on a federal agency action) seeking a federal salmon recovery plan.

European

Priorities

9.15 The ‘value-action gap’, between expressed intention and actual behaviour, has been given particular recognition, within Europe, as a challenge in the pursuit of more sustainable development (Barr, 2004). There is also a provocative debate about the role of participative
decision-making, with a relatively new argument being that too much environmental
decision-making based on consensus leads to the dilution of powerful conservation
metaphors and ultimately legitimises current power relationships (Peterson, Peterson and
Peterson, 2005).

9.16 The EU is very open in its use of negotiating membership to improve the
environmental records of prospective member states. The European Neighbourhood Policy is
also being used to encourage better environmental practices and cooperation with countries to
the South and East of the European Union (EU, 2005), while the European Environment
Agency is encouraging further integration of policy in line with sustainable development
needs (EEA, 2005).

9.17 By 2010, the EU-15 are set to cut their CO\textsuperscript{2} emissions by 7.7% of 1990 levels, just
shy of the Kyoto Protocol commitment of 8%. However, six EU-15 Member States plan to
use credits from emissions-saving projects in third countries through the Kyoto Protocol’s
‘flexible mechanisms’, which is expected to lead to a further 1.1% reduction. The EU
Greenhouse Gas Emissions Trading and Climatic Change Programme is also expected to
further reduce emissions.

9.18 Various climate action scenarios analysed by the European Environmental Agency
(EEA) would see EU greenhouse gas emissions reduced by 40% by 2030. Over half of these
reductions would be based on achievable technologies within Europe, with the remaining
reductions being the result of international emission trading abroad. The target of energy-
related domestic CO\textsuperscript{2} emissions 11% below 1990 levels by 2030, is achievable if the EU does
the following.

- Improves energy efficiency, particularly in households, services and industry.
- Changes the way energy is generated. More than two thirds of the CO\textsuperscript{2} emissions
reductions are expected from a shift to low-carbon or non-carbon fuels. Combined
heat and power will increase its share of electricity production.
- Removes environmentally harmful subsidies to fossil fuels. Subsidies to energy in the
EU-15 were EUR 29 billion in 2001, 73% oriented towards the support of fossil fuels.
- Invests in renewable energy sources (wind power and biomass in particular),
alongside with targets.
- Explores new technologies for carbon capture and storage, serving as a transition
technology towards a low-carbon energy system.
- Increases research and development in clean technology.
- Raises awareness among the European public, as well as European business, on the
role they can play in diminishing the energy intensity of the economy (EEA, 2005a).

9.19 More specifically on biodiversity, the EU has set itself the target of halting bio-
diversity loss by 2010, though there are questions as to how best to implement the birds and
habitats directives in order to achieve this (EEA, 2004).

Policy responses

9.20 The focus at the European level is on the integration of environmental controls,
through key directives: the Integrated Pollution Prevention and Control Directive 96/61/EC
(EU, 1996, OJ L 257, 10.10.96, p 26) and the Water Framework Directive 2000/60/EC (OJ L

9.21 A key directive for promoting sustainable development at a strategic level in plans and programmes is the Strategic Environmental Assessment Directive 2001/42/EC (OJ L197, 21.07.2001, p 30), which ensures that an environmental dimension is incorporated at stage of plan and programme formulation.

9.22 Equally, there has been a growing interest in alternative regulatory mechanisms which harness market forces rather than reliance on command and control measures. For example, Directive 2003/87/EC, (OJ L275, 25.10.2003, p 32) sets up a greenhouse gas emissions-trading system to implement the EU’s Kyoto Protocol obligations. Emissions-trading is seen as one of the most cost-effective ways of reducing greenhouse gas emissions. Such alternative approaches to regulation are complemented by mechanisms to encourage voluntary action such as the Eco-Management and Audit Scheme under Regulation 761/2001 (OJ L114, 24.04.2001, p 1).

9.23 The principal framework for action on environmental protection is comprised of the sixth Environmental Action Programme (EAP), its predecessors the Fifth European Community environment programme: towards sustainability, and their respective thematic strategies. The fifth programme set out to create new, more constructive relations between actors in the environmental sector, transform patterns of growth to encourage sustainable development and to encourage the concept of shared responsibility. The sixth programme, Environment 2010: Our Future, Our Choice, has outlined four priorities for urgent action:

- Climate change
- Nature and biodiversity
- Environment and health and quality of life
- Natural resources and waste

9.24 The programme has seven thematic strategies:

- Clean Air For Europe (CAFE)
- Soil protection
- Sustainable use of pesticides
- Protect and conserve the marine environment
- Waste prevention and recycling
- Sustainable use of natural resources
- Urban environment

Consultation and policy formation are currently underway in all the thematic strategies, but substantial developments have already been outlined in the areas outlined in the remainder of this section.
The marine strategy from the sixth EAP aims to promote sustainable use of the seas and conservation of marine ecosystems - focusing on sites holding a high biodiversity value - and, in line with conclusions from the 2001 Gothenburg Summit, to halt bio-diversity decline by 2010. The strategy also aims to achieve change in fisheries management and progressively reduce discharges, emissions and losses of substances hazardous to the marine environment, ultimately reducing the discharge levels of man-made synthetic structures to zero, and eliminate human-induced eutrophication problems by 2010.

This is complemented by the Water Framework Directive (EU 2000), which, replacing a raft of earlier EU directives on specific water controls and water quality, aims to improve water quality, promote sustainable water use and reduce dangers, such as flooding, improve aquatic habitats for wildlife and stop the deterioration of wetlands. The Directive promotes integrated, holistic management of human impacts on water resources through river basin management planning. This includes abstraction, impoundment and engineering operations that affect the water environment, as well as point source and diffuse pollution. It marks a move away from purely chemical-based quality standards to ecological and chemical-based quality standards for surface water and quantitative and chemical-based standards for groundwater, and it provides for proportionate tiers of regulation to reflect potential environmental damage from any activity.

The Thematic Strategy on Waste Prevention and Recycling highlights the lack of a comprehensive approach to waste. The European Community legislation has so far covered a limited range of materials, for example packaging, end-of-life vehicles and waste electrical and electronic equipment, which account for just 6% of total waste generation. The strategy hopes to address this, using a Cost Benefit Analysis (CBA) framework to define optimal recycling rates, and establish robust targets.

The Thematic Strategy on Sustainable Use of Resources proposes to review the impact of subsidies and also establish targets, highlighting the need to de-couple economic growth from environmental degradation. The strategy places an emphasis on eco-efficiency and the use of market-based and economic instruments.

The Basel Convention (2005; originally 1989) has continued to regulate and control the movement of hazardous waste, but also has a renewed focus for 2000-2010 on decreasing the levels of waste, encouraging better practice and use of renewables. It is implemented in the EU by Regulation 259/93 on the supervision and control of the shipments of waste within, into and out of the European Community OJ L030, 6.2.93, p 1).

The Pan-European Biological and Landscape Diversity Strategy (PEBLDS) complement the aims of the thematic strategies laid out in the sixth EAP. Endorsed as far back as October 1995 by member states of the UN-Economic Commission for Europe region, the strategy has four specific aims to be achieved by 2015:
• substantially reduce threats to Europe’s biological and landscape diversity;
• increase the resilience of Europe’s biological and landscape diversity;
• strengthen Europe’s ecological coherence;
• and ensure full public involvement in the conservation of biological and landscape diversity.

9.31 Natura 2000 was established under the EC Habitats Directive (92/43/EEC. OJ L206, 22.7.92, p 7) and constitutes a Union-wide network of nature conservation sites, comprising Special Areas of Conservation (SACs), designated under the habitats directive, and Special Protection Areas (SPAs), classified under the EC Wild Birds Directive (79/409/EEC. OJ L103, 25.4.79, p 1).

Health and environmental protection

9.32 The EU has outlined the importance of integrating health with environmental policy with the Environment and Health Strategy, also referred to as the SCALE (Science, Children, Awareness, Legal instrument, Evaluation) initiative. The strategy aims to promote better understanding of the interactions between human health and the environment, utilising this understanding to reduce the impact of environmental factors and integrate information on the state of the environment, the ecosystem and human health, eventually contributing to the development of an integrated Community policy.

Air quality

9.33 In June 2000, Regulation (EC) No 2037/2000 was created to phase-out Ozone Depleting Substances (ODS). This is complemented by continued agricultural and fisheries reform, energy initiatives, the action plan on environmental technologies and regulations such as the REACH regulatory framework for chemicals.

9.34 In early 2005, the UK ratified the UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (The Aarhus Convention). The Convention aims to ensure ‘environmental democracy’ throughout the UNECE region (UNECE, 1998). This commitment to the Aarhus Convention was followed up at the World Summit on Sustainable Development in 2002, when the UK government signed up to the Partnership for Principle 10.

9.35 Held every two years, The European Business Awards for the Environment play a crucial role in demonstrating progress on environmental and sustainable development issues worldwide. The next round of the Awards will be in 2006.

Possible lessons

financial support for projects that contribute to the development, updating and implementation of Community environmental policy. In 2004, the European Parliament agreed to extend this regulation for a further two years to the end of 2006, the end of the current financial perspective (Defra, 2005c).

9.37 The Access Initiative establishes common benchmarks in information, working to achieve consensus on government performance evaluation and indicators, while developing a common methodology for assessment (Access Initiative 2005; Ivanova, 2005).

9.38 Eionet (European Environmental Information and Observation Network) is a network of the European Environment Agency and Member Countries, connecting National Focal Points in the EU and accession countries, European Topic Centres, National Reference Centres, and Main Component Elements, providing information on the environment in Europe and the efficacy of EU policies.

9.39 A National System for Monitoring Biodiversity and Protected Areas in Bulgaria was set up with the assistance of the ECNC to offer reliable information on the biodiversity of the main kinds of ecosystems in Bulgaria. The NBMS helps to assess the robustness of national nature conservation policy and measures to halt the loss of biodiversity.

9.40 EnRisk-Environmental Risk Assessment project assesses environmental risks in agriculture in Europe, testing agri-environmental indicators. The project focuses on pesticides, soil erosion, biodiversity and landscapes and eutrophication.

UK

Priorities

9.41 The Thatcher years, coupled with the effects of prevailing neo-liberal doctrine, diluted environmental regulations to allow businesses more freedom (Howes, 2005). Today, the Government’s focus is arguably weighted too much on advanced technologies at the expense of science-based integrated appraisal methods (Hammond, 2004).

9.42 There is a general impasse as to the correct level at which to achieve sustainable development, whether to decentralise to the local level or to work from the top down (Dresner, 2002). Considerable emphasis has been placed by some on our rights and particularly our rights to a sustainable life (Friends of the Earth International, 2004). The policy-making process is also changing at the national and regional levels as new norms and institutions for the global environment emerge. That said, sub-state politics continue to influence the nature of respective national responses to international environmental problems (Schreurs, 1997).

9.43 Localisation of environmental issues and policy responses is also becoming more prevalent, with local authorities accepting a share of the burden. For example in April 2000, Part IIA of the Environmental Protection Act (EPA) 1990 came into force, introducing a new regime for the regulation of contaminated land in England, with local authorities as the primary regulators (Chartered Institute of Environmental Health, 2005). The Nottinghamshire Declaration, mentioned below, is another example of this trend, as is the Local Air Pollution Prevention and Control (LAPPC) system under the Pollution Prevention and Control Act.
1999, with local authorities (rather than the Environment Agency) the regulators (Defra, 2005d).

9.44 The importance of environmental protection in more tangible policy areas is coming to the fore. The social progress achieved through combating fuel poverty, the possible economic growth from more efficient resource use, and the benefits to housing through improved energy efficiency are, for instance, becoming more salient issues (Defra, 2005e).

Policy responses

9.45 There is considerable rhetoric from the government, emphasising development and the environment as part of the Doha Development Agenda, with the inclusion of sustainable development in EU bilateral trade agreements, with a consultative and integrated approach to policy-making.

9.46 Recently, the Registration of Fish Buyers and Sellers and Designation of Fish Auction Sites Regulations 2005 have seen Defra introducing a scheme of registration in England for the buyers and sellers of first-sale fish, in conjunction with the designation of auction sites where fish is sold by competitive bidding (Defra, 2005f). These regulations implement the requirements of Article 22 of Council Regulation (EC) No 2371/2002 (the CFP Regulation) and Article 9 of Council Regulation (EEC) 2847/93 (the Control Regulation). Registered buyers and sellers must submit sales notes for fish sold or purchased and maintain records of all such sales.

9.47 The Environmental Action Fund (EAF) is a scheme set up to enable voluntary and community sector groups to further the Government’s sustainable development objectives within England. Grants range from £25,000 to £250,000 per year (Defra, 2005b).

9.48 The UK Government also announced the Darwin Initiative at the Rio Earth Summit in 1992, with the aim of aiding those countries rich in biodiversity but poor in financial resources to implement the Convention on Biological Diversity (CBD) through the funding of collaborative projects (The Darwin Initiative, 2005). A new phase was announced at WSSD in 2002. Phase II aims to:

- improve the collaboration with host countries throughout the whole project;
- strengthen the links with the Convention on Biological Diversity (CBD);
- enhance the legacy of Darwin projects.

