GOVERNANCE AND EDUCATION FOR SUSTAINABLE DEVELOPMENT

An analysis and synthesis of governance and related frameworks, policies and strategies in Education for Sustainable Development across five jurisdictions: England, the Netherlands, Germany, Ontario and Victoria

Final Report

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Contents

Executive Summary

1. The governance challenge for EfSD

Managing the provision and delivery of Education for Sustainable Development (EfSD)[1] is a challenging task. Confusion over the nature of both 'education' and 'sustainable development' is a major cause of this, as are the roles and responsibilities of the multiple players involved, including EfSD practitioners and their communities, professional associations and networks for EfSD, as well as the different levels of government and their different specialist agencies seeking to use education as a strategy for sustainable development. This makes the coordination of EfSD programs and projects very difficult.

Finding, implementing and evaluating strategies that can achieve the outcomes of EfSD across and between the multiple actors is the challenge of governance for EfSD. Without effective governance structures and processes, many EfSD programs may not only cross-communicate with intended audiences but also undermine other programs and, perhaps, continue missing out on reaching some of oft-neglected constituencies for EfSD.

2. Aims, scope and approach

This research sought to identify the characteristics of effective governance frameworks and associated engagement and support strategies for EfSD. This was conducted in two phases.

First, case studies were conducted across five 'jurisdictions' – England, the Netherlands and Germany at the national scale, and Ontario, Canada and Victoria, Australia, at the provincial/state scale. These five were chosen as leading examples of EfSD, comparable in terms of democratic and socio-economic status, and thus represent a common base from which to draw governance and policy lessons for New South Wales (NSW).

The case studies were written with the assistance of key informants in each of the five jurisdictions who provided access to policy documents, program plans, reviews and academic papers. These were used to seek answers to the six questions posed in the research brief:

(a) What are the governance structures and division of responsibilities across (i) levels of government, and (ii) government ministries or departments at different levels of government, including the roles of key stakeholders within the governance structure?

(b) What are the underlying assumptions and models of learning and social transition that underpin policy and program approaches?

(c) What policy documents and/or strategic frameworks are there to support EfSD?

(d) Are EfSD strategies integrated with other measures, such as mass communication, endorsement and enforcement mechanisms (if any)?

(e) What are the drivers and context of governance structures, policy frameworks and models?

(f) What evidence is there (if any) about the reach and impact of existing models and frameworks/ levels of participation and engagement?

The draft case studies were then shared with experienced EfSD policymakers in NSW who identified points for clarification and/or elaboration in order to improve their relevance to the overnance challenges of EfSD. The key informants in each jurisdiction provided answers to these queries, often with the assistance of additional local EfSD experts.

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[1] Instead of the international acronym 'ESD', this report uses 'EfSD' to refer to Education for Sustainable Development. This is to address the potential for confusion with the traditional use of ESD in Australia to refer to Ecologically Sustainable Development. The acronym ESD is retained where the meaning is clear, especially in the names of organisations in the international case studies.

Second, an analysis was conducted across the cases to identify the factors that seemed to contribute to effectiveness in the organisation, support, coordination, promotion, delivery and evaluation of EfSD. A review of the literature on effectiveness in public policy management identified a wide range of factors that contribute to what policy scientists call 'good governance'. The case studies were analysed using these factors as themes for coding, with an eye also for factors in the case studies not mentioned in the literature. From this cross-case analysis, a smaller set of six themes or dimensions of 'good governance' in EfSD were identified.

3. Summary of findings across the case studies

Following is a summary of the findings across the case studies in relation to each of the six research questions explored in this study.

(a) Governance structures and division of responsibilities across (i) levels of government, and (ii) government ministries or departments at different levels of government, including the roles of key stakeholders within the governance structure

A comprehensive set of governance structures for EfSD includes:

- high-level recognition of the resource implications of the complex challenge of coordination brought about by the existence of multiple relevant national and/or state/provincial level government departments (depending on the division of constitutional responsibilities between national and provincial/state levels of government) as well as industry, community, non-government organisations (NGOs), professional associations and education stakeholders

- formation of a high-level interdepartmental committee/s to ensure coordination across all government stakeholders

- designation of one government department/agency to be the focal point for long-term strategic directions and planning, operational coordination and evaluation of EfSD

- formation of an external Advisory Committee for EfSD, comprising all relevant non-government stakeholders, to provide (i) coordinating links down to local government agencies and the professional EfSD community, and (ii) mechanisms for non-government stakeholders to contribute to policy, planning and implementation of EfSD

- establish local/regional EfSD Working Groups, comprised of all relevant stakeholders, to provide local/regional coordination and support

- support cross-regional networking and advisory services to facilitate local/regional implementation and cross-learning

- establish strong central research services to provide all stakeholders with the best advice on theory, practice and evaluation of EfSD.

(b) Underlying assumptions and models of learning and social transition that underpin policy and program approaches

There is no clear answer to this question. The case studies included jurisdictions that have a clear and (largely) mandated approach as well as others where no approach is mandated and, by default, there is a lack of clarity and purpose in their EfSD policy and actions.

Four models of learning and social transition across the jurisdictions were identified, namely:

Behaviour change (Victoria) – where the key assumptions are that**:**

- 'Leaders' know the solution to problems, and

- have to communicate them in ways that will change the attitudes of individual persons, households, communities, organisations and businesses and,

- thus, encourage them to change inappropriate environmental behaviours.

Social learning (the Netherlands) – where the key assumptions are that:

- Incomplete mental models of people–environment relationships are the root cause of environmental (and other sustainability) problems;

- thus solutions are to be found not through top-down communication of answers but through the facilitation of cross-community dialogue that produces a deeper understanding, which

- can produce more comprehensive mental models upon which further dialogue can bring about changes in both behaviours and the socio-economic structures that frame individual action.

Action or design competence (Germany – but only for school EfSD) – where the key assumptions are that:

- The root causes of environmental (and other sustainability) problems are both individual and societal;

- people will act on these if they have the opportunity to be guided in the analysis of a problem, arrive at their own solutions, and practise putting the solution into effect, evaluating the impacts, and then reflecting on what has been learnt.

Cultural capital and cultural change (England – but for community EfSD only, and not mandated) – where the key assumptions are that:

- The root causes of environmental (and other sustainability) problems are cultural;

- governments have a responsibility to intervene in national and local culture to change those aspects that are non-conducive to environment and wider sustainability goals; and

- such interventions (programs) need to be based upon the best possible evidence of public attitudes and the selection of the most effective strategies of cultural change that current research suggest.

A fifth strategy is beginning to be adopted in Victoria but is yet to become widespread. This approach is based upon what is known as '***social practice theory***'. It focuses on social practices (washing, heating, commuting, etc.) not on individual attitudes and behaviour or the mental models or wider culture that frames them. Social practices are framed, in part, by individual lifestyle choices but these are not seen as personal decisions per se, but rather as actions that people in a society undertake because of the way economic, legislative, cultural and technological conditions interact to make certain ways of doing things (i.e. social practices of washing, heating, commuting, etc.) appear 'normal'. Thus, changes to social practices require simultaneous and mutually reinforcing changes in the economic, legislative, cultural and technological conditions that frame them. This is an educational and capacity building task and requires complementary EfSD programs for government, industry, media and community decision-makers, using a wide range of strategies including social learning and cultural change.