The initiative introduced three new types of funding: Darwin Scholarships, pre-project funding and post-project funding.

9.49 The British-Irish Council Environment Sectoral Group BIC(E) was established under the Good Friday Agreement. The Group considers and reports back to the Council on matters concerning the environment.

9.50 The UK Environment for Europe Fund was launched in 2003, its broad aims being to promote environmental protection and sustainable development in Central and Eastern Europe, Caucasus and Central Asia and to support activities of environmental organisations in these countries (Defra, 2003). At a municipal level, the Nottingham Declaration commits
local authorities to reducing CO\textsubscript{2} emissions by 20\% by 2010, based on emission levels in 1990. The Declaration allows councils to state openly their commitment to working with central government to deliver the UK climate change programme. Signatories must prepare a strategy to address the causes and effects of climate change, encouraging the reduction of carbon dioxide emissions in their local communities and provide opportunities for renewable energy generation (LGA, 2005). As of June 2005, there were 86 signatories, each representing a local authority in England and Wales out of a potential 410.

Possible lessons

9.51 The World Wide Fund For Nature produced a ‘ranking’ report in 2004 (WWF 2004), with detailed score cards for individual companies, with the intention of influencing the future behaviour of larger electricity companies, both in terms of fuel mix and investment choices via their (potential) customers and their (potential) investors.

9.52 The London Borough of Camden (2005) has recently produced a draft strategy on climate change, in response to its obligation under the Nottingham Declaration. Camden Council is an interesting case in that considerable progress has been made on reducing emissions from road traffic, but little progress on emissions from commercial activities and domestic energy use, in contrast to the rest of the UK. Given limited powers over emissions from private buildings, the council has produced a Green Builder’s Register, setting itself a target of 25\% for recycling household goods and implementing and education program, with a focus on local businesses in particular).

Scottish Priorities

9.53 Key Executive priorities include addressing climate change (Scottish Executive, 2000a,) and implementation of Strategic Environmental Assessment and the Water Framework Directive. Another priority has been the improved enforcement of environmental law which had been identified as a problem. A commitment to do this was included in the Partnership Agreement (Scottish Executive, 2003a: 36-37). Strengthening nature conservation legislation and enforcement of wildlife crime have also been prioritised (Scottish Executive, 2003: 36-37), along with implementation of the requirements of the Convention on Biological Diversity (1992).

9.54 An important speech by the First Minister’s in 2002 directly articulated the Executive’s recognition of the need to address environmental justice issues, including incivilities afflicting disadvantaged communities such as fly-tipping and littering. More generally, research has demonstrated that environmental justice could be mainstreamed as a key factor underpinning SEPA’s environmental protection activities (Poustie, 2004).

9.55 The Partnership Agreement also commits the government to implement 1998 Aarhus Convention obligations, to ensure better access to information, public participation and access to justice in environmental matters (Scottish Executive, 2003a: 36-37). These obligations are perceived as being mechanisms for improving the quality of environmental
decision making as well as enhancing accountability and legitimacy (for instance, Steele 2001: 415-442).

9.56 In the context of ensuring better public participation, the potential use in Scotland of Good Neighbour Agreements, which were largely developed in the US as a mechanism to facilitate better engagement between communities and polluting businesses, has been recognised (for example, in the First Minister’s 2002 speech noted above and by Friends of the Earth Scotland in 2004). Poustie (2004) has pointed out that, while SEPA can promote such agreements, it is legally precluded from requiring regulated businesses to enter into them, or, indeed, from entering into them itself.

**Policy responses**

9.57 The Scottish Climate Change Programme (Scottish Executive, 2000a), which is currently under review, sets out an agenda for addressing climate change. However, it is worth noting that there are limits to what is achievable under devolution, with the reservation of taxation (and hence instruments such as Climate Change Levy) to Westminster. The programme includes transport, renewable energy initiatives and built environment initiatives (discussed in elsewhere in this report). The need to have a common UK greenhouse gas emission trading scheme to implement EU Directive 2003/87 has led to UK regulations (Greenhouse Gas Emission Trading Scheme Regulations 2003 (SI 2003/3311) and the Greenhouse Gas Emission Trading Scheme Regulations 2005 (SI 2005/925), which in Scotland are administered by the SEPA.

9.58 The Strategic Environmental Assessment (Scotland) Bill is designed to implement the SEA Directive and goes somewhat further than the Directive in scope by requiring the assessment of a wide range of plans and programmes. This will be a key mechanism for promoting sustainable development as it enables the integration of environmental considerations at a very early planning stage and hence genuine consideration of a range of alternatives. It will also serve as a significant mechanism for implementing the early and effective public participation obligations in the Aarhus Convention.

9.59 The Water Environment and Water Services (Scotland) Act 2003 and associated regulations have been enacted and an opportunity has been taken to completely overhaul Scottish water pollution and resource management legislation, as well as implementing the EU Water Framework Directive, in order to create an integrated and comprehensive water environment management regime, based on the cornerstone of river basin management planning.

9.60 The Scottish Ministers have furthermore provided SEPA with guidance on the contribution it can make to sustainable development which stresses that SEPA should address environmental justice issues insofar as its functions permit.

9.61 Efforts have been made to improve the enforcement of environmental law and penalties have been for various, but not all (for example, penalties in the Radioactive Substances Act 1993 have, surprisingly, not been increased), environmental offences (see the Anti-Social Behaviour etc (Scotland) Act 2004). In parallel, a specialist network of procurators fiscal has been established to prosecute environmental law cases (Scottish Executive News Release 09/02/2004), and legislation has been enacted which enables the use
of fixed penalty notices for fly-tipping and littering so that those offences may be more flexibly addressed (Litter (Fixed Penalty Notices) (Scotland) Order 2004 SSI 2004/427 and the Controlled Waste (Fixed Penalty Notices) (Scotland) Order 2004, SSI 2004/426).

9.62 The enactment of the Nature Conservation (Scotland) Act 2004 strengthens the protection of SSIs and provides for the implementation of the Convention on Biological Diversity’s obligation by which signatories should have a Biodiversity Strategy in place. The 2004 Act imposes a duty on public bodies to further the conservation of biodiversity and have regard to the Executive’s Biodiversity Strategy. Scotland’s Biodiversity: It’s in Your Hands. A strategy for the conservation and enhancement of biodiversity in Scotland was published in May 2004.

9.63 A range of public education initiatives, using television advertisements, have been used to support enforcement campaigns, for example, the 2004 Dumb Dumpers campaign against fly-tipping which was accompanied by a telephone hotline to encourage reporting of such activity.

9.64 The Aarhus Convention (1998) obligations have been implemented through a combination of Environmental Information (Scotland) Regulations 2004 (SSI 2004/520), SEA measures and other associated legislation.

Possible lessons

9.65 The East Ayrshire Coalfields Environment Initiative, managed by the Coalfields Initiative, involves the local council, members from industrial organisations, RSPB Scotland and the local primary school and was set up to create a wetland habitat on a former opencast coal mine in East Ayrshire. A priority has been the restoration and management of wet grassland, benefiting breeding wading birds such as lapwing, snipe, curlew, redshank and oystercatcher. It is hoped that public access will eventually be provided.

9.66 The Coach House Trust, in north Glasgow, is one-year project funded by the Executive’s Biodiversity Action Grants Scheme to upgrade a derelict site along the canal-bank in Lambhill, involving local schools and the community. The project linked up with other path networks in the area to create a more user-friendly and attractive site for the community and visitors alike.
CHAPTER TEN   EDUCATION FOR SUSTAINABLE DEVELOPMENT

Summary

10.1  As well as the literature surrounding the integration of sustainable development into the formal education curriculum, this chapter also at life-long learning and training and skills for sustainable development. The wider issue of the communication of sustainable development principles in the public domain is, additionally, touched upon, although not dealt with in depth.

Definitions and concepts

“ESD enables people to develop the knowledge, values and skills to participate in decisions about the way we do things individually and collectively, both locally and globally, that will improve the quality of life now without damaging the planet for the future” (Sustainable Development Education Panel, 1998: 30)

10.2  Approaches to the teaching of sustainable development are increasingly trans-disciplinary, with an emphasis beyond formal education, to informal education and non-formal education, such as the media and the press.

Global

10.3  Primary concerns at the international level continue to be improving basic education, re-orienting education and improving public understanding, as embodied by the Millennium Development Goals (UN Resolution 55/2, 2000).

European

10.4  The principle problem at the European level is the differing concerns of member states towards sustainable development and how this is reflected in their respective syllabuses. ‘Campus greening’ has become prominent after the Talloires Declaration (USLF, 1990).

UK

10.5  A latest, important focus has been on the lack of ‘earth-literacy’ or ‘eco-awareness’ amongst both the generation of current leaders and the new generation. There is concern that the citizenship syllabus has given sustainable development a tokenistic place on the curriculum.
Scottish

10.6 There is a strong focus on the economic and social dimensions of sustainable development in education, in terms of enhancing productivity and closing skills and opportunity gaps. Integration of sustainable development throughout the curriculum is limited, however, with more attention being given to schools (and particularly 5-14) than to the further education or higher education sectors. There has also been attention paid to school campus ‘greening’, but far less emphasis on this for FE and HE.

GLOBAL

Priorities

10.7 Educationalists and stakeholders at the international level have focused on three key priorities:

- improving basic education;
- reorienting current education (with clear implications for curriculum development);
- increasing public understanding and training (achieving a cultural change being intrinsic in this).

The need for these challenges to be approached with a ‘trans-disciplinary’ and cross-sectoral outlook is also widely accepted across the policy community. This includes a need to utilise formal, non-formal and informal education systems, including all forms of media and the printed press. Though seemingly coherent, this consensus is clouded by the continuing debate over ‘Education and Sustainable Development’ versus ‘Education for Sustainable Development’ (Hopkins and McKeown, 2002, Jickling, 1992).

Policy responses

10.8 The Millennium Development Goals have acted as both a response and a contribution to this debate. Key is the target to achieve universal primary education by 2015 and eliminate gender disparity in education by 2015 (and preferably by 2005). In February 2003, the UN announced that 2005-2015 would be the Decade of Education for Sustainable Development (UN Resolution 57/254, 2002), recalling Chapter 36 of Agenda 21 (UNCED, 1992), after recommendations were made for such an initiative in the Johannesburg Plan of Implementation (WSSD, 2002). The World Education Forum (UNESCO, 2000), announced in Dakar in 2000, aims to support this initiative by ensuring that no country committed to education for all by 2015 is thwarted by a lack of resources.

10.9 In September 2002, the University Leaders for a Sustainable Future (ULSF), the International Association of Universities (IAU), Copernicus-Campus and UNESCO formed a Global Higher Education for Sustainability Partnership (GHESP) (UNESA, 2002) in response to Chapter 36 of Agenda 21.

10.10 In relation to communication on sustainable development, the UN General Assembly set a target date of 2002 for National Strategies for Sustainable Development (NSDS) to be introduced, as stipulated in Agenda 21. The OECD Development Assistance Committee
(DAC) (OECD, 2005) has set a target date of 2005 for NSDS to be in the process of implementation. Communication is key to the efficacy of this process.

10.11 The OECD Development Assistance Committee’s Donor-Developing Country Dialogues on National Strategies for Sustainable Development (OECD, 2000) reviewed experiences with national strategies (as well as other strategies for environment and development) on the basis of consultation with a range of stakeholders. It concludes that there have been difficulties with information management and use and problems with language, including the use of language that stakeholders and the public can easily comprehend. Information is not always properly targeted, leading to a lack of information that is tailor-made and relevant. Providing equal access to information amongst stakeholders has also proved to be a challenge.

10.12 Sustainable development and sustainable development strategies would be more effectively communicated with ‘an easily understood’ conceptual basis for sustainable development as a social construct, involving institutional change. At the international level, Principle 10 of the Rio Declaration stresses the need for ‘citizen’s participation in environmental issues and for access to information on the environment held by public authorities’ (cited in Dalal-Clayton and Bass, 2002).

10.13 The UNDP Global Communications Strategy (UNDP, 2001) provides a proactive and effective internal and external communications system for the Global Environment Facility Small Grants Programme, a decentralised, non-governmental and demand-driven initiative (UNDP, 2005).

Possible lessons

10.14 Established in 1998, and focusing on Civil Society Organisations (CSOs), the Sustainable Development Communications Network (2005) is a group of leading civil society organizations seeking to enhance the implementation of sustainable development through broader, integrated information and communications.

EUROPEAN

Priorities

10.15 The fact that sustainable development is difficult to define is something of an advantage to educationalists, the abstract nature of the term allowing for a more interdisciplinary approach to curriculum development (Hopkins and McKeown, 2002). There are, however, clearly differing priorities between member states of the European Union when it comes to sustainable development. Mediterranean states are justifiably more likely to prioritise marine conservation, for instance, while the livelihood of their respective agricultural sectors is a key concern to many of the new member states in Eastern Europe and reflected in education (Kaivola and Cabral, 2004).

10.16 There has been much rhetoric and a strong consensus on the need for ‘campus greening’ at HE institutions. Commitments around increasing environmental literacy, energy efficiency and improving resource utilisation, embodied in the Talloires Declaration, signed
by 280 universities in forty countries, have failed, however, to penetrate very far into policy implementation.

Policy responses

10.17 The United Nations Economic Commission for Europe’s (UNECE) Education for Sustainable Development Strategy recognises that;

“ESD is a lifelong process from early childhood to higher and adult education and goes beyond formal education. As values, lifestyles and attitudes are established from an early age, the role of education is of particular importance for children. Since learning takes place as we take on different roles in our lives, ESD has to be considered as a “life-wide” process. It should permeate learning programmes at all levels, including vocational education, training for educators, and continuing education for professionals and decision makers” (UNECE, 2005: 5)

10.18 The European Union’s Sustainable Development Strategy, also highlights the importance of education and communication:

“Widespread popular ‘ownership’ of the goal of sustainable development depends not only on more openness in policymaking but also on the perception that individuals can, through their own actions, make a real difference. For example, local Agenda 21 has been effective at promoting sustainable development at the local level. The education system also has a vital role to play in promoting better understanding of the aim of sustainable development, fostering a sense of individual and collective responsibility, and thereby encouraging changes in behaviour” (European Commission, 2001: 30)

10.19 In relation to communication for and grounded in sustainable development principles, commitments under Principle 10 of the Rio Declaration (Rio Earth Summit, 1992) are reaffirmed at the European level by further commitments under the 1998 Aarhus Convention (UNECE, 1998), binding governments to make environmental information publicly available within a specific timeframe through national legislation. This is not simply a passive duty to make information available on request but an active duty to disseminate information. Also there are specific duties to provide the public with practical information about the access to justice and judicial review systems so that they can effectively enforce their rights to information and to participate where these are denied.

Possible lessons

10.20 In 2001, the TETSDAIS project (Training European Teachers for Sustainable Development and Intercultural Sensitivity) was set up, an EU Comenius project, with partners from Portugal, the UK, Spain and Finland.
10.21 As an example of a communication initiative, the UNDP Kyrgyzstan led a mass voter education campaign as a prelude to the 2005 democratic presidential elections in Kyrgyzstan. As a flagship of its voter education efforts, UNDP designed and produced for Kyrgyzstan’s Central Electoral Commission one million copies of an eight-page, election-related newspaper.

UK

Priorities

10.22 In Britain, much of the academic and policy thinking has taken an inter-generational perspective, bemoaning a lack of ‘earth-literate’ leaders, arguably something evident at the WSSD in Johannesburg. From this position, there is a need for a new generation to be ‘earth-literate’, posing challenges for higher education (Martin and Jucker, 2005). The need to educate tomorrow’s consumers, workers, employers, voters and politicians, to make informed decisions and appreciate the balance between economic growth, environmental conservation and social progress, is a concern for educationalists in primary, secondary, tertiary and life-long education, as well as across formal, non-formal and informal education and training. Purvis and Grainger (2004), for instance, have called for the extension of education for sustainable development beyond the lecture hall and classroom, for a wide range of other initiatives to raise public awareness and use education as an effective agent for change.

10.23 There is a concern amongst educationalists and NGOs such as Oxfam that ESD has taken a tokenistic place in the curriculum, furthering calls to spread ESD across all subject areas (Oxfam, 2005a; Kaivola and Cabral, 2004). In line with this is thinking on ‘greening’ the curriculum.

Policy responses


10.25 The Department for Education and Skills’ (DfES) Sustainable Development Action Plan for Education and Skills allocates responsibility for specific tasks to the Learning and Skills Council, including education for sustainable development, the environmental impact of the education estate and local partnership activity. The Council recently published its From Here to Sustainability position paper, which will lead to a future strategy, in which it looks to reward good practice with funding and encourage local innovation. The Learning and Skills Council will be responsible for seeing that rhetoric is turned into reality at the grass roots level.
In 1998, the Government set up the Sustainable Development Education Panel. The Panel’s draft strategy began the process of implementation and inclusion of sustainable development into the National Curriculum, leading to a Sustainable Development Education Strategy for England, *Learning to Last*, in February 2003. The Environmental Audit Committee has highlighted the need for a strategic approach to ESD by Government, in order to put ESD more firmly on the education agenda.

The Higher Education Funding Council (HEFCE) for England have recently published their *Sustainable development in higher education* strategy, aiming to find ‘win-win’ opportunities for the sector to engage in, identifying sector-wide business cases as well as benefits for individual institutions, integrating sustainable development into the policy-making process. Significantly, HEFCE intend to stimulate a national debate among stakeholders on those structural features of the English higher education system that currently underpin its financial viability but which do not promote sustainable development, identifying possible policy responses.

The DfES Building Schools for the Future Programme is currently developing a school-specific method of environmental assessment that will apply to all new school buildings. The Building Research Establishment has developed a new environmental assessment method (BREEAM) specific to schools. All DfES building projects over a certain size must achieve a schools BREEAM ‘very good’ rating in terms of their environmental performance.

This year DfES is planning to launch a sustainable development framework for schools, providing a one-stop web-based service for teachers, heads and governors who wish to make their schools more sustainable (see reference to Oxfam’s Cool Plant for Teachers below).

To meet the need for public understanding at the global level, the DfES wants to see sustainability literacy become a core competency for professionals in the workplace. With Forum for the Future and professional bodies, the Department has set up the Sustainability Implementation Group to help colleges and universities to raise the profile of sustainability literacy in all curricula. DfES is funding a senior adviser on a fixed-term loan to the Sustainable Development Commission to help the Department achieve the objectives of its Action Plan, especially through effective liaison with NGOs, other departments and regional organisations.

To complement these initiatives in formal education, the Department for Culture, Media and Sport works with young people in providing alternative activities to involvement in crime, and raising awareness of their involvement in their communities, and in providing volunteering opportunities, through influencing the staging of major events (such as the London 2012 Olympic bid and Proms in the Park).

**Possible lessons**

There has been considerable practical activity by the voluntary sector and various NGOs. For instance, the Council for Environmental Education, a collective body of 75 organisations, places a persistent emphasis on participation, learning and research and moving beyond awareness-raising to actual engagement. The Environmental Association of
Universities and Colleges works to disseminate good practice on environmental issues, campus greening and curriculum greening. Forum for the Future has a robust Education and Learning Programme and Oxfam’s Cool Planet for Teachers and Cool Planet for Children provides a range of resources for teachers in the UK, encouraging Global Citizenship education, while advocating and lobbying for a more global emphasis in curriculum development in Britain. There is also an initiative on continuing professional development (Oxfam, 2005).


10.34 Big Picture TV is an independent web-based media channel, which broadcasts short videos of leading thinkers in sustainability issues, adaptable to many multi-media forms such as digital film, TV or Powerpoint presentations. Over 15 hours of free, informative video content are currently provided, subjects ranging from genetic engineering and organics to climate change, renewable energy and corporate social responsibility (Big Picture TV Homepage, 2005).

SCOTLAND

Priorities

10.35 Much of the UK debate on ESD has been also rehearsed in Scotland (Derek Halden Consultancy, 2003).

Schools

10.36 There is a strong emphasis on increasing human capital in Scotland in order to raise productivity, with economic development being regarded as a means to facilitate the pursuit of social justice and sustainability goals, as, for example, in Building a Sustainable Scotland (Scottish Executive, 2002: 6), which reflects The Way Forward: Framework for Economic Development in Scotland (Scottish Executive, 2000 (see also Scottish Office, 1999)). An aim of these is to enable people to contribute more as citizens. Considerable emphasis has also been placed on counteracting lack of opportunity caused by poverty, with a focus being on pursuing an integrated approach to children’s development (Scottish Executive, 2002).

10.37 WWF Scotland commissioned a review of Scottish government ESD commitments (Borradaile 2004), which included a desk-based review of relevant publications and discussions with key people in education and ESD in Scotland and the UK. The report highlighted the roots of ESD in environmental, development and enterprise education and underlined the fact that Scotland was by then seen to be lagging behind the rest of the UK in having a coherent ESD strategy, having previously been somewhat in the lead. It also identified the following as important: a lack of understanding of ESD and its equation with environmental education; and the challenge arising from their being a diversity of practitioners, in a very broad sphere, along with a small policy community. It noted failures
and successes, drawing out some of the factors involved and presented key lessons for the Executive.

10.38 The Education National Priorities (Scotland) Order 2000 set the priorities for school education (SSI 2000/443), and, although not an explicit priority, the Ministerial note accompanying the Order indicated that the Ministers wished sustainable development to be reflected. In a parliamentary briefing on the Order, Education 21 (2000), however, criticised the principal context for teaching sustainable development said to be vague, underdeveloped and unworkable and argued that Scotland has lagged behind England in making sustainable development central to the curriculum and proposed a whole-school approach to sustainable development, pointing to the example of the Netherlands, where the National Institute for Curriculum Development had developed a List of Criteria for a School for Sustainability.

10.39 Sustainable development and its constituent topics have been part of the curriculum of Scottish schools for many years: National Guidelines 5-14: Environment Studies (2000) offers a wide range of learning opportunities that support environmental education. The foundations for ESD were laid in Learning for Life (Scottish Office, 1992), which promoted the merger of the then separate development and environmental education strands. Our World, Our Future (SCCC, 1999) further developed the integrated and whole school approach and added consideration of the importance of self evaluation and integrating with quality assurance mechanisms. Living and Learning in a time of change (LTS, 2000) showed how SDE could be used as an integrating and motivating element in the school curriculum. The opportunities provided within the curriculum have been expanded on in, for example, The Global in the Curriculum (LTS, 2001) and further supported by Education for Citizenship in Scotland (LT Scotland, 2002).

10.40 Although sustainable development in the school estate has perhaps received a greater priority (Scottish Executive, 2003d), the proposed context is for sustainable development to be taught as part of teaching respect for self and one another, interdependence with other members of the neighbourhood and society, and the duties and responsibilities of citizenship in a democratic society.

Further and Higher Education and Lifelong Learning

10.41 Although sustainable development is recognised as being very important in the context of lifelong learning, there is no Scottish equivalent of, for example, HEFCE’s Sustainable Development in Higher Education. The Scottish Lifelong Learning Strategy focuses on addressing the opportunity, skills and productivity gaps in Scotland (Scottish Executive, 2003f). The document notes that wider participation in lifelong learning can be expected to enable people to become more aware and knowledgeable about environmental issues and the need to live a more sustainable lifestyle. Increased knowledge and skills are seen particularly as a means of developing solutions to sustainable development problems. Again the focus is very much on the economic and social dimensions of sustainable development.

10.42 Research (Brand, 2002) into sustainable development in the Scottish HE and FE sectors identified:

- limited awareness in the institutional context;
• limited teaching of sustainable development, usually within specialist environmental courses rather than embedded into the curriculum more generally;
• a diversity of research and consultancy activity and sponsors, largely focusing on environmental issues rather than sustainable development;
• and a wide spectrum of understanding of the term sustainable development and of the processes and practices required to more fully incorporate sustainable development into the HE and FE sector’s activities.

10.43 The final finding was supported by more specific research into HE sustainable development activity in the field of construction and the built environment (Edwards, 2004). This latter research also interestingly identifies the impact of professional bodies on the priority accorded to sustainability in the HE curriculum. With a diversity of professional bodies in the built environment sector inevitably comes a diversity of approach in relation to the respective HE courses accredited by those bodies.

Policy responses

10.44 Education at all levels is entirely devolved, giving the Executive considerable scope for action in this field. Although pre-devolution, the document *Down to Earth* (Scottish Office, 1999: 9-10), what might be described as the first Scottish sustainable development strategy, still has relevance. It placed education at the heart of policies for achieving a population with the skills required for the workplace, enabling people to take their place as good citizens and parents, reflecting the economic and social priorities noted above. It indicated that education prepares people for change and is an “essential and inevitable component of sustainable development”.

10.45 *Down to Earth* indicated that the 5-14 Guidelines provided a sound basis for ESD, particularly through Environmental Studies, Religious and Moral Education and Personal and Social Development. It conceded that there was no equivalent programme in upper secondary schools, but contended that the overall principles of the Higher Still reforms “recognise the value of sustainable development”. *Down to Earth* also noted the role of the White Paper, *Targeting Excellence – Modernising Scotland’s Schools* (HMSO, 1999), which set out aims for improving standards of achievement, supporting the sustainable development goals in relation to the economy and society. It indicated that schools were being encouraged to adopt good practice, including identifying a member of staff as an environmental education co-ordinator; carrying out an environmental audit and subsequent follow-up action; using school grounds for environmental education; producing an environmental education policy; and developing the school as a model of good practice in reuse, recycling and energy conservation.