(c) Policy documents and/or strategic frameworks to support EfSD

There is enormous variety of documents at different levels in all five jurisdictions studied. Some jurisdictions do not have EfSD policy documents (e.g. Victoria) while others have them for the school sector only (England, Canada, Germany). Examples include:

- two phases of the national Learning for Sustainable Development (LfSD) program in the Netherlands, with associated key policy statements: From Margin to Mainstream (2004–07) and From Strategy to General Practice (2008–2011)

- England's long-term strategy for EfSD, which was updated in 2005 as Learning for the Future, in harmony with the national sustainable development strategy, Securing the Future

- policy development driven by NGOs and networks in Ontario, where Learning for Sustainability (LfS) has been most strongly advocated by civil society, and the network Environmental Education Ontario (EEON) produced a 'public strategic plan' titled Greening the Way Ontario Learns in 2003

- Germany's implementation of EfSD which is strongly allied to the United Nations Decade for Education for Sustainable Development (UNDESD) and programs include the scheme of endorsing 'Projects of the Decade', and yearly 'themes' which bring focus to EfSD activities

- Victorian implementation via its 10-year strategy Learning to Live Sustainably, with Victoria's Sustainability Fund providing approximately 30 per cent of its total funding to sustainability education and behaviour change projects.

The lack of clear governance structures for EfSD in a jurisdiction means that there is often a difference between producing policy documents and/or strategic frameworks and coordinating their implementation. This problem seems to be exacerbated when there is a lack of clarity about exactly what levels of government and what department or departments they pertain to; which aspects of the environment/sustainability are within their remit; which levels of education and which community and industry groups their policy or strategy is for (unless it was K–12 education); and which strategies are the most effective to recommend.

None of the documents examined is as comprehensive as *Learning for Sustainability 2007–10*, the NSW Environmental Education Plan, although the documentation and related structural and operational processes in the Netherland's LfSD program is a very worthy model to examine.

(d) Integration of EfSD strategies with other measures, such as mass communication, endorsement and enforcement mechanisms

EfSD strategies are rarely integrated with other measures, such as mass communication, endorsement and enforcement mechanisms. EfSD is still primarily seen as a function of schooling.

Exceptions include:

- Victoria where Sustainability Victoria (SV) has/had a coordinated enabling and capacity building role that is intended to complement Department of Sustainability and Environment (DSE) (policy) and Environment Protection Authority (EPA) (regulation and enforcement)

- the Netherlands where the social learning philosophy is part of a wider democratic process across all areas of policy.

(e) What are the drivers and context of existing governance structures, policy frameworks and models?

The drivers and the context of the existing governance structures, policy frameworks and models are detailed for each case study. Each shows the context-specific nature of governance frameworks, and in particular how the social, political and historical context is integral to the framework itself, and its acceptability and effectiveness. Drivers that were common across cases included public support for sustainable development and action on climate change, and advocacy by professional and community groups committed to EfSD.

Advocacy by professional and community groups committed to EfSD is also a highly potent force for prompting support and increased organisation and resourcing of EfSD. Two contrasting approaches to this are evident in Canada and the Netherlands. There has been a long-term 'hands-off' approach to environmental education (EE) and EfSD in Canada at both national and provincial levels. As well as the formation of groups this prompted extensive local, regional and provincial action that went as far as writing policies and strategic plans to present to government, with government then following.

Conversely, in the Netherlands, where there is a rich university/research culture in EE and EfSD, governments have lent heavily on this expertise to develop policies and programs such as the LfSD program.

(f) Evidence about the reach and impact of existing models and frameworks, and levels of participation and engagement

Evidence is quite minimal around the world in the absence of coordinated governance structures and policies for EfSD and comprehensive programs of monitoring and evaluation. The multi-level processes and templates for reporting in the Netherland's LfSD program are a very worthy model to examine. They are similar to the evaluation process developed by the Office of the Commissioner for Environmental Sustainability in Victoria, but upon which little action has been taken.

4. Principles of 'good governance' for EfSD

Governance refers to the structures and processes by which an organisation manages its responsibilities and actions, especially to ensure that its goals and policies are implemented faithfully and effectively. As such, governance is a means for maintaining oversight and accountability in the implementation of policies and the systems used to monitor and record implementation strategies and outcomes.

A review of the governance literature was undertaken to identify a range of possible themes or principles that underpin 'good governance'. This extensive list was used as a framework for analysing the five case studies and the general findings reported above. As the case studies were read (and coded) against these principles, the ones that seemed most pertinent (i.e. those that were most frequently found in the case studies) were noted and a shorter list prepared. The case studies were then read and coded a second time, against the shorter list. This process of coding and data reduction led to the emergence of six principles of 'good governance' for EfSD.

These six principles are:

(i) Integrated structures of government: Ministries, departments and agencies at national, state/provincial, regional and local levels are the hallmark of good governance. The degree to which this occurs is a sign of the relative importance governments place on EfSD as a strategy for achieving sustainability. Ensuring all relevant ministries and agencies of government are coordinated into an integrated structure of support for sustainable development and EfSD is the major governance issue for EfSD.

(ii) Policy integration: Good governance requires the integration of policy across and within diverse fields. To be effective, policies and programs need to be nested so that each contributes to the agreed, higher order goals of a society. Aspirations for sustainability and ways of achieving them are often embedded within a national/state/provincial strategy for sustainable development, which contains focused action plans for economic prosperity, social justice and inclusion, and ecological integrity. These action plans may contain a range of rules and regulations, economic incentives and penalties, and voluntary mechanisms. Education, training and capacity building are integral to these, especially in the effective implementation of voluntary, community-based tools for sustainability.

(iii) Vertical and horizontal coordination: It is vital that the efforts of all actors in loosely coupled, multi-organisational fields (such as EfSD) be coordinated, if not integrated. The motives, interests and audiences for different actors rarely coincide, and the theories and strategies for change upon which they base their activities may cut across each other. It may not be possible to integrate the activities of all actors into a unified program but all efforts should be made to ensure that they are complementary and supportive of each other to the greatest extent possible.

(iv) Participation, consensus orientation and responsiveness: These are central to participation and transparency in good governance. There are many actors and many viewpoints in all societies. Good governance requires not only the full participation but also

the mediation of these different interests in order to reach a broad consensus on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve it. This can only result from an understanding of, and responsiveness to, the historical, cultural and social contexts of a given society or community.

(v) Conceptual coherency: A result of participation, consensus and responsiveness in governance is a shared vision of a sustainable society and an agreed set of goals, approaches and division of responsibilities. The multiple interests of all social actors means that many programs, tools and activities will be developed to achieve the vision but these are unified by a common understanding about how the transition to sustainability can be achieved. That is, a common conceptual model or theory of change is shared across stakeholders.

(vi) Accountability, effectiveness and efficiency: Accountability is a key requirement of good governance as it can help ensure that processes and institutions are appropriate to, and effective in, producing outcomes that meet the needs of society while making the best use of available resources. Accountability also ensures that there are clear lines of responsibility for implementation or, if this is not appropriate, avenues for communication, sharing of experiences and capacity building across stakeholders.

5. Analysis of governance for EfSD across the cases

The analysis of 'good governance' for EfSD across the five case studies revealed a number of exemplary practices that, together, provide guidance on the structures and processes that might comprise a comprehensive set of governance and policy arrangements for the promotion of EfSD. While no one jurisdiction displayed all six characteristics, each was seeking to address the challenges of governance in locally relevant ways, although not comprehensively in every case. Thus, the elements of good governance for EfSD are best seen across the cases rather than in any one. Good governance is an ideal that is not easy to achieve in its totality, but is worth striving for.