10.46 Following devolution there was an early ministerial commitment to integrate sustainable development into all policy areas, including education (Galbraith, 1999). An attempt to present an integrated policy overview was provided through *Building a Sustainable Scotland* (Scottish Executive, 2002: 9-10), which linked the Scottish Education and Young People Programme to nine of the 24 indicators and targets of sustainable development in Scotland, including Work People as a Resource; Waste: Production; Waste: Recycling; Energy: Consumed; Home Life; Preparing for Life; Crime; Volunteering; and Health.
10.47 The priority was clearly that education should make a critical contribution to increasing productivity by increasing human capital. This is to be supported by social inclusion initiatives such as SureStart and Childcare Strategy that are designed to maximise support for children, families and young people, enabling them to develop as individuals and effective contributors to society. Initiatives to combat lack of opportunity through poverty by delivery of integrated education, social and health services, such as the Integrated Community Schools Initiative, are also highlighted.

10.48 Building a Sustainable Scotland indicates that although Environmental Studies provides a focal point for teaching sustainable development, ESD should be cross-curricular, contributing to all other curricular areas. It seeks to address ESD in the upper secondary curriculum by highlighting the role of the Sustainable Secondary Schools Partnership (a four-year initiative on ESD in secondary schools - see below) and the role of the Eco-Schools programme (a participatory environmental management programme) to implement policies for environmental education and awareness as well as environmental management and participation of children. Participation in the Eco-Schools scheme is included as a performance measure for the National Priorities for Education under Values and Citizenship and local authorities are also asked to report on the number of schools participating in the scheme or equivalents. Furthermore, Building a Sustainable Scotland noted that a national school estate strategy is being developed along with a new building and refurbishment programme. Indeed, this is one of the three major education policy commitments in the document, along with developing ESD across the curriculum and looking at how to take forward sustainable development in the FE and HE sectors. Overall, it suggests that a more holistic approach is being taken in the light of Meeting the Needs (Scottish Executive, 2002a: para 14).

10.49 The sustainability of the school estate is addressed in The 21st Century School - Building Our Future (Scottish Executive, 2003d). However, the document is not simply about the built school environment, but also nutrition at school, touching on social aspects of sustainable development.

10.50 Work on the implementation of A Curriculum for Excellence is likely to produce a framework for enabling all young people to become responsible citizens, effective contributors, confident individuals and successful learners. Although this will be achieved through existing subjects, education for sustainable development will be reflected in new guidance across curricular areas but will not be prescriptive in terms of specific coverage. There will be ample opportunity for wide discussion, testing, refinement and consideration of any proposals which emerge.

10.51 Furthering sustainable development in the FE and HE sector to date has largely been confined to part-funding by SHEFC (along with the Carnegie Trust) of the Scottish Universities’ Network for Sustainability (SUNS).

10.52 In the context of lifelong learning and encouraging citizens to adopt more sustainable lifestyles, there have been a number of communication initiatives. Several of these derive from obligations to implement the provisions of the EU directives, which in turn implement the Aarhus Convention. As a result of devolution, it falls to the Scottish Executive to implement these obligations in Scotland. The information provisions are implemented via the Environmental Information (Scotland) Regulations 2004 (SSI 2004/520, regs 4 ‘duty to
disseminate’, 5 ‘duty to supply information on request subject to exceptions’ and 9 ‘duty to provide advice and assistance to applicants’).

10.53 As well as the duty to make environmental information available on request, there is a duty laid on Scottish public authorities to actively disseminate environmental information (and progressively to do so by electronic means) and a duty to assist applicants (SSI 2004/520). The Scottish Ministers must also produce a Code of Practice providing guidance for Scottish public authorities on discharging their functions under the regulations (SSI 2004/520, reg 18).

10.54 The appeal and enforcement mechanisms available under the Freedom of Information (Scotland) Act 2002 are applied to the environmental information regime, by providing for a mandatory internal review, followed by an appeal to the Scottish Information Commissioner if required, and, thereafter, an appeal, on points of law only, to the Scottish courts (SSI 2004/520, reg 17). Although these provisions have been broadly welcomed, they have still been subjected to criticism in Scotland. Because of their focus on progressively making information available electronically (an Aarhus requirement), they do not require information to be made available in forms which might most easily be understood and utilised by the public (or sections of the public), to the exclusion of those who lack the ability or resources to make use of ICT, both of which are arguably procedural environmental justice problems (Poustie, 2004: ch 11), although it should be noted that these problems are ameliorated somewhat by the duty to provide advice and assistance under SSI 2004/520, reg 9, at least in relation to those applying for environmental information (see Lucas et al, 2004).

10.55 A considerable number of “public information” initiatives have been promoted, including “Do a Little, Change a Lot” and “Dumb Dumpers” involving television advertisements. Evaluations of these initiatives have shown generally positive but somewhat mixed results. For example, evaluations of different ‘waves’ of awareness campaigns indicated an increase in respondents thinking environment and environmental issues were personally important; more awareness of lifestyles changes which could be made to enhance protection of the environment; but fewer people thinking they needed to do more to protect the environment (Scottish Executive 2005l). Although no evaluation of the Dumb Dumpers initiative was available at the time of writing, a parliamentary answer revealed considerable, if declining, use of the fly-tipping telephone hotline, reducing from 266 calls in March 2004 to 68 in January 2005 (Scottish Executive 2005).

**NGO and partnership initiatives**

10.56 The Sustainable Secondary Schools Project, funded by the Heritage Lottery Fund, involves six secondary schools and nine partner organisations (including Learning and Teaching Scotland, NGOs and professional bodies). It is designed to explore the ways in which secondary schools can engage with ESD and to help inform the development of ESD in the emerging 3-18 curriculum for Scottish schools set out in a Curriculum for Excellence (Scottish Executive, 2004b), with an ambition to develop in young people ‘their capabilities as successful learners, confident individuals, responsible citizens and effective contributors to society’. It has been given considerable prominence in helping to develop ESD in secondary schools (Scottish Executive, 2002: 7).
10.57 Education 21 Scotland (www.education21scotland.org) is a forum committed to education consistent with a sustainable future and has been active, for example, in lobbying for a greater role for ESD in the curriculum (see for example Education 21 Scotland, 2000).

**Possible lessons**

10.58 The objectives of the Scottish Universities’ Network for Sustainability (www.suns.org.uk/index.htm) are to inform the HE sector’s research and learning agenda and improve universities’ corporate and managerial practices, leading to improved environmental sustainability within the sector and in Scottish society as a whole. SUNS organises events (e.g. 2003 Conference on “Building a Sustainable Society in Scotland – the role of the Curriculum in HE”) and has worked on six themes: 1. Construction and Built Environment; 2. Production and Consumption and the Food Agenda; 3. Sustainable Manufacturing; 4. Water Resources; 5. Energy; and 6. Institutional Performance (Galbraith, 2003).

10.59 The Business Environment Partnership provides advice and assistance with environmental management to SMEs in Scotland, with an aim to make the Scottish economy more competitive by allowing companies to realise cost savings, reduced risk and improved competitive advantage. The BEP operate a student Environmental Placement Programme to assist businesses achieve project objectives, and to promote links between business and HE and environmental awareness and good practice in both.
CHAPTER ELEVEN  ENVIRONMENTAL JUSTICE

Summary

11.1 Despite ongoing controversies about precisely when, how and to whom an environmental injustice can be said to occur, there is general consensus that environmental justice (EJ) is based on the human right to a healthy and safe environment, a fair share to natural resources, the right not to suffer disproportionately from environmental policies, regulations or laws, and reasonable access to environmental information, combined with participation in environmental decision-making.

11.2 Most commentators pinpoint the United States as the country of origin for EJ, although movements can be traced at varying levels of development in Asia, Africa, Europe and across the Americas. However, due to the long-term nature of both federal involvement in the delivery of EJ and grassroots activist movements and campaigns, examples of good practices are best documented in the US. This chapter, therefore, concentrates on transferable lessons for Scotland from the US experience and is structured differently to the foregoing thematic chapters.

11.3 Environmental justice movements have commonly campaigned around six main issues: poverty, race, institutional change, law and policy, land tenure and management of natural resources, and health and pollution.

The Scottish position

11.4 The First Minister’s speech of February 2002, which openly acknowledged for the first time that there had been far too little research in Scotland into the social effects of environmental degradation, has been one of the primary drivers for environmental justice in Scotland. References to EJ have followed in some key policy and consultation documents.

11.5 The Scottish Ministers have also now provided SEPA with guidance on the contribution it can make to sustainable development which stresses that SEPA should address environmental justice issues insofar as its functions permit. Separately, NGO literature has sought to voice environmental justice concerns and also provide research on issues such as good neighbour agreements between communities and business. The arrival of environmental justice to the Scottish policy landscape is relatively recent, in comparison to the US.

Introduction

11.6 The term ‘environmental justice’ has evolved over the decades and appears to have a range of interpretations. Most commonly, it has been used in the USA to embrace notions of discrimination, equity, denial of benefits and the adverse effects of the environment, initially in relation to people of colour and, more recently, low-income populations. This chapter concentrates on identifying the main theoretical underpinnings of environmental justice as described in key academic texts over the past five years.
EJ movements can be traced at varying levels of development in Asia, Africa, Europe and across the Americas (Adebowale, forthcoming). However, most commentators would agree that the US is the most advanced in terms of its experience of recognising and addressing environmental injustices (for instance, ESRC, 2001; Agyeman, Bullard and Evans, 2003; Cudworth, 2003). For this reason, the possible transferable lessons that are described in this chapter consist of documented examples from the US.

In recognition of the extensive, recent Sustainable Development Research Network review of the UK evidence-base for environmental justice, sponsored by Defra (Lucas et al, 2004), this review has purposefully avoided repeating a review of the UK literature. By taking this approach, it aims to offer a broad representation of the literature-base for environmental justice, as both a grassroots movement and a framework to guide policy development and implementation across a broad spectrum of delivery areas relating to the environment.

Concepts and definitions

An overview review of the literature identifies literally hundreds of different definitions, many contested, but there is a general consensus that EJ essentially consists of:

- the human right to a healthy and safe environment, combined with a responsibility to maintain it;
- fair share to natural resources and the right not to suffer disproportionately from environmental policies, regulations or laws;
- access to environmental information, participation, and decision-making.

The various terminologies employed in discussions of environmental justice tend to be used interchangeably, for example, environmental (in)equality, environmental (in)equity and environmental (in)justice), but when unpicked they have quite different implications for policy. For example, people may have unequal access to green spaces but this does not necessarily represent an inequity, as this may simply be a reflection of their choice to live in the inner city rather than the countryside. Similarly, inequities may occur from the disproportionate exposure of one sector of the population to an environmental bad, but this may not be an intentional injustice (as this is legally determined) in that it has occurred as an accidental by-product of an activity, rather than from an intention to harm or from negligence to protect those people.

A further general issue within environmental justice research is the ongoing methodological debate. It would appear that for every study that finds evidence of environmental inequality another will show that the result is due to the data available or unit of analysis employed. It has been equally hard to win legal argument, with numerous cases either failing to prove intentional discrimination, in the first place, or with a favourable decision being turned over at appeal. Often this is because the plaintiffs are unable to gain access to the same level of resource and legal representation as the defendants of such cases, who are often large corporations or state agencies.
The role of the State

11.12 Eady (2003) has noted the critical role of the State in preserving environmental rights and in moving US society towards greater environmental justice. The US Environmental Protection Agency (EPA) has acted as a model for the formulation of regulatory state programmes with formats for enforcement, risk assessment and pollution prevention. According to Eady, these models have been relatively successful in achieving broadly based stakeholder buy-in for environmental justice issues.

11.13 The 1969 National Environmental Protection Act encouraged ‘productive and enjoyable harmony between man and his environment; its key aims were to promote efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation; and to establish a Council on Environmental Quality.

11.14 In 1992, in response to calls for further laws on environmental equity, the US EPA created an Office of Environmental Justice. Two years later, President Clinton signed Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations; subsequently, the Republican Bush administration, which took over in 2001, stated that the Order and environmental justice would still be viewed as an important policy area. This led the head of the US EPA to circulate an internal memorandum re-emphasising the Government’s:

"...firm commitment to the issue of environmental justice and its integration into all programs, policies, and activities, consistent with existing environmental laws and their implementing regulations" (Executive Order 12898 199)

11.15 More recently, however, there have been criticisms of the EPA’s performance in relation to Executive Order 12898. In September 2000, 150 citizens of African-American origin filed a class-action lawsuit against the Agency, charging it with racism, both nationally and in individual offices, such as those in North Carolina and Atlanta (WorkingForChange, 2000).

11.16 In recognition of the limited extent to which environmental justice was being incorporated into the EPA’s functions, its own Office of Environmental Justice commissioned the National Academy of Public Administration (2001) to conduct a study of how environmental justice concerns could be incorporated into three of the EPA’s permitting regimes). Its principle recommendations focus on leadership, permitting procedures, priority setting and public participation.