It is noteworthy that the Netherlands was exceptional in demonstrating all six characteristics of good governance for EfSD at a medium or high level compared with the other four countries. Germany and Victoria, Australia, demonstrated fewer of these characteristics while Ontario, Canada and England were notable in reflecting only one or two of them. Thus, on one level, the Netherlands may be seen as an ideal or prototype that other jurisdictions could usefully study.

This is true but misses three points relevant to learning lessons for application elsewhere:

• Whatever is seen as excellent in any jurisdiction has to be contextualised and modified to be of value elsewhere

• Canada displayed the highest level of all in the demonstration of Principle 4 (Participation, Consensus and Responsiveness), a principle that is a key underpinning of the collaborative spirit necessary for effective governance in a democracy

• England may have demonstrated low levels of coordination and unity in its approach to EfSD. This is a reflection of cultural and political factors – and demonstrates the significance of context in discussions of policy and governance. In addition, the strong research base underpinning EfSD in England and the strong support of non-state stakeholders more than compensate for this seeming lack of governance. The result is that England demonstrates much exemplary and innovative EfSD practice in both formal and non-formal education settings.

1. Introduction

1.1 The governance challenge for EfSD

Managing the provision and delivery of EfSD is a challenging task. However, coordinating the roles and aspirations of the many partners involved, including EfSD practitioners and their communities, professional associations and networks for EfSD, provide many opportunities for broad-based policymaking and program delivery. Similarly, linking across different levels of government and their different specialist agencies seeking to use education as a strategy for sustainable development can lead to more comprehensive and effective programs.

Finding, implementing and evaluating strategies that can achieve these outcomes across and between the multiple actors is the challenge of governance for EfSD. Success in developing effective governance structures and processes for EfSD can prevent cross-communication with intended audiences and help ensure that EfSD reaches out to oft-neglected constituencies for sustainability.

1.2 The case study approach

This report explores the governance frameworks and associated engagement and support strategies of leaders in the field of EfSD, both nationally and internationally. It does this by drawing on case studies of the ways in which these governance challenges are being addressed in five 'jurisdictions' – England, the Netherlands and Germany at the national scale and Ontario, Canada, and Victoria, Australia, at the provincial/state scale. These five were chosen for two reasons:

1. they are comparable in terms of democratic and socio-economic status, and thus represent a common base from which to draw governance and policy lessons

2. each is recognised internationally as a centre of vibrant EfSD communities, innovative practice and research leadership, and thus may provide more insights into the role of governance in supporting EfSD than jurisdictions with less well-developed practice or reputations in EfSD.

The case studies were written with the assistance of key informants in each of the five jurisdictions which provided access to policy documents, program plans, reviews and academic papers.

These were used to seek answers to the following questions as relevant:

(a) What are the governance structures and division of responsibilities across (i) levels of government, and (ii) government ministries or departments at different levels of government, including the roles of key stakeholders within the governance structure?

(b) What are the underlying assumptions and models of learning and social transition that underpin policy and program approaches?

(c) What policy documents and/or strategic frameworks are there to support EfSD, including:

- format, length and type of related documentation (if any)

- key audiences for existing frameworks, that is, individual citizens, households, communities, government, formal education, community, business and industry – and how these relate to (i) governance structures and division of responsibilities, and (ii) the range of assumptions and models underpinning policy and program approaches

- roles of key stakeholders and how government seeks to enable and support them

- implementation guidance and resources (if any)

- reporting requirements (if any)
- endorsement and enforcement mechanisms (if any)
- evaluation and feedback mechanisms used (if any).

(d) Are EfSD strategies integrated with other measures, such as mass communication, endorsement and enforcement mechanisms (if any)?

(e) What are the drivers and context of existing governance structures, policy frameworks and models?

(f) What evidence is there (if any) about the reach and impact of existing models and frameworks and levels of participation and engagement?

The case studies were then shared with experienced EfSD policymakers who identified points for clarification and/or elaboration in order to improve their relevance to the governance challenges of EfSD. The key informants in each jurisdiction provided answers to these queries, often with the assistance of additional local EfSD experts. The reports were then analysed to seek comparative answers to the six research questions (above) within the context of 'good governance'.

1.3 Overview

Chapters 2 to 6 provide the five case studies. Each is written to a (roughly) common format, focusing on background to the case and drivers of EfSD practice and reform, the approach to EfSD, and the results of any evaluations. The final chapter provides an analysis and synthesis of issues related to governance frameworks and associated engagement and support strategies with a view to identifying successful approaches to management and development of EfSD.

2. Governance of EfSD in England

2.1 Introduction

The complexity of government in the United Kingdom (UK), with devolution[2] of powers to Scotland, Wales and Northern Ireland means that this case study focuses on EfSD in England – although some of the initiatives from the UK government have catalytic value in the devolved jurisdictions.

The lack of coordination brought about by devolution does not prevent a record of excellent work in various aspects of EfSD in England. For example, in addition to innovative work in schools, there has been much innovative work in key areas of EfSD including: the integration of sustainable development into government and government agency operations; work-based learning and development; and a wide range of sustainability focused interventions within civil society, trade unions, universities and colleges, and professional associations. England might be seen as a world leader in these areas of EfSD.[3] This is due, primarily, to the predominantly high levels of qualifications of English educators (honours degree as basic qualification for entry to postgraduate education studies, masters degrees, or higher), and the relatively high population and population densities in the country that enables ready networking.

2.2 Background and drivers

2.2.1 The social environment

The current UK government has expressed aspirations to be the 'greenest government ever' and has continued with many, though not all, existing initiatives for promoting carbon mitigation, sustainable urban development, sustainable transport, sustainable food systems, and sustainable procurement. Various aspects of education and training were central to these policy thrusts and associated programs. There is now some uncertainty about the direction and emphases of EfSD following a change of government in 2010.

However, the new Conservative–Liberal Democrat Coalition seems to be continuing the sustainability and climate change agenda of the previous government, as evidenced in a press release on Mainstreaming Sustainable Development in February 2011 (Box 2.1). This is a strong government commitment. However, the structures for supporting EfSD are not yet clear. Thus, this review of EfSD in England focuses mostly on the situation up to the time of the change of government.

Think tanks and policy-focused groups (such as Forum for the Future and the Sustainable Development Commission), NGOs (such as WWF–UK), and some local authorities, have had strong EfSD programs in England for well over a decade. This is a result of a positive social context for sustainable development. There have also been very influential thinkers who have promoted initiatives in England in the areas of EE and development education. With funding from local authorities, sometimes national governments, the private sector, NGOs and foundations, community-based learning centres, teacher support units and project hubs for environmental, urban and development education have been common features of the ESD landscape in England for over 30 years. They include the Development Education Association4, the Council for Environmental Education5, Groundwork and the Field Studies Council.6

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[2] Devolution is the transfer of Whitehall powers in areas like education and health – but not, for example, defence – to the UK's nations and regions. The scope of those powers differs between each political jurisdiction. Scotland has the most power, followed by Northern Ireland and Wales. At present, the UK government makes laws for England and plans for devolution to London and English regional assemblies have now been abandoned.

[3] The best overview of this wide range of activities is provided on the website of ESD Coordinating Group of the UK National Commission for UNESCO (see www.desd.org.uk/).

[4] Renamed 'Think Global' in 2011. With funding predominantly from the UK Department for International

Box 2.1: Press Release: Mainstreaming Sustainable Development (Feb 2011)

The Mainstreaming Sustainable Development package will guarantee that government policies have been 'sustainability-proofed' – by making sure they help to deliver sustainable economic growth, improve our quality of life and protect our natural environment now and for future generations. Deputy Prime Minister Nick Clegg said, 'The Government is determined that as we reduce the deficit, we also rebalance the economy and put it on a greener, more sustainable footing. In order to achieve this, we must lead by example. I am pleased to see this document sets out exactly how we can do that and take our place among the greenest governments in the world.' The package will put into practice the Government's commitment to be the greenest government ever, and includes:

Leading by example by:

– reducing government's waste generation, water use and greenhouse gas emissions

– ensuring the government buys more sustainable and efficient products and engages with its suppliers to understand and reduce the impacts of supply chains.

Ensuring transparency and independent scrutiny by:

– developing real and measurable indicators to monitor sustainability across government and report results publicly

– independent monitoring of sustainability in government operations, procurement and policies by the Environmental Audit Committee.

Providing Ministerial leadership and oversight by:

– the Environment Secretary sitting on the key domestic policy Cabinet committees to enforce Government commitment to sustainability across domestic policymaking

– a new Ministerial steering group driving the new commitments for greening government operations and procurement.

Embedding sustainable development in government policy by:

– taking lead responsibility for reviewing departmental business plans to ensure they adhere to Sustainable Development principles.

Source:
Adapted from http://sd.defra.gov.uk/gov/approach

A key driver of support for EfSD in England in recent years has been the high level of citizen concern about climate change and corresponding government action. Indeed, it has been reported that government policies and international conferences together with media reporting have been very significant in advancing learning for sustainability:

> In particular, momentum towards action on learning about climate change nationally and globally exemplified the increase in awareness and action in the UK of a key element of ESD. This deepened focus on climate change in the UK can be partially linked to the establishment of strong government policies on climate change in 2008, and the participation of the UK in international conferences on climate change in December 2008

Development, Think Global is a membership-based charity (comprising many development and environment NGOs, as well as a wide network of Development Education Centres, schools, universities and other civil society bodies) that works to educate and engage the UK public on global issues. See www.think-global.org.uk/

[5] Relaunched under the new charity name 'SE-Ed', Sustainability and Environmental Education seeks to drive EfSD forward into the mainstream of the education system – schools, colleges, universities, teachers and their communities. See www.se-ed.co.uk/contact/about

[6] See www.desd.org.uk/ for a review of these and related organisations.

and 2009. It is also the result of an ongoing [and positive] public discourse about climate change expressed through the media in films and advertisements. (UK National Commission for UNESCO 2010, p. 8)

Thus, unlike in Australia, a prevailing culture of support for action on climate change in the UK has helped to drive the adoption of EfSD across all sectors. Indeed, the climate change agenda has been so pervasive in EfSD that some commentators worry that there is a risk that EfSD might be becoming too narrowly focused.

On the other hand, a debate is currently underway in England concerning the 2011 review of the National Curriculum, which has suggested that a specific focus on climate change should not be part of a revised national curriculum for science, but part of the school curriculum, should schools so wish. The suggestion is that the curriculum needs to be narrowed to focus on basic science – not issues – and that 'it should be up to schools to decide whether – and how – to teach climate change, and other topics about the effect scientific processes have on our lives'.

2.3 The approach to EfSD

2.3.1 Coordination

A lack of coordination is recognised as a significant but inevitable weakness of ESfD in England. This is due to the devolved nature of government and the lack of coordinating mechanisms across government departments. Indeed, one informant commented that there is 'no co-ordination between devolved governments; Scotland and Wales go their own way on education, including EfSD, and on much social policy. It makes talking about "the UK" quite problematic.'[7]

However, even within England, there is no effective collaboration between the ministries responsible in various ways for EfSD, such as the Department for Education (DfE) and the environment ministry (Department of Environment, Food and Rural Affairs (DEFRA) – which, up to the present, has funded the Ecoschools program), and the Department for International Development ministry (DFID) which has also funded its own school-based and community education programs.

As a senior civil servant involved in this study commented, 'It is not surprising that coordination is not enforced by Whitehall – that would be inconsistent with devolution of responsibility. Coordination also implies a consistent approach would be a desired outcome.'

2.3.2 Strategy

The strategy adopted to overcome the challenge of coordination is to provide high-level evidence-based advice and to devolve responsibility for the implementation of EfSD to responsible agencies, preferably at the local level. Thus, the national EfSD strategy argues that it is most important:

> to engage and motivate partners effectively to coordinate the action of a range of bodies … For most purposes, action can be most effectively coordinated at a local level and with a bottom-up momentum.
> (SDEP 2003, p. 17)

Emphasising these devolved responsibilities, the strategy also states in relation to resourcing that:

> [T]he resources necessary for implementing the strategy should be regarded as an integral part of the major allocations already made by the Government in education reform, learning and skills and neighbourhood and other regeneration and renewal.

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[7] Informant: Professor, email 17.05.11.

Government will expect them to be a cost legitimately incurred in producing successful outcomes for those programmes. Government remits to the agencies involved will make that clear. (SDEP 2003, p. 5)

This strategy recognises that competing departmental (UK government) and regional (local government) priorities present a particular challenge to this devolved approach. When no one entity has ownership of EfSD, there is a temptation to give it a lower priority than clearly identifiable departmental or local objectives.

A range of mechanisms, including establishing in-house EfSD Champions and a range of reporting and evaluation mechanisms, were recommended but these have been implemented mostly within the formal schools education sector.

2.3.3 Policy-related research of government sustainability and EfSD agencies

Over the past 15 years, the UK government established two agencies to provide the policy-relevant research needed to support, at least in part, the decentralisation of responsibility for EfSD in England. These were the Sustainable Development Education Panel (SDEP), which was predominantly for the schools sector, and the Sustainable Development Commission (SDC) whose remit was much wider than education, although this was something (especially community education) that it took a great interest in.

Significant to note is that neither of these were implementation agencies. Rather they provided the evidence base, innovative thinking and advice that could inform and improve the quality of the policy and program activities of existing bodies responsible for EE/EfSD, such as other government departments and agencies, local authorities, professional associations and so on.

Sustainable Development Education Panel

In 1998, the UK government established the SDEP as an advisory board for EE/EfSD in schools, further and higher education bodies, and to a lesser extent in work, recreation and household settings. Jointly sponsored by the Department for Education and Skills (DfES) and DEFRA, its chief purpose was to consider how schools could best actively promote EfSD to ensure young people obtain the knowledge and skills to be 'active citizens for the new millennium'. A key publication was *Life Skills for a Sustainable Future* (2000), which emphasised integrating education, social inclusion, citizenship and the world of work.