11.17 The EPA is currently developing a stand-alone plan to integrate environmental justice considerations into its strategic planning process (US EPA, 2005). However, only those commitments and activities that contain measurable outcomes, and can be attributed to helping the Agency meet its strategic targets, will be included. This has been heavily criticised by EJ activists, academic and practitioners as effectively weakening and diluting the basic intentions of Title VI of the Civil Rights Act.
A civil right and moral duty

11.18 Interestingly, Eady (2003) finds that, whilst the EPA model has created policy development at state-level, Race Relations Law has been a crucial facilitator. For example, a useful tool for environmental justice within the legal framework has been the use of Title VI of the Civil Rights Act 1964: Non-discrimination in Federally Assisted Programs. This provides that each federal agency must ensure that no person is denied the benefits of, or subjected to, discrimination under any programme or activity receiving federal financial assistance. Section 601 of the Civil Rights Act specifically states that:

“no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” (Civil Rights Act, 1964, Title VI, Section 601)

11.19 Section 602 of the Act then requires each federal agency which is empowered to administer a federal programme to draw on the provisions of Section 601 by issuing rules, regulations or orders that will be consistent with the objects of the statute. The Legislative History of Title VI of the Civil Rights Act states that it was enacted because of the many examples cited where people of color in the US were denied equal protection and equal benefits under federal assistance programmes related to vocational and technical assistance, public employment services, manpower development and training, and vocational rehabilitation. Specifically, the History states that in every essential of life US citizens are affected by Federal Financial Assistance Programs. Through these programs, medical care, food, employment, education, and welfare are supplied to those in need. For the government, then, to permit the extension of such assistance to be carried on in a racially discriminatory manner is to violate the precepts of democracy and to undermine the foundations of government (US Department of Justice, Civil Rights Division, 1998).

Environmental racism

11.20 As Kennedy (2004) identifies, EJ has strong roots in the US civil rights movement dating back to the 1960s, where there was a realization that racial discrimination was being compounded by environmental injustices. As such, it is still closely linked to the struggle for Civil Rights by Black, indigenous and Hispanic community groups across the US. This race perspective is a central theme of the US dialogue on the environment and social justice and, thus, a core aim of EJ has been to achieve equitable distribution of environmental risks along ‘racial’ and social lines (Dorsey, 1998).

11.21 In his recent publication, Bullard (2005), who is generally recognised as the leading US activist-writer on this subject, defines environmental racism as any policy, practice or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups or communities based on race or colour. It combines with public policies and industry practices which benefit corporations while shifting costs to people of colour. Government, legal, economic, political and military institutions reinforce environmental racism, and it influences local land use, enforcement of environmental regulations, industrial facility-siting and the locations where people of colour live, work and play.
11.22 However, racial discrimination has also been central to EJ campaigns in South Africa, India and South East Asia. Indeed, Martinez Alier (2003) contends that environmental racism was first identified and analysed in India and South East Asia. The environmental justice agenda in India has been intimately linked to the development of an environmental dimension to human rights jurisprudence by the courts, notably the Indian Supreme Court itself (Anderson, 1996; Dias, 1994; Seghal, 2003; Vibhute, 1995).

11.23 In South Africa, where the process of apartheid led to huge divides in the quality of the environment for Blacks and Whites, the issue of race features even more strongly in EJ campaigns than in the US. The environmental justice movement has been a strong part of the call for political change pre- and post-apartheid. The Environmental Justice Networking Forum in South Africa is a strong political and environmental force, which has campaigned on issues of land tenure, ownership of natural resources, environmental health and pollution.

11.24 Stark examples of environmental injustice, in regards to the distribution of land and the placement of dirty industry or toxic sites, have been inherited by the post-apartheid government and made priorities in its environmental protection and social justice programmes. The South African National Environmental Management Act, 107 of 1998 sets out the principles that are to guide government and regulatory institutions in matters affecting the environment. These principles include a requirement to promote both the distributive and procedural elements of environmental justice (Poustie, 2004; Glazewski, 1999; Goolam, 2000).

11.25 Questions of race or ethnicity have also been an aspect of EJ research in the Netherlands, the UK and Romania. For instance, research by Coenen and Halfacre (1999) sought to answer the question ‘Does the Netherlands have an environmental justice problem?’ The research concluded that environmental racism as conceptualised in the United States was ‘largely absent from cities’, but that there were pockets of concern.

**A grassroots movement**

11.26 In their book *From the Ground Up*, Cole and Foster (2002) compare the US EJ movement to a number of streams converging to form a river. They see the environmental justice movement as encompassing civil rights and environmental racism; the anti-toxics, or environmental health, movement; native American struggles for land, sovereignty and cultural survival; the labour movement for a safer workplace; a group of academics who had begun investigating the disproportionate contamination of certain communities based on race and class; and a few traditional legal and scientific environmentalists.

11.27 Bullard (2001) goes as far as to assert that the environmental justice movement has redefined ‘environment’ to include where people live, work, play and go to school, as well as how their activities interact with the physical and natural world. As such, it has shifted the way in which scientists, researchers, policy makers, and educators address the environment, from predominantly risk-management to a people-centred and precautionary approach.

11.28 Berger (1997) found that almost all the major grassroots environmental movements in the US were started and led by women, motivated by a desire to improve the quality of their daily lives and the lives of their children, and were shaped by the health or squalor of their neighbourhoods.
**Issues and priorities**

11.29 Environmental justice movements have commonly campaigned around six main issues: poverty; race; institutional change, law and policy; land tenure and management of natural resources; health; and pollution. This developed out of concerns, backed up by research, that hazardous installations such as toxic waste dumps and polluting factories were mostly sited in areas where most of the population were poor and from ethnic minority groups. As a result, minority neighbourhoods were suffering from the disproportionate impact of industrial and hazardous waste facilities.

11.30 Adebowale (forthcoming) finds that a unifying feature of EJ campaigns, whether in the developed or developing world, is their struggle to change pre-existing inequalities in environmental issues and to gain access to the tools of decision-making to influence the social, economic and political structures in which these inequalities are embedded. The core elements of EJ campaigns which Abedowale identifies are represented in Figure 11.1.

![Figure 11.1: Elements of Global Environmental Justice Campaigns](image)

**Transferring lessons from the USA**

11.31 There are numerous academic, government and non-governmental websites documenting the evidence of environmental inequality and practice examples of initiatives and actions to address environmental injustice in the USA, such as those of the Environmental Justice Resource Center, the Center for Law in the Public Interest; and the Institute of Transportation Studies Website on Environmental Justice. The issues and solutions are usually examined sector by sector, but there is increasing recognition of the cumulative and multiple nature of environmental injustice, that the same communities and most vulnerable repeatedly suffer negative impacts over time and from different sources (see Stevenson, Willis and Walker, 2005, for an overview of the US literature in relation to this).
Pollution from industrial sites

- Epidemiological studies have so far failed to find categorical evidence of higher rates of disease among people who live near recognised sites contaminated with environmental toxins from manufacturing or materials handling centres. Nevertheless, it has become increasingly clear over the last ten years that poor and minority communities in the USA are more often the hosts of ‘dirty’ industries than are wealthier or white communities.

- The first report to systematically document the exact scope, nature, and sources of chemical pollution in the US, was produced by the National Environmental Trust, Physicians for Social Responsibility and Learning Disabilities Association of America in 2001. Using industry data reported annually to the federal government, this report estimates total likely emissions of developmental and neurological toxins in the U.S. and identified geographical hot spots for reported emissions and the most polluting industries.

- The issue of exposure to toxins has often served to mobilise communities and stimulate grassroots activity. For example, citizens in many poor, black communities around Alabama and the South in recent years have regularly fought companies that have located pollution-spewing industrial plants, hazardous landfills and waste incinerators near homes and schools (Environmental Justice Resource Centre, 2005).

Planning and the built environment

- Poor racial minorities in urban centres are the most likely victims of power plant toxic plumes, poisonous traffic fumes and lead paint in older rental apartments (Kay, 2005); there has also been widespread use of ex-industrial land to build low-cost housing, land that has not been properly de-contaminated (Son, 2005).

- In their book Atlanta Mega Sprawl, Bullard et al (1999) found that the burdens of urban sprawl generally tend to fall heaviest on the already disadvantaged.

- The issue of adequate access to economic and social activities and the inappropriate siting of goods and services are also beginning to emerge as a prominent EJ issue in the US. For example, a 50-state study (Good Jobs First 2005) finds that none coordinate their economic development spending with public transportation and, therefore, cannot determine if their economic development incentives are undermining job access for low-wage workers.

- An earlier study by the EPA (2003) assessed the relationship between school location, travel choices and the environment.

Transport

- There is a long tradition of linking EJ with unequal access to transport, starting with the 1960s bus boycotts, arising from the actions of Rosa Parks and the ‘freedom riders’.

- Issues of poor transport are often used to mobilise grassroots EJ activity in the US and there have been numerous successful campaigns, not least the long-standing struggle between the people of Los Angeles and the Metropolitan Transportation Authority (Garcia and Rubin, 2004).
• A 2003 report prepared by the Civil Rights Project at Harvard University and the Center for Community Change (Sanchez, Stolz and Ma, 2003) systematically identifies the inequitable effects of surface transportation policies in the USA.
• In policy terms, addressing these injustices is an increasingly important component of transportation policy and planning as demonstrated in Environmental Justice and Transportation: A Citizen’s Handbook (Cairns, Greig and Wachs, 2003).
• The Children’s School Bus Exposure Study (Californian Environmental Protection Agency, 2003) characterizes the range of children’s exposures to diesel vehicle-related pollutants and other vehicle pollutants during their commutes to school.

Health

• The relationships between health, social equity, and the physical location of activities have always been a significant part of the environmental justice movement, but are increasingly a focus for the health agenda in the US.
• In 1998, a paper by Park traced the movement of hazardous wastes in relation to the housing location of Black populations in the US to make the case for environmental racism in this sector.
• Saha and Mohai (forthcoming) have recently examined historical factors and temporal patterns in discriminatory siting of hazardous waste sites.
• Numerous epidemiology studies have been undertaken to make the links between respiratory diseases and residents who live in or near hazardous waste sites containing persistent organic pollutants (POP) (Hatfield, 2003) and lung disease in populations of different ethnic origin (Bryan, 2003).
• A preliminary study prepared by the American Heart Association is the first to link highway pollution with exercise-induced oxygen starvation, which can bring on a heart attack in people with heart disease (Sternberg, 2002).
• The urban park movement is building community and diversifying democracy from the ground up by giving people a sense of their own power in deciding the future of their city, their lives, and their children’s lives. The movement is making Los Angeles, for example, a greener, more just, and more sustainable community for all. Case studies from grassroots struggles there, in which people of colour have partnered with public interest lawyers, show how people have gained access to parks, beaches, and school playgrounds (Garcia and Flores, 2005).
• The Center for Law in the Public Interest has published an article to help legal service providers improve human health and the quality of life for traditionally underserved communities through equal access to schools, parks, and green spaces. A recent article published in a special issue on ‘Environmental Justice for Children’ in the Journal of Poverty Law and Policy provides recommendations to incorporate human health, urban equity, and sustainable regional planning into legal services advocacy (Garcia and Baltodano Flores, 2005).
**Community Impact Assessment**

- Community Impact Assessment (CIA) is a requirement of the 1969 National Environmental Protection Act in the US. This came from the Title VI requirement, referred to above, that all federally funded programmes avoid discrimination on the basis of race. CIA is essentially a social assessment of the environmental impacts of major developments such as retail parks and can also be used to guide urban growth strategies.
- CIA has become a particularly important part of transport planning and all federally funded transport projects demand that a CIA is carried out to assess whether there is a disproportionate negative impact of the project on minority and low-income groups (see, for example, the Community Impact Assessment for Transportation website).
- Federal and state government agencies play a significant role in providing the data needed for identifying and addressing the community effects of transportation actions. Nevertheless, there are no systematic, government-wide protocols for collecting or disseminating data at all geographical levels. However, in their paper, Lane and Townsend (2005) provide a useful synopsis of the types of community effects that should be considered as part of a CIA, such as publicly available data sources and key analytical techniques, such as GIS mapping, time-series evaluations and asset inventories.
- Practitioners generally see case studies as providing the most valuable contribution to advancing the “state of the art” related to developing a CIA process. Increasingly, these demonstrate how people experiencing environmental injustices can be empowered through a process of public engagement and participation. These have led to the development of what is now commonly referred to in the US as Context Sensitive Solutions (for example, Lane and Townsend, 2005; Ward, 2005).