This document was influential in the 2000 revision of the National Curriculum in which EfSD was made a statutory requirement in the subjects of geography, science, design and technology, and citizenship, which were required to ensure that students developed an 'awareness and understanding of, and respect for, the environments in which they live, and secure their commitment to sustainable development on a personal, national and global level'. It was based on seven concepts: interdependence, citizenship and stewardship, needs/rights of future generations, diversity, quality of life, sustainable change, and uncertainty and precaution.[8]

The SDEP was disbanded in 2003 following the publication of *Learning to Last*, the government's long-term strategy for EfSD. This led in England to the development of Sustainable Development Action Plan for Education and Skills, which was later updated as Learning for the Future, in response to the UK government's 2005 sustainable development strategy Securing the Future.[9]

Work in non-formal EfSD by the SDEP was not extensive but included a significant research project on public understanding of sustainability and how best to communicate the complexities

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[8] However, this phrase was placed in the Preamble to the 2000 revision of the National Curriculum. While it applied to everything that schools did, and not just specific subjects, it was (only) in the Preamble and, thus, "it was safely out of sight and mind" (informant: Professor). See <http://curriculum.qcda.gov.uk/key-stages-1-and-2/aims-values-and-purposes/aims/index.aspx>.

[9] See www.desd.org.uk/Departmental_Initiatives.htm

of the concept. However, the archiving of most pre-2010 government websites in the UK makes it difficult to access this and similar documents.[10]

Sustainable Development Commission

The SDC was established by DEFRA in 2000 and operated until 2011 with the aim of accelerating and deepening the government's commitment to sustainable development as a policy goal; advising government, advocating and building capacity for sustainable development practices; and monitoring and reporting on the government's performance in implementing sustainable development into its own policies and practices.

This was an extensive set of responsibilities and included a range of activities to support EfSD in the formal sector.[11] However, predominantly, its EfSD work was in research and policy guidance on community education and capacity building for sustainability.

Chief among this range of activities was a substantial research program on the question: What can Government do to support action in communities and business that encourages changes to people's behaviour and which enables more sustainable lives?

Three sets of significant reports were published as a result of this policy research:

Sustainable lifestyles

- Making Sustainable Lives Easier: A Priority for Governments, Business and Society
- Behaviour Change Submission by the Sustainable Development Commission
- Sustainable Lives – What Will Sustainable Lifestyles Look Like?

Sustainable consumption

- I Will If You Will – Towards Sustainable Consumption

Sustainable retailing

- *You Are What You Sell*
- *Visioning Sustainable Retail*.[12]

There was also a significant report on EfSD in schools, titled *Every Child's Future Matters*.[13] Each of these reports was rigorously researched and refereed for both scientific validity and policy soundness, and all were widely distributed across the sustainable development and EfSD constituencies in the UK.

Importantly, the underlying philosophy in this work encompassed responsibilities not just for individuals to change their behaviour but for a coordinated and integrated approach to bring about the changes in government and corporate behaviours necessary to establish the supportive regulatory, social and economic settings needed to allow and motivate people to live more sustainably.

2.4 Underlying assumptions and approaches

This comprehensive approach reflects a central government concern for cultural change – not individual behavior – as the foundation for changes such as the transition to sustainability. Indeed, *I Will If You Will* (SDC 2006) talks about the 'Triangle of Change' (Box 2.2).

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[10] See www.bath.ac.uk/cree/publications/index.html#reports
[11] See www.sd-commission.org.uk/pages/education.html
[12] For copies, see www.sd-commission.org.uk/pages/business-and-consumption.html. A range of similar publications is available in relation to particular industry sectors, such as environment, agriculture, transport, etc. See www.sd-commission.org.uk/pages/policy_and_research.html
[13] See www.sd-commission.org.uk/publications.php?id=578

Box 2.2: The Triangle of Change

Figure one: the 'triangle of change'

Government

The products and services people use, and the infra-structure available, link government with business and people

Business   People
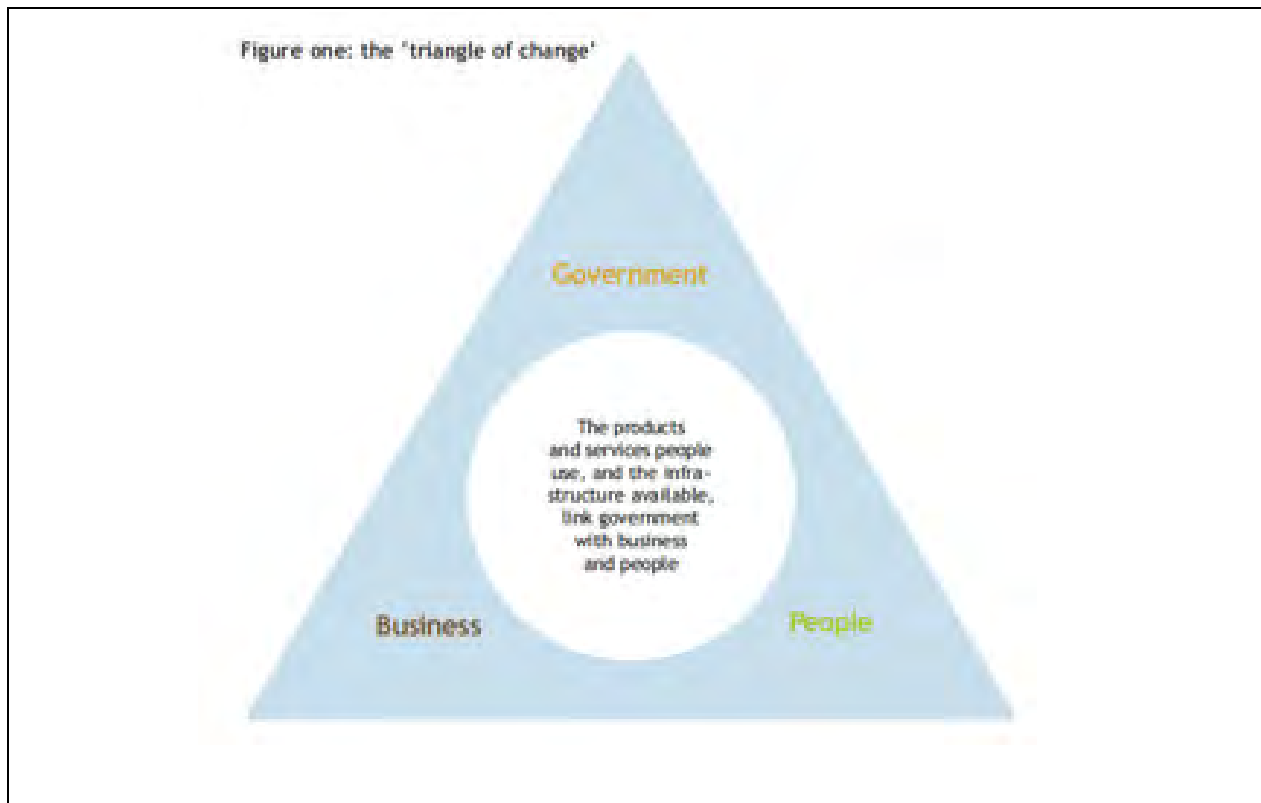
Source: SDC 2006, p. 7.

Thus, a UK Cabinet Office paper, *Achieving Culture Change: A Policy Framework*, explains:

> Many policy outcomes depend on how we – as individuals and groups – behave. Our actions are important determinants of whether we will live productive and healthy lives, in clean and sustainable environments, in communities free from fear or isolation. Unfortunately all too often we fail – collectively and individually – to behave in the way required to achieve the outcomes we would like.

> In such cases governments have traditionally used a combination of incentives, legislation and regulation in an attempt to encourage and persuade the public into adopting different forms of behaviour. In many cases these have proved effective. However, there is an increasing recognition that 'cultural capital' factors – our attitudes, values, aspirations and sense of self-efficacy – are also important determinants of our behaviour. We know that goals relating to educational attainment, social mobility and opportunity, healthy living, environmental sustainability, and maintaining thriving communities depend as much on cultural capital as they do on government action to provide investment and opportunity. (Knott et al. 2008, p. 6)

Achieving Culture Change: A Policy Framework is a significant publication – and justice cannot be done to it in a case study such as this one. However, for the purpose of this review of international practice in policy, models and approaches in EfSD, and learning from this UK thinking, three points can be noted.

First, cultural values comprise ideas about what people deem important in life. At the societal level these are often manifested as social norms, that is, the rules and guidelines that steer human behaviour. These vary from informal norms to those supported by more formal sanctions or rewards.

At the individual level the cultural values that people hold determine their attitudes to specific ideas and activities that, in turn, influence decisions about individual behaviour. Cultural capital

is formed through interactions with both the immediate environment and broader society-wide forces, and shapes the behavioural intentions people have in regards to the specific decisions and choices they can make. In some cases cultural capital has a strong influence on behavioural intentions; in other cases less so.

It is how these behavioural intentions interact with the incentives, legislation, regulation, and level of information and engagement they face in any given situation that determines actual behaviour. The relationships between behaviour and cultural change are shown in Box 2.3.

Box 2.3: The Cycle of Cultural Change
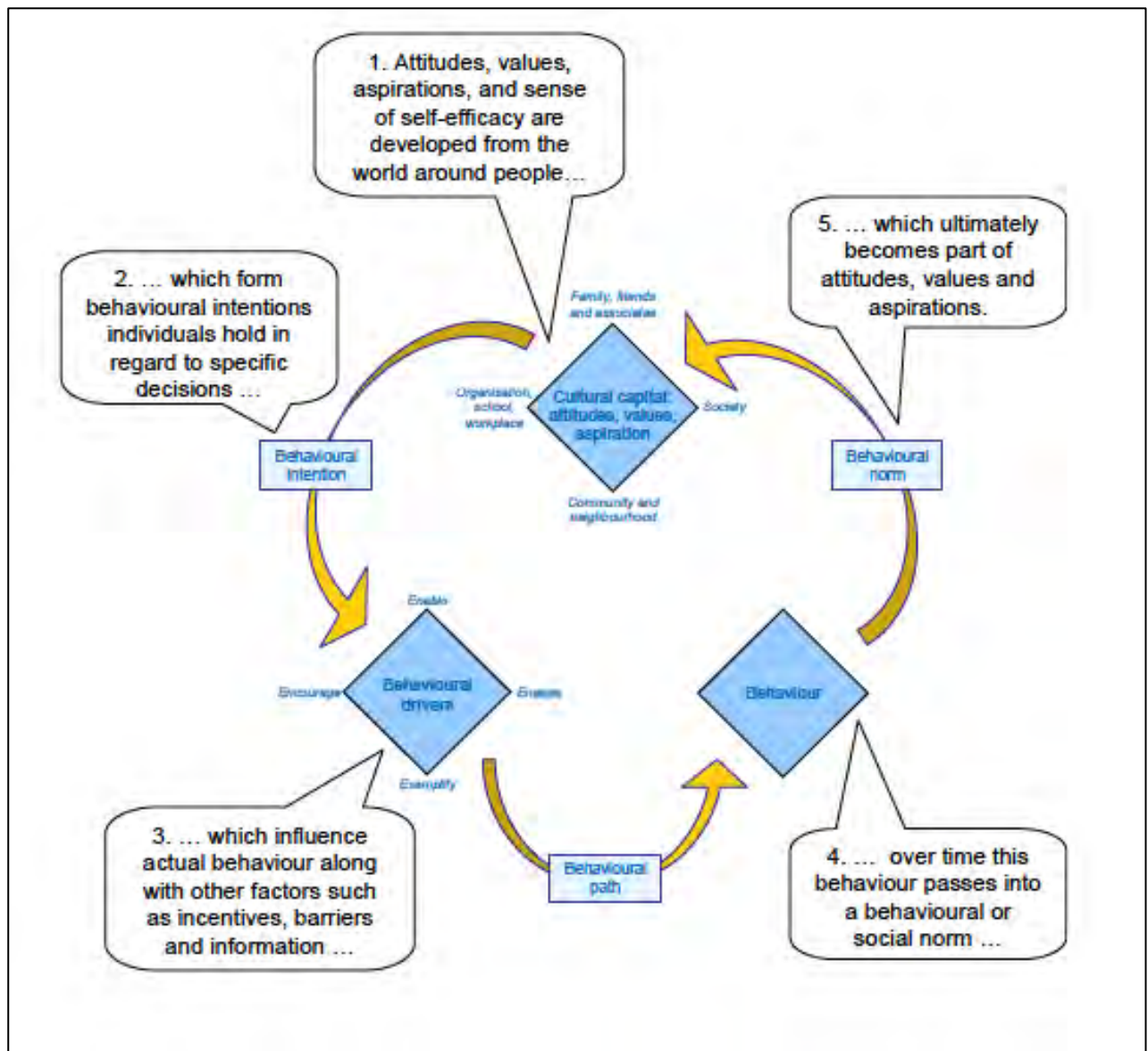
Source: Knott et al. 2008, p. 40.

There are similarities between this approach to cultural change and social practice theories of conservation behaviour that are emerging – and being discussed by researchers and policymakers in Victoria. As its name implies, social practice theories focus on social practices (washing, heating, commuting, etc.) not on individual attitudes and behaviour. Social practices are framed, in part, by individual lifestyle choices but these are not seen as personal decisions per se, but rather as actions that people in a society undertake because of the way economic, legislative, cultural and technological conditions interact to make certain ways of doing things

(i.e. social practices of washing, heating, commuting, etc.) appear 'normal'. Thus, changes to social practices require simultaneous and mutually reinforcing changes in the economic, legislative, cultural and technological conditions that frame them. This is an educational and capacity building task and requires complementary EfSD programs for government, industry, media and community decision-makers, using a wide range of strategies including social learning and cultural change.

Second, it is possible – and necessary and ethical – for government to intervene to develop cultural capital in particular ways to serve particular policy goals. However, government actions to influence the lifestyles of citizens – as policies to encourage sustainable behaviour inevitably do – are sometimes considered 'challenging' (OECD 1997, p. 48). Policies that seek to affect the values and lifestyles of citizens through education, particularly school education, pose particular difficulties. The spectre of 'social engineering' and ' indoctrination' are concerns for teachers and parents who favour balanced perspectives.

This means that particular care is needed to disseminate professionally ethical ways of bringing about desired social changes through schools. However, in the broad area of sustainable living there is broad public consensus on the types of lifestyle behaviours that can enhance resource efficiency and conservation liveability as well as enhance social inclusion and catalyse new forms of economic productivity. However, changes at the levels of individual, family and, even, community values are not enough to achieve sustainable consumption.