**Public participation**

- The requirement for public involvement in the CIA process has led to a wide range of literature on the development and application of participation tools, techniques and methodologies (Schreiber, Binger and Church, 2004). Much of the emphasis of this documentation is towards engaging and involving ethnic minority and low-income groups. Mullin (2000) offers a good practical guide to participation in environmental decision-making.
- The Madison County Council of Governments (2003) developed a number of innovative visualization tools as part of their regional planning efforts, including visual preference surveys, visual graphics surveys, charrettes and vision brainstorming sessions.
- Morris (2004) notes that government guidance is lacking in this respect and offers some particularly useful suggestions for working on public participation exercises with this sector of the population. Most recently the Federal Highways Agency has published some useful guidance on reaching low literacy groups (PBS and J, 2005).
Los Angeles is the second largest school district in the United States, with over 900,000 students and over 80,000 employees at over 1,000 schools, serving a diverse student base, with 72% Hispanic, 12% Black, 9% White, and 6% Asian-Pacific Islanders, speaking over 100 different languages. New construction and modernization programmes are creating jobs for local workers and stimulating the Los Angeles economy in a model programme for public works projects. The programme will create 174,000 jobs, $9 billion in wages, and $900 million in local and state taxes. The School District has targeted small businesses and local workers to ensure they receive a fair share of these benefits through programmes that serve as best practice examples for other public works projects around the country. To achieve this goal, Los Angeles Schools District provides ten-week pre-apprenticeship training, and facilitates placement in union apprenticeship training programmes (Centre for Law in the Public Interest, 2005).

11.32 One thing that is noticeably absent in the US literature is a discussion of environmental justice in relation to exposure to, and the impacts of, ‘natural’ disasters like flooding, although this is increasingly being recognised as an issue by the UK Environment Agency. It is highly likely that this will rise up the US political agenda following Hurricane Katrina. Indeed, Litman (2005) has recently raised this issue, noting Wolshon’s concerns in 2002 about the justice of the New Orleans evacuation plan. Both authors claim that the plan demonstrates that the authorities were both aware of and willing to accept the significant risk to non-car owning residents in the event of a disaster. No free or subsidised transport services were provided for them and the little effort that was made to assist non-car drivers was careless and negligent.

The Scottish position

11.33 One of the principal milestones towards the adoption of an environmental justice agenda in Scotland was the First Minister Jack McConnell’s speech delivered in February 2002. He stressed that social and environmental justice was an important theme of his administration and indicated that,

“... the reality is that the people who have the most urgent environmental concerns in Scotland are those who daily cope with the consequences of a poor quality of life, and live in a rotten environment – close to industrial pollution, plagued by vehicle emissions, streets filled by litter and walls covered in graffiti. This is true for Scotland and also true elsewhere in the world. These are circumstances which would not be acceptable to better off communities in our society, and those who have to endure such environments in which to bring up a family, or grow old themselves are being denied environmental justice.”

He acknowledged there had been far too little research in Scotland into the social effects of environmental degradation. Key points in the speech were the following themes:

- Industries which discharge into the environment cohabited with communities, and were interdependent on each other – for workers and for work.
• Improved relations between a community and industry should be encouraged with industries striving to be good neighbours, and aiming to engage with local communities to address their concerns and promote better mutual understanding.
• A thorough and honest appraisal of environmental performance could be the spur to further improvements – this could be achieved in part by more Scottish businesses publishing Corporate Social Responsibility Reports.
• Environmental reporting and a concerted effort to reduce emissions and resource use would improve openness and accountability to stakeholders - not just shareholders.
• The cumulative experience of communities growing up in the shadow of old traditional industry impacts on life chances and future opportunities.
• There needs to be more openness in dealing with complaints so that people who want to raise issues can know who should be dealing with it and organisations should work together to deal with genuine concerns.
• It would only be possible to accurately assess the effectiveness of current powers when communities could fully understand the impact and activities of SEPA, local authorities and others, or the reasons why no action seemed possible or appropriate.

11.34 The environmental justice focus was very much on disadvantaged low-income communities suffering from pollution, with the First Minister’s speech concerned mainly with the procedural side of environmental justice. The need to address environmental inequalities was recognised and support expressed for addressing greater levels of engagement with communities. The First Minister outlined the Executive’s record and plans on other aspects of the Executive’s sustainable development policy, for example, improving public transport and housing stock and increasing recycling rates, all of which may indirectly impact on environmental justice. The First Minister’s speech did appear to provide a considerable degree of high-level political leadership for environmental justice which has not been so apparent in other parts of the UK.

11.35 References to environmental justice have followed in some important policy and consultation documents (e.g. Scottish Executive 2002c, 2003, 2003a (the Partnership Agreement); Scottish Executive Development Department, 2001, 2003, 2004, and 2005). Many proposals contained in these papers have the potential to address EJ issues, such as more stringent enforcement of environmental law (see below) or enhanced participatory measures proposed for the planning system. Overall, measures to promote procedural environmental justice have tended to predominate, as is the case, for example, in the planning consultation papers referred to above.

11.37 There is recognition of the need to address the more substantive distributive environmental justice concerns. For example, the Policy and Financial Management Review of SEPA intimates that enforcement, the role of and links between the planning system and the environmental law system, consistent regulation, and regulation targeted towards risk are possible measures (Scottish Executive, 2003). Although, a variety of measures have subsequently been taken to enhance environmental law enforcement, including making available higher maximum penalties on summary conviction (Antisocial Behaviour (Scotland) Act 2004) and the establishment of a network of specialist fiscal procurators, these are not specifically targeted at low income or worst off neighbourhoods.

11.38 Both the distributive and procedural elements are encompassed by the way in which the Executive has defined its understanding of environmental justice:

- the ‘distributive justice’ concern that no social group, especially if already deprived in other socio-economic respects, should suffer a disproportionate burden of negative environmental impacts;
- the ‘procedural justice’ concern that all communities should have access to the information and mechanisms to allow them to participate fully in decisions affecting their environment (Finnie, 2003; Fairburn et al, 2005; Poustie 2004).

A weakness of this definition is that it does not specifically address promotion of access to environmental goods. (Obviously some public authorities such as local authorities are in a better position to facilitate such access than others.)

11.39 Subsequent research has been commissioned by SNIFFER and SEPA on whether there is evidence of distributive environmental inequity in Scotland (Fairburn et al, 2005) and on whether SEPA can legitimately address environmental justice issues through its current regulatory framework, in terms of permitting regimes, enforcement and associated rights to information and participation (Poustie, 2004). It should be noted that although research similar to that conducted by Fairburn et al (2005) has already been conducted in England and Wales (for instance, Friends of the Earth 1999 and 2003; Walker and Mitchell, 2003), the Environment Agency had only just begun to undertake research similar to that undertaken for SEPA at the time of writing of this report and thus Scotland is just ahead of England in this respect.

11.40 Fairburn et al importantly identified that there was a geographical correlation between disadvantaged communities and derelict land, poor air quality, poor water quality and the location of significant industrial installations in Scotland. The findings were less conclusive in relation to the siting of waste facilities. Nevertheless, the findings from this study are significant, providing the first systematic confirmation of distributive environmental justice problems in Scotland. Poustie (2004) sought to address not simply the procedural dimension of environmental justice but also the distributive elements, namely whether SEPA could actually use its permitting and enforcement powers to address substantively environmental justice issues, and concluded that it could. He also addressed the relationship between human rights provisions in the European Convention on Human Rights.

11.41 Poustie has argued that, internationally, the clearest comparative lessons for SEPA as to what it might do to address both distributive and procedural environmental justice concerns within its legislative framework comes from the US EPA and reports by the US
National Academy for Public Administration (2001), which provides a detailed account of how the US agency can address environmental justice work through its legislative framework. Poustie also contends that India provides an indication of the possible links between human rights provisions and environmental justice, although the context obviously differs considerably from Scotland.

11.42 It is probably fair to say that the focus of EJ research in Scotland has been relatively limited to date in comparison with, for example the US, and has focused principally on the effect of pollution on communities, tending to ignore issues such as transport. However, the research programme is certainly growing and in some respects is in advance of the research programme elsewhere in the UK, as explained above. Published recently, *Public Attitudes and Environmental Justice in Scotland* (Scottish Executive 2005j) is based on a representative sample of the populations and looks at what people actually regard as the major, and potentially the greatest, environmental problems in their neighbourhoods. Importantly, this research, which was undertaken to inform government policy on EJ, investigated how concerns about one’s environment might have a wider impact on health and quality of life. In 2005, the Executive also commissioned research to investigate effective methods for providing accessible environmental information to the public, which will be published in early 2006, and has recently commissioned a study looking at the social impacts of flooding.

11.43 The Scottish Ministers have also now provided SEPA with guidance on the contribution it can make to sustainable development, stressing that SEPA should address environmental justice issues insofar as its functions permit (Scottish Executive, 2004). This is significant and stands in contrast to the equivalent guidance for the Environment Agency in England and Wales, which makes no such reference (Defra, 2002).

11.44 Separately, NGO literature has been influential in promoting the environmental justice agenda (see Dunion, 2003) and has furnished detailed research on issues such as good neighbour agreements between communities and business (Friends of the Earth Scotland 2000, 2004). Indeed, it is notable that Friends of the Earth Scotland adopt an approach to campaigning which is markedly more oriented towards social and environmental justice than their sister organisation south of the border.

11.45 The potential role of the land-use planning system to address both the substantive and distributive and the procedural environmental justice issues is starting to be better explored through research, for example, research on the interaction of planning and environmental law, and many of the measures proposed as part of the modernisation of the planning system have the potential to address distributive and procedural environmental justice. However, it should be noted that one key procedural mechanism which, it had been argued, would further environmental justice, a third party right of appeal, has been rejected by the Executive (Scottish Executive, 2005i).
CHAPTER TWELVE  CRITICAL OVERVIEW AND CONCLUSIONS

Introduction

12.1 A critical evaluation of the literature and policy approaches review in this report has served to identify where there are:

- gaps in the knowledge base;
- inconsistencies in the delivery pathways;
- no policies in place, or policies exist but no action is being taken.

These gaps and areas of challenge are outlined in the first section of this chapter. It then goes on to present key points for consideration by the makers and deliverers of sustainable development policy in Scotland.

Critical overview of the evidence-base

Gaps in knowledge

12.2 The table at Annex A provides an overview of the scope and coverage of the literature which has been reviewed for this report, highlighting where there are gaps in the evidence-base. A critical examination of the evidence suggests where there is a knowledge gap or a shortage of evidence, which is relevant for sustainable development policy and practice in Scotland, whether viewed from a national or international level. In summary, the three main areas are:

- where there is insufficient evidence of the problem or of knowledge about whether or how a policy or action could contribute to more sustainable forms of development;
- where the problem for sustainable development is recognised and polices are in place, but there is a lack of evaluation of the success or adequacy of current practices;
- where there is a reasonable body of evidence about the nature of a problem, and what works to alleviate it outside of the Scotland, but little or no evidence of how this might be adapted to the Scottish context.

Insufficient evidence

12.3 For example, in the education literature at the international level, the debate is primarily focused on meeting only two of the three requirements of the Millennium Development Agreement goals and objectives, those of delivering universal primary education and promoting wider literacy. The third aim to reorient education curricula, globally and within nation states to create a more sustainable world, is largely absent from the current debate. Essentially, there appears to be a conceptual gap in terms of what might constitute policies to encourage and support education for sustainable development at the
level of the United Nations and by other international institutions. However, the UK literature illustrates a healthier debate on this issue.

Insufficient evaluation

12.4 In other areas of policy delivery, such as sustainable procurement, for example, there appears to be a general acceptance within the policy literature that more sustainable practices will make a significant contribution to reduced resource use and more sustainable futures. Due to the absence of systematic monitoring and evaluation of sustainable procurement practices at either the European or UK level, however, there is little actual evidence that this is indeed the case. Similarly, at the European level there was a previous weakness in measuring the success of environmental legislation. This has been solved in part by the adoption of Directive 91/692, which imposes standardised reporting obligations on member states in relation to a range of environmental legislation and the establishment of the European Environment Agency.

Knowledge transfer

12.5 Both the UK Government and the Scottish Executive appear reluctant to impose mandatory measures to promote more sustainable behaviour, even where these have proved highly effective elsewhere, suggesting that relevant knowledge transfer opportunities have not been realised or acted upon. For example, the carrier bag levy introduced in Ireland, waste separation in France and Germany and London’s Congestion Charge have all delivered significant changes in people’s behaviour without necessarily provoking a shift in their attitudes. This may be due in part to the UK’s liberal democratic tradition and the concomitant concept of consumer sovereignty, but is often due to a lack of applied and practical research about how successful schemes can be transferred to other contexts.

Inconsistencies in policy delivery

12.6 A second theme to emerge from the review has been the inconsistencies that exist between different aspects and levels of policy delivery which serve to significantly undermine a move towards more sustainable futures. Three different inconsistencies are evident:

- institutional inconsistencies leading to fragmentation and failure to integrate sustainable development with governance;
- vertical inconsistencies between policy intentions or actual practices between all or some of the Scottish, UK, European and international levels;
- horizontal inconsistencies between different aspects of policy delivery either between or within the different sectors.

Institutional inconsistencies

12.7 Institutional differences between Scotland and England are important. There is no separate Scottish Sustainable Development Commission (although a strengthening of the role of the SDC in Scotland is being pursued) and the absence of a duty on the Scottish Executive
to promote or contribute to sustainable development contrasts with the situation for the National Assembly for Wales - although this may be due to the broad scope of powers which are devolved to Scotland. There is also no dedicated Scottish Parliamentary Committee to scrutinise the Executive’s performance in this respect, in contrast to the Environment Audit Committee in the Westminster Parliament.