Actions by governments such as providing an appropriate policy framework of supporting social and economic instruments – including eco-labelling schemes, tax and pricing incentives, appropriate energy and water supply infrastructure, policing infringements of environmental codes, and modelling sustainable consumption priorities in their own purchasing departments – are also needed. This requires a whole-systems approach to economic and social policy in which the micro-economic influences on households and businesses are integrated with the macro influences of the structure of the economy in order to produce the desired level of sustainable consumption. As the report of the 1995 Oslo Roundtable on Sustainable Production and Consumption stated:

It is evident that many worrying environmental trends are to a large extent the result of millions of discrete lifestyle decisions. However, focusing on end-use consumption does not change the basic division of responsibilities among the various actors or place the burden of change primarily on households and individual consumers. Governments have to provide the overarching framework ... and leadership that will enable other actors to take up their responsibilities for their part of the chain from production to consumption and final disposal … To be successful, actions to change end-use consumption patterns require effective incentives, accurate and available information, accessible facilities, social support systems, adequate and sufficient resources and cultural norms that reward sustainable consumption practices. (Norwegian Ministry of the Environment 1995, Sect. 1.4)

Third, the cycle of cultural change (Box 2.3) provides two broad levels of government action: the level of cultural capital (Box 2.4), and the level of the drivers of behaviour (Box 2.5). Box 2.4 illustrates that, at the level of cultural capital, it is important for government to address the need for consistent policies at the four levels of: friends and family; neighbourhoods and communities; organisations and workplaces; and society at large. At the level of behavioural drivers, Box 2.5 illustrates the 'four Es' strategy for community education recommended by the SDC in *I Will If You Will*: Enable, Encourage, Engage, Exemplify.

Box 2.4: Changing Cultural Capital
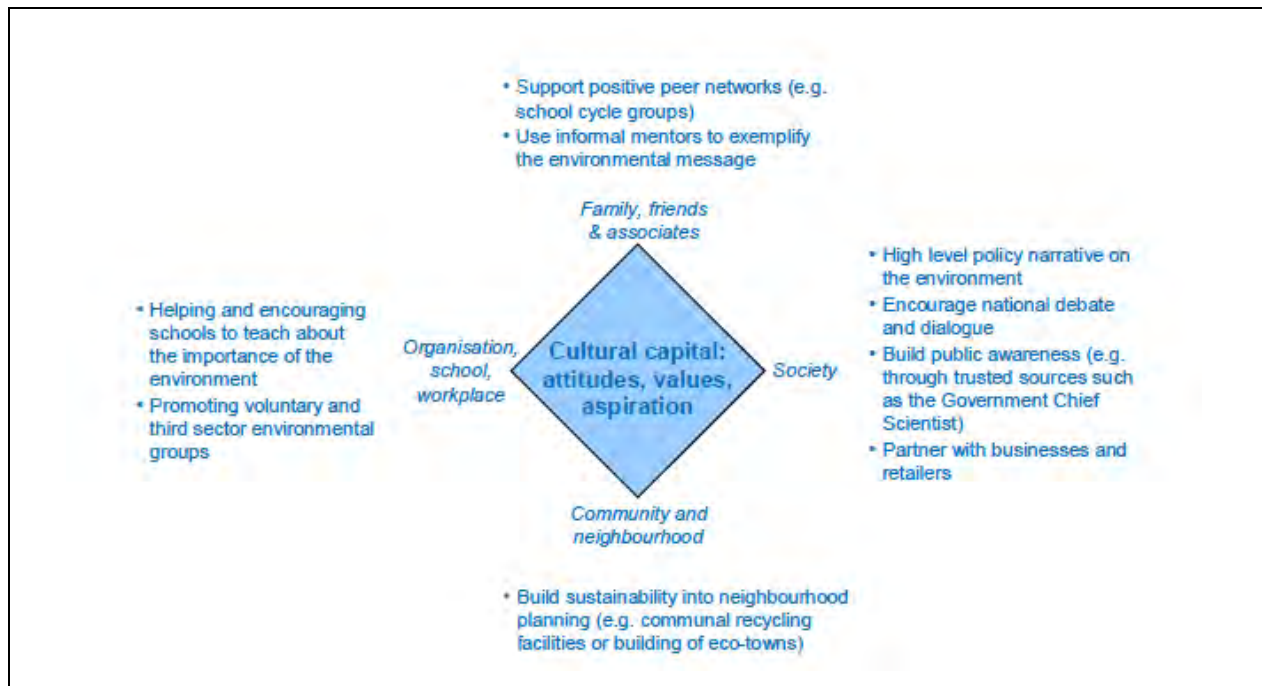
Source: Knott et al. 2008, p. 134.

Box 2.5: The 'Four Es'
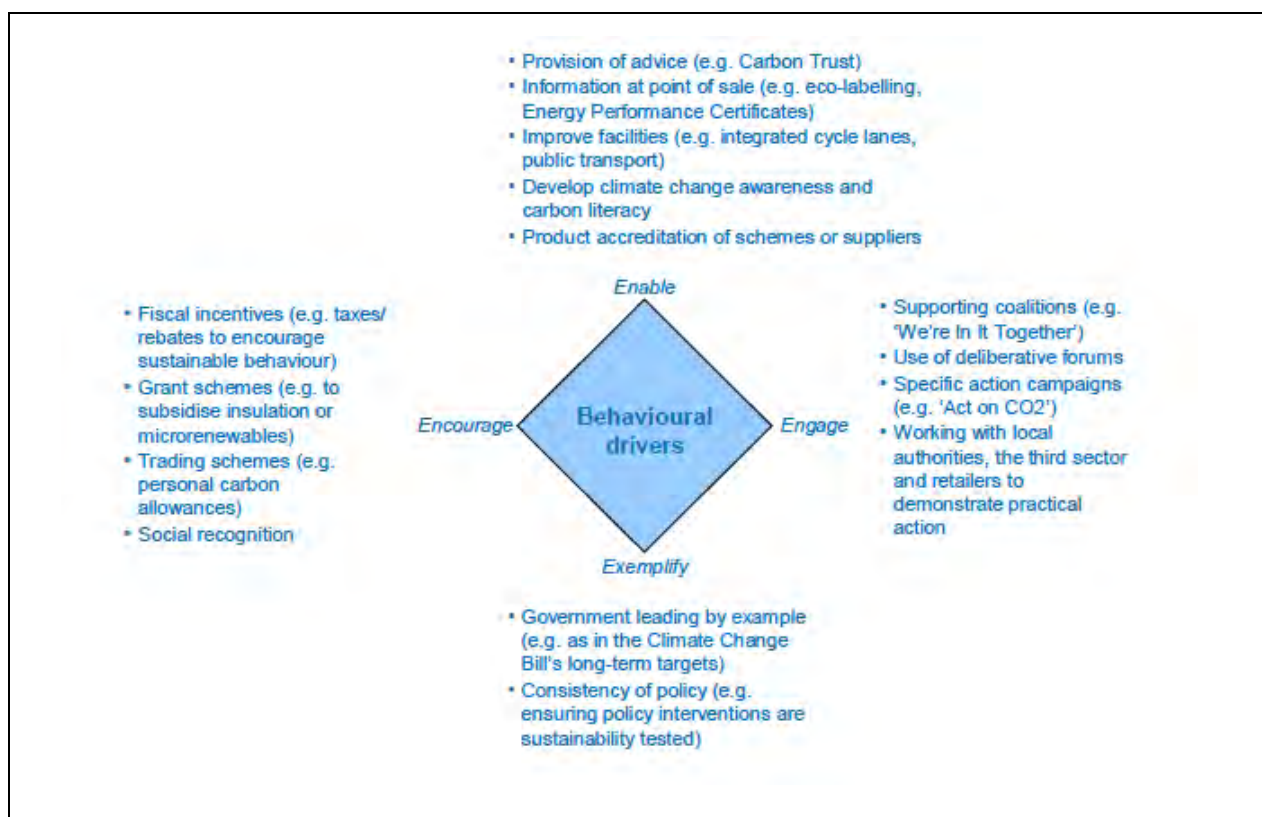
Source: Knott et al. 2008, p. 134.