Vertical inconsistencies

12.8 The UK Government appears to be placing less emphasis on efficient use of resources (including recycling) and job opportunities that can be created by renewables than Scotland (highlighted in the green jobs strategy). The Scottish Environment Protection Agency (SEPA) seems to be more advanced in recognising and addressing environmental justice concerns than the Environment Agency in England and Wales and FoE Scotland has also been far more proactive in making the links between environmental and social justice than its English counterpart. In this respect it has greater resonance with the US model, adopting a ‘bottom-up’ and much more grass roots approach to the environmental concerns of low-income populations.

12.9 At the European level, there is a lack of vertical integration of sustainable development and environmental issues into other policy areas like the Common Agricultural Policy (CAP). EU subsidies are still very much a problem. Despite the European Environmental Agency encouraging the removal of environmentally harmful subsidies to fossil fuels, there appears to be little shift from the EU: subsidies to energy in the EU-15 were EUR 29 billion in 2001, 73 % oriented towards the support of fossil fuels.

12.10 At the global level, there is a problematic relationship between initiatives from international organisations and their implementation on the ground. Nation-states are given responsibility for initiatives such as those laid out in the UN Habitat Agenda, but are encouraged to carry them out with little room for adaptation to their own cultural contexts and act under pressure from continuing economic globalisation, a process which is in turn encouraged by international institutions. This also causes problems regarding the legitimacy of those institutions.

Horizontal inconsistencies

12.11 Horizontal inconsistencies can be noted at the UK level in the debate on food miles, which only counts distances accumulated through the transportation of goods within the UK. Similarly, air transport is the greatest contributor to rising CO₂ emissions, but is not counted within the UK Climate Change Programme. A Scottish example of horizontal policy inconsistency is apparent in a focus on rail projects being concurrent with a considerable road-building programme and planned airport expansion which may cancel out the sustainability gains of the rail projects.

12.12 The European Union is inconsistent in its approach to agriculture, despite considerable reform of the CAP and a new emphasis on land stewardship. Subsidies still favour large-scale producers, despite a growing body of opinion suggesting the future of European farming lies in small and medium-scale producers. This is also counter to the need for diversification in production. Given that food production accounts for a considerable
amount of greenhouse gas emissions, there seems to be little integration between policies such as the CAP and the EU’s Sixth Environmental Action Plan.

12.13 At the international level, there is clearly a conflict between policies that promote globalisation and further liberalise global markets and policies that attempt to encourage sustainable development. While international institutions look to promote environmental or social procurement policies and create a culture of corporate social responsibility, they also continue to encourage economic liberalisation, either as a condition of a loan, for instance, or by encouraging developing states to rely more on private finance and their respective private sectors.

12.14 The OECD (reflecting environmental concerns) and the World Bank (in pursuit of transparency) have both adopted a more sustainable approach to their procurement policies. It would seem, however, that the World Trade Organisation has adopted a less prescriptive regulatory approach to the developed world than to the developing world (Arrowsmith and Trybus, 2002), and that its approach to licensing in the GATS agreement, looking to prevent licensing from being a restriction to the supply of services, is contradictory to the stated aim of encouraging more accountability. The UN Commission on Sustainable Development has stated that practical measures to create a more sustainable built environment must be nationally owned, at the same time as it encourages public-private partnerships for financing and developing infrastructure, creating potential friction between the role of markets and state intervention.

An absence of policies or no evidence of policy action

12.15 The areas of human activity where there appears to be an absence of policy or no evidence of policy taking place are numerous. Air travel deserves to be singled out here as the most obvious example of this worldwide. There is ample evidence of the negative environmental impacts of emissions from air transport, but airport expansion is high on the agendas of almost all developed societies and governments are not only failing to regulate air travel, but are rather promoting it. A Scottish example of where policy rhetoric exists but there is a lack of adequate action is in terms of greening the curriculum where very little has been achieved in Higher and Further Education.

Conclusions

12.16 A review of this nature is not intended to generate independent recommendations for policy action on sustainable development. However, it can, valuably, identify key messages emerging from the evidence which should be considered in policy and strategy-formulation and delivery. Clearly, if Scottish policy is to be properly informed by evidence then more applied and systematic research and analysis of the issues, organisational and institutional systems, delivery pathways and behavioural responses will be needed. As lessons about what works in the relation to sustainable development practice is often highly context specific, it is essential that such work should be done in relation to the Scottish situation.

12.17 With this last point in mind, some general suggestions and aspirations, emerging from the literature, have been singled out, by way of conclusion to this report.
• To achieve sustainable development in Scotland all its economic activity should aspire to be bent towards social progress and this should be achieved within both Scottish and global environmental limits. A systematic and transparent sustainable development audit of all policies and government-funded programmes would go a long way towards providing a basis for achieving this.

• Vertical and horizontal environmental policy integration and delivery, although not representing successful sustainable development themselves, are essential and indispensable requirements of it. For a policy to be integrated it must be comprehensive, aggregated and consistent and policy priorities must be decided democratically.

• Sustainable development policy should reflect local values and be capable of delivery through existing national and local decision-making frameworks. To achieve this better understanding is needed of the scale, level, magnitude and spatial dimensions of both the problem of unsustainable activities in Scotland and their solutions.

• In the areas of policy which the Executive cannot directly influence, for example, reserved matters or global issues, the Executive should act as a lobbyist to encourage the relevant agencies to enact the necessary changes.

• The institutional framework within which Scottish sustainable development policy should be located must help and support devolved decision-making. Negotiation must be recognised as particularly important when setting decentralised targets.

• Strategy actions should reflect risk and uncertainty based on the precautionary, polluter and user-pays principles, intergenerational equity, intra-generational equity, free prior and informed consent and helping (involuntary) risk-bearers to participate in decisions as well as risk-takers (such as government and investors).

• The biggest gains for sustainability are most likely to result from legislative and institutional changes rather than from individual or household behaviour change. The Executive should consider separate areas of policy delivery (such as waste, transport, and energy) and decide whether institutional, legislative or public behaviour change is the most appropriate and effective route for advancing a given sustainability goal.

• Where public behaviour change is considered the most fruitful way forward, a step-by-step approach is needed, in which external barriers are removed before psychological or attitudinal factors are addressed. It is much easier to change behaviour through automatic responses to changes in opportunity than to challenge ingrained attitudes and perceptions. Provision of practical information is a key element in behaviour change, but campaigns need to be well targeted and co-ordinated with other measures.

• There should be better integration between social and green procurement to create a more holistic sustainable procurement approach. There is a pressing need to introduce mechanisms whereby assessment and evaluation of sustainable procurement can be undertaken and to harmonize sustainable public procurement with trade policies.
• Awareness-raising to enable consumers to understand the implications of their food purchasing decisions and the way goods and services are used after purchase should be key priorities.

• Making evident the links between obesity, nutrition and the sustainability of people’s daily lifestyle is likely to be one of the most effective ways of promoting more sustainable levels of consumption and encouraging people to consume and waste less. In tandem with such information campaigns, people need to be offered the opportunity to buy more eco-friendly products and to adopt less environmentally damaging lifestyles.

• A lack of clear guidance has allegedly hampered reform of more sustainable business practices and the spread of corporate social responsibility. The Scottish green jobs and enterprise strategy should help to address this, but there is a need for increased financial incentives and more streamlined funding mechanisms to help encourage the business sector to adopt more sustainable business practices.

• There is a need for a systematic approach to strategic infrastructure provision through a national spatial perspective to replace competitive bidding for infrastructure resources. Community planning needs to more directly recognise sustainable development and proactively aim to promote this through all planning decisions. Strategic Environmental Assessment in relation to plans and programmes, and Environmental Impact Assessment, in relation to particular development applications, may be suitable mechanisms for this.

• The planning system has a key role to play in furthering the substantive or distributive elements of environmental justice, but community planning needs to directly recognise the disproportionate negative impacts of planning decisions and their positive potential to address social injustices arising from the environment. Introduction of a social equity audit or community impact assessment as part of SEA and EIA would go a long way to promote this.

• SEPA needs to participate more fully in planning processes to ensure that environmental justice concerns are properly considered (Poustie 2004). The establishment of evaluative structures to measure the success of information and participation mechanisms against stated objectives would also be a welcome step forward, as would the evaluation of successes or otherwise of recent developments in enforcement.

• A need and considerable opportunities exist for better integration of sustainable development throughout the education curriculum in Scotland. School campus-greening needs to be rolled out into the Further and Higher Education sectors.
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### ANNEX A  OVERVIEW GRID OF REVIEW OF EVIDENCE-BASE

<table>
<thead>
<tr>
<th>Topic</th>
<th>Scotland</th>
<th>UK-wide</th>
<th>Europe</th>
<th>Global</th>
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</table>
| **KEY ISSUES AND CONCEPTS** | **Education for Sustainable Development** | • Need to increase human capital – focus on economic and social aspects of SD  
• Need for integrated approach to children’s development and education linking to combating social exclusion  
• Sustainable development not made priority in Education National Priorities Order  
• Features in 5-14 curriculum but not much elsewhere  
• More emphasis on school estate  
• Acknowledged as cross curricular issue in HE and FE but limited evidence of cross-curricular implementation  
• Some emphasis on HE-FE estate  
• Role of lifelong learning  
• Public education and changing attitudes | • Call to extend Education for Sustainable Development (ESD) beyond formal education into non-formal and informal education  
• Moving ESD away from a tokenistic place on the curriculum | • Difficulties of defining SD, though this working as an advantage to educationalists, allows for an interdisciplinary.  
• Differing approaches to education between different Member States of the EU.  
• Campus Greening, or lack of take-up, is also salient right now at the European level. | Three key priorities:  
1. Improving basic education  
2. Reorienting current education (80% of US population has some post-secondary education, yet per capita US has very high level of consumption).  
3. Public understanding and training  
• All within a trans-disciplinary and cross-sectoral approach.  
• Continuing debate between ‘Education and Sustainable Development’ versus ‘Education for Sustainable Development’ |
| | **Sustainable Procurement** | • Need to direct resources to support SD in local government and voluntary sector  
• Recognition of role of sustainable procurement  
• Use of whole life costing | • Need for a socially responsible approach to procurement.  
• Development of a more strategic approach to public procurement with inter-departmental co-ordination and long-term partnership relations with suppliers  
• Meeting the demands of the global economy is having an | • Necessary changes that need to be made in line with Environmental Policy Integration.  
• Need to harmonize with the fundamental freedoms of the common market as the EU moves towards further market integration and trade facilitation | • Still a risk that the eagerness to attract foreign investment to developing countries will encourage companies more interested in low labour costs and lenient environmental legislation.  
• A mixture of corporate social responsibility and |
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<th>Scotland</th>
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</table>
| **Sustainable Consumption** | *Shared priority with UK but a number of areas not devolved or mixed reserved/devolved*  
*Breaking the link between economic growth and environmental pollution*  
*Inefficient use of resources*  
*Reducing energy consumption, promoting energy efficiency*  
*Reducing unnecessary car use* | Effect on procurement policy | *Problem of ‘consumer lock-in’*  
*Problem of or limits to notion of ‘consumer sovereignty’*  
*Problem of inadequate information*  
*Mistrust of government information campaigns as a result of mistrust of government in general* | *Need to decouple economic development and quality of life from environmental and cultural deterioration*  
*Pressures of globalisation*  
*Challenge of turning niche markets into mainstream markets.* | *Consumption levels increasing at unparalleled speed*  
*Car use*  
*Oil and the future*  
*Obesity*  
*Questioning of whether greater consumption necessarily leads to greater quality of life* |
| **Food** | *Food miles’ as too simple a concept to capture the impacts of food transport (DEFRA, 2005)*  
*Continued reform of the CAP*  
*Worries surrounding human host status*  
*Potential social exclusion small and medium-sized farmers* | *Eco-labels as not totally verifiable or taking into account life-cycle*  
*CAP Reform*  
*Green House Gas emissions from food production.* | | |
| **Green Jobs and Business Enterprise** | *Making more efficient use of resources*  
*Business opportunities particularly in renewables*  
*Addressing peripherality* | *Need for life-cycle thinking*  
*Move away from trade-off approach* | *A need to question the assumption that more economic growth is the answer to high unemployment.* | *Flaws with ‘green growth’ and over-reliance on ‘eco-efficiency’.*  
*erosion of local culture by global pressures*  
*Criticism of market-based* |
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<td></td>
<td>• Enhancing training and business advice</td>
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</table>
| The Built Environment | • The sustainability potential of urban living... the critical importance of public space to the processes of social learning, public participation, social inclusion and social integration.  
• Sustainable urban development and CPTED (crime prevention through environmental design)  
• Problems with PFI and delivery SD (Green Alliance)  
• Cutting Carbon Emissions  
• Future of Social housing | • Potential strains on an infrastructure that was built with a lack of long-term thinking, as we continue to urbanise.  
• SUD, Sustainable Urban Development, emphasis on cities  
• Need for greater conservation of energy  
• Significant developments in social housing, both in management and ownership | • Urbanisation of the world’s population, particularly in Asia and Africa and the problems this entails.  
• Need for inter- and intra-industry collaboration, and among policy-makers.  
• ‘Creative Destruction’—using innovation to drive out inefficient practices.  
• Need for a common definition for practitioners to work around. |
| Environmental Protection | • Government focus on advanced technologies at the expense of science-based integrated appraisal methods  
• Localisation of environmental issues and policy responses is also becoming more prevalent  
• The importance of environmental protection in more tangible policy areas, such as fuel poverty and economic growth, is coming to the fore | • The ‘value-action gap’/stated intention and behaviour  
• The relationship between encouraging environmental good practice and accession into the European Union |        |        |
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<th>Europe</th>
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</table>
| **POLICY AND PRACTICAL RESPONSES** | **Education for Sustainable Development** | • Fully devolved so considerable freedom of action  
• Down to Earth (1999) – education is an essential and inevitable element of SD  
• 5-14 National Guidelines; National Qualifications  
• A Curriculum for Excellence (2004) – successful learners, confident individuals, responsible citizens and effective contributors  
• Building a Sustainable Scotland: Sustainable Development and the Spending Review (2002) provides broader overview  
• The 21st Century School - Building Our Future: Scotland’s School Estate (2003) – not simply about built school environment but also nutrition  
• Eco Schools Programme (NGO initiative)  
• Integrated delivery of education, health and social services: New/Integrated Community Schools Initiative; Sure Start Scotland  
• Lifelong Learning Strategy for Scotland (2003) - best possible match between learning opportunities open to people and skills, knowledge, attitudes and behaviours which will strengthen Scotland’s economy and society  
• Public education initiatives such as Do a Little, Change a Lot; Learn to Let Go; Dumb Dumpers Campaign  
• Implementation of Aarhus Convention information and participation measures | • 1999 Labour Government - Sustainable Development strategy, A Better Quality of life: A Strategy for Sustainable Development, “Improved awareness of sustainable development can be a powerful tool for change”  
• Development of the Regional Development Agencies (1998) and the Learning and Skills Council (2000).  
• The Department for Education and Skills, Sustainable Development Action Plan for Education and Skills  
Practical activity from NGO’s and Voluntary Sector:  
• The Council for Environmental Education: persistent emphasis on participation, learning and research and moving beyond awareness raising to actual engagement  
• The Environmental Association of Universities and Colleges  
• Forum for the Future: considerable Education and Learning Programme  
• Oxfam’s Cool Planet for Teachers and Cool Plant for Children | • The European Union’s Sustainable Development Strategy (published in 2001), also highlights the importance of education.  
• Millennium Development Goals (MDG’s) target to achieve universal primary education by 2015 and eliminate gender disparity in education by 2005 (UN Secretary General, UN Development Group, UN Millennium Project) |
<table>
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<tr>
<th><strong>Sustainable Procurement</strong></th>
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<tr>
<td>• Changes in the NHS and their procurement policy</td>
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<td>• SD Commission’s ‘Healthy Futures’.</td>
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<td>• The Public Supply Contracts Regulations SI 1995 No 201</td>
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<td>• The Public Services Contracts Regulations SI 1993 No 3228</td>
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<td>• The Public Works Contracts Regulations SI 1991 No 2680</td>
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<td>• The Public Contracts (Works, Services and Supply) (Amendment) Regulations 2000 SI 2000 No 2009</td>
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<td>• The Utilities Contracts Regulations SI 1996 No 2911</td>
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<tr>
<td>• The Utilities Contracts (Amendment) Regulations SI 2001 No 2418</td>
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<tr>
<td>• The Public Contracts (Works, Services and Supply) and Utilities Contracts (Amendment) Regulations SI 2003 No 46</td>
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<td>• Norway, Sweden, Netherlands, UK and Portugal implanting regular strategic planning and green accounting, which is having a positive effect.</td>
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<tr>
<td>• Though they will not be implemented until 2006, the two directives clarify the possibilities for public purchasers to integrate environmental considerations into their respective tender documents, and are therefore of considerable environmental benefit.</td>
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<td>• WTO Agreement on Government Procurement</td>
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<td>• UN Global Compact and Global Reporting Initiative</td>
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<td>• UN Growing Sustainable Business Initiative</td>
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<td>• World Bank Procurement Policy</td>
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</tbody>
</table>
### Sustainable Consumption

- **Meeting the Needs (2002)** – more efficient resource use; promotion of renewable energy, travel minimisation
- Communication/education strategies – e.g. Do a Little, Change a Lot
- NPPG 6 Renewable Energy Developments (revised 2000)
- Building (Scotland) Act 2003
- Greening procurement agenda
- Implementation of EU directives which encourage sustainable production and consumption e.g. packaging waste, IPPC, Water Framework Directive
- Transport (Scotland) Act 2001: Public transport investment (e.g. Edinburgh Crossrail, rail re-openings etc)

- **DTI and DEFRA jointly produced Changing Patterns: UK Government Framework for Sustainable Consumption and Production**
  - The Sustainable Consumption and Production: Business Support Review
  - Chapter three of the Government’s Sustainable Development Strategy Securing the Future looks for a major shift in our consumption behaviour, placing an emphasis on innovation

- **EU regulatory measures to promote sustainable production and consumption**
  - Waste Electrical and Electronic Equipment (WEEE) Directive
  - The End of Life Vehicles (ELV) Directive
  - The Packaging and Packaging Waste Directive
  - The IPPC Directive (including BAT requirement)
  - the Water Framework Directive

- **DTI and DEFRA jointly produced Changing Patterns: UK Government Framework for Sustainable Consumption and Production**
  - DTI’s Sustainable Development Strategy, improving resource productivity.
  - Consultation document Taking it on – developing UK sustainable development strategy together

- **EU regulatory measures to promote sustainable production and consumption**
  - The European Directive on Integrated Pollution Prevention and Control (IPPC), promoting eco-efficient approaches in industry
  - Move toward market-based approaches, e.g. emissions trading
  - EU Sustainable Development Strategy and Cardiff Process
  - How this fits in with the White Paper on European Governance and the Lisbon Agenda on competitiveness.

### Green Jobs and Enterprise

- **Green Jobs Strategy** (more efficient use of resources; business opportunities)
  - A Smart, Successful Scotland: Ambitions for the Enterprise Network
  - Proposed Employability Framework for Scotland (due autumn 2005)

- **DTI’s Sustainable Development Strategy, improving resource productivity.**
  - Consultation document Taking it on – developing UK sustainable development strategy together
  - EU Sustainable Development Strategy and Cardiff Process
  - How this fits in with the White Paper on European Governance and the Lisbon Agenda on competitiveness.

- **EU regulatory measures to promote sustainable production and consumption**
  - The European Directive on Integrated Pollution Prevention and Control (IPPC), promoting eco-efficient approaches in industry
  - Move toward market-based approaches, e.g. emissions trading
  - EU Sustainable Development Strategy and Cardiff Process
  - How this fits in with the White Paper on European Governance and the Lisbon Agenda on competitiveness.

### WSSD Plan of Implementation, Changing Unsustainable Patterns of Consumption and Production

- **UNEP report Consumption Opportunities: Strategies for change**
- **OECD Program of Sustainable Consumption**

### Greening Procurement Agenda

- The World Business Council for Sustainable Development (WBCSD) report Creating Business Value and Accountability
- The World Trade Organisation’s General Agreement on Trade in Services
- International Organisation for Standardisation, ISO Action Plan for Developing Countries: 2005-2010
<table>
<thead>
<tr>
<th>Food</th>
<th>Strategy for Sustainable Farming and Food - Facing the Future, DEFRA 2002, bringing in an agri-environment scheme, encouraging country-side stewardship, 'whole-farm' approach to remove bureaucracy</th>
<th>EU looking to increase competitiveness in agricultural sector, encourage 'cross-compliance' and set-aside.</th>
<th>EU Sustainable Development Strategy, vaguely recognising concerns over enlargement, with many new states having large agricultural sectors.</th>
<th>Developing countries given ten years, 1995-2004, after the WTO Uruguay Round to reshape their agricultural sectors to become more market oriented (a 'tariffs-only' approach, ending non-tariff barriers and quotas)</th>
<th>UN International Fund for Agricultural Development (IFAD)'s activities are guided by the Strategic Framework for IFAD 2002-2006: Enabling the Rural Poor to Overcome Their Poverty</th>
</tr>
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<tbody>
<tr>
<td>The Built Environment</td>
<td>New Building (Scotland) Regulations</td>
<td>Code for Sustainable Buildings, “a voluntary initiative, by Government and Industry, to actively promote the transformation of the building industry towards more sustainable practices” (ODPM, DEFRA, DTI, 2005)</td>
<td>Strategic Environmental Assessment Directive</td>
<td>Declaration on Cities and Other Human Settlements in the New Millennium, resolution S25.2</td>
<td>The Istanbul Declaration and the Habitat Agenda</td>
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<td>Modernising the Planning System White Paper</td>
<td>Towards an Urban Renaissance The Urban Task Force</td>
<td>Aarhus Convention and Directives implementing Aarhus</td>
<td>The Johannesburg Plan of Implementation and Millenium Development Goal 7</td>
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<td>National Planning Framework</td>
<td>CABE Transforming Neighbourhoods</td>
<td>European Spatial Development Perspective</td>
<td>Declaration on Cities and Other Human Settlements in the New Millennium, resolution S25.2</td>
<td>Declaration on Cities and Other Human Settlements in the New Millennium, resolution S25.2</td>
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<td></td>
<td>References to SD in NPPGs and SPPs</td>
<td>ODPM’s Sustainable Communities: Homes For All</td>
<td>European Commission and the BEQUEST network (Building Environmental Quality Evaluation for Sustainability through Time), 2001 BEQUEST Toolkit, looking to build consensus among stakeholders.</td>
<td>The Istanbul Declaration and the Habitat Agenda</td>
<td>The Johannesburg Plan of Implementation and Millenium Development Goal 7</td>
</tr>
</tbody>
</table>
| Environmental Protection | Strategic Environmental Assessment Bill  
Water Environment and Water Services (Sc) Act 2003  
New SD guidance for SEPA  
Landfill allowance trading scheme  
Environmental justice agenda | The Registration of Fish Buyers and Sellers and Designation of Fish Auction Sites Regulations 2005  
The Environmental Action Fund (EAF)  
The Darwin Initiative  
The British-Irish Council Environment Sectoral Group BIC(E)  
The UK Environment for Europe Fund  
The Nottingham Declaration | EC Sixth Environmental Action Programme  
Strategic Environmental Assessment Directive  
Increasing integration (Water Framework Directive)  
Aarhus Convention and Directives implementing Aarhus  
Waste minimisation measures (e.g. Landfill Directive)  
Waste recycling, recovery (e.g. WEEE and ELV Directives) | Move toward market-based approaches and alternative mechanisms generally, e.g. emissions trading, environmental management systems.  
Working with business through CSR agenda  
More emphasis on implementation and enforcement (WSSD 2002)  
Emphasis on integration (UNFCCC, Kyoto, Biodiversity Convention) |
## Annex B  Key Web Sources

<table>
<thead>
<tr>
<th>Topic</th>
<th>Scotland</th>
<th>UK-wide</th>
<th>Europe</th>
<th>Global</th>
</tr>
</thead>
</table>
| **Sustainable Consumption** | Executive – Meeting the Needs: www.scotland.gov.uk/library5/rural/mtd-00.asp  
Executive Development Department (Planning and Building): www.scotland.gov.uk/Topics/Planning-Building  
reports.eea.eu.int/technical_report_2005_2 - 24k  
|---|---|---|---|---|
| **Food** | Scottish Food and Drink www.scottishfoodanddrink.com  
World Bank: www.worldbank.org/projects |
<table>
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<tr>
<th><strong>The Built Environment</strong></th>
<th>Executive Development Department (Planning and Building): <a href="http://www.scotland.gov.uk/Topics/Planning-Building">www.scotland.gov.uk/Topics/Planning-Building</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Town and Country Planning Association: <a href="http://www.tcpa.org.uk/aims.htm">www.tcpa.org.uk/aims.htm</a></td>
</tr>
<tr>
<td></td>
<td>ODPM sustainable Communities: Homes for all <a href="http://www.odpm.gov.uk/stellent/groups/odpm_about/documents/divisionhomepage/033928.hcsp">www.odpm.gov.uk/stellent/groups/odpm_about/documents/divisionhomepage/033928.hcsp</a></td>
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<td></td>
<td>ODPM Code for Sustainable Building: <a href="http://www.odpm.gov.uk/stellent/groups/odpm_about/documents/page/odpm_about_034076.hcsp">www.odpm.gov.uk/stellent/groups/odpm_about/documents/page/odpm_about_034076.hcsp</a></td>
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<td>European Green Building Forum: <a href="http://www.cgbf.org">www.cgbf.org</a></td>
</tr>
<tr>
<td></td>
<td>UNECE: <a href="http://www.unece.org/env/hs/wpla/welcome_wpla.html">www.unece.org/env/hs/wpla/welcome_wpla.html</a></td>
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