2.5 Monitoring and evaluation

2.5.1 Monitoring and evaluation processes

The lack of coordination mechanisms for EfSD in England means that monitoring and evaluation are difficult to operationalise. Rather, the various agencies to which responsibilities for EfSD have been decentralised have developed their own processes but there is no central process.

Thus, for example, in the schools sector, the Office for Standards in Education (Ofsted) has published a series of reports and guidelines summarising its school inspections specifically focusing on EfSD.[14] Individual EfSD projects undertaken by various other decentralised agencies, such as local authorities, NGOs, trade unions and professional associations are not systematically evaluated and, even where they are, the reports tend to be confidential or not easily available in such numbers that meaningful generalisations can be made.

In the broader field of EfSD, there have been attempts to develop a set of EfSD indicators in the UK.[15] However, this work has not been conclusive or implemented. Indeed, the use of indicators has become a subject of much debate not only in the UK but across Europe, where many EfSD practitioners 'typically understood … the use of indicators … to be "because of" political administrative interests' (AGF 2009, p. 32; emphasis in original).

2.5.2 Reviews by UK National Commission for UNESCO

The Education for Sustainable Development Co-ordinating Group of the UK National Commission for UNESCO produced reports of EfSD in the UK in 2008 and 2010. These provide an overview of initiatives in the following sectors of EfSD: the UK government, government sustainable development and EfSD policies, formal education, learning and skills sector, Higher Education Institution (HEI), Regional Centres of Expertise (RCEs), NGOs, trade unions, professional associations, civil society, and EfSD research.[16]

These overviews are very comprehensive but, even though they provide some evaluative comments, they are not formal evaluations. However, they do identify several significant issues that affect the implementation and success of EfSD activities in the UK and England. These include:

- tensions between campaigning and learning, especially in relation to climate change

- maintaining a holistic, integrated view of sustainability cf. a narrow 'eco' view

- the role of the media and the significance of the tension between awareness raising about sustainability issues and actual learning

- a comparative lack of development of EfSD within the VET [Vocational Education and Training] sector compared to schools and universities

- a lack of connection, and hence little potential for synergy, between EfSD in formal education and what might be learnt through partnerships with community, government and industry groups

- a lack of capacity building/professional development for teachers and lecturers in the formal education sectors

- a lack of synergy between the actions of relevant government departments; and a lack of attention to evaluation. (UK National Commission for UNESCO, 2010, Ch. 7)

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[14] See www.ofsted.gov.uk/Ofsted-home/Forms-and-guidance/Browse-all-by/Other/General/To-sustainability-and-beyond-inspecting-and-reporting-on-progress-in-sustainable-development/%28language%29/eng-GB

[15] See, for example, SDC 2006, SD Indicators for Education, www.sd-commission.org.uk/publications.php?id=425

[16] See UK National Commission for UNESCO (2010) Education for Sustainable Development in the UK, (www.unesco.org.uk/education_for_sustainable_development. Also see the 2008 report at www.desd.org.uk/UserFiles/File/new_articles/england/UKNC_ESD_Indicators_Report_02Oct_08.pdf).

2.6 Key lessons

The model of EfSD governance in England has both positive messages and implications for the broader governance of EfSD in two ways: (i) policy framework and implementation structures, and (ii) approaches and models.

2.6.1 Policy framework and implementation structures

Positive Messages	Implications
EfSD needs to be located within a wider but strong policy framework for sustainability.	A strong policy framework for sustainability needs to be developed and widely disseminated. EfSD officers need to be key influences in the development of the policy.
This framework should be structured and promoted to provide the meta-narrative for the transition to sustainability by the state as well as by individuals and families, neighbourhoods and communities, organisations, schools and workplaces and the wider society as a whole.	Government needs to be comfortable in its responsibilities for leading cultural change for sustainability and able to justify this and the ethics of the approaches being used. The resulting meta-narrative of the sustainability transition needs to be widely disseminated, discussed, debated and defended across all sectors of society.
Living sustainably does not come from discrete behaviour change programs but from a comprehensive approach to cultural change.	The role of cultural change as a policy tool needs to be widely accepted within and across government sectors
The meta-narrative of sustainability and government policy should emphasise that EfSD is a core remit in the roles of responsible government departments as well as local authorities, the media, formal education sector, trade unions, professional associations, businesses, community groups and NGOs. Thus, the EfSD unit within government should not necessarily be the major implementation agency of ESD in the state. Rather, it could see its role as providing the evidence-based research and policy guidance for decentralised delivery of EfSD by others. This need not involve additional resources as EfSD is part of the core remit of responsible government departments and other agencies.	Capacity building in acting on a core remit for EfSD is necessary. Perhaps this can best be done by government departments and agencies being required and assisted to develop Sustainable Development Plans through organisational learning strategies. Additional structures (to those in the UK/England) are required to: • provide the networking and information sharing across all EfSD delivery agencies and organisations • establish processes for monitoring and evaluation • create opportunities for cross-organisational learning from the evaluations.

2.6.2 Approaches and models

Positive Messages	Implications
The roles of an EfSD unit within government can be seen as providing intellectual leadership in the field by undertaking policy-relevant research that can be used to develop recommended models and strategies for EfSD by those agencies and organisations responsible for implementing EfSD.	An effective dissemination and capacity building strategy is needed to ensure that the agencies and organisations responsible for implementing EfSD are aware of, understand, and are capable of adapting and using the recommended evidence-based models and strategies.
The dynamic and mutual interdependence of cultural and behavioural change can provide a comprehensive approach to ensuring successful outcomes from EfSD.	
Boxes 2.3 – 2.5 provide a wide range of samples strategies for a society-wide 'Four Es' approach to EfSD: Encourage, Engage, Enable, and Example.	

3 Governance of EfSD in the Netherlands

3.1 Introduction

In the Netherlands, EfSD is coordinated and catalysed through a national program called 'Learning for Sustainable Development' (LfSD). Unlike many other national frameworks, the LfSD program supports both interdepartmental and intergovernmental coordination and is based on an agreed philosophy grounded in lifelong learning though 'social learning'. The aim of the program is to embed EfSD into formal, non-formal and informal education, especially through supporting national and international networks within sectors. A series of evaluations has shown that this is very powerful way of enhancing the implementation of EfSD.

3.2 Background and drivers

3.2.1 The social environment

As a result of the entwined environmental and economic crises facing Europe and, indeed, the world, the level of awareness of sustainability issues has heightened among Dutch citizens, businesses and educational systems and organisations. It has been said that:

Generally speaking, Dutch society is committed to finding sustainable solutions to such issues as climate change, social inequality, the deterioration of ecosystems and biodiversity, global poverty, and … ways to produce and consume more sustainably, as well as knowing which industrial and knowledge institutions increasingly prioritize sustainable development principles. (van deer Waal 2011, p. 78)

3.2.2 From EE to EfSD

This positive response to contemporary global and national problems is seen as being the result of the early development of strong nature conservation and EE movements in the Netherlands. For example, from the early 1900s, the National Foundation for the Protection of Nature, the Dutch National Forest Service and local governments played a key role in raising environmental awareness through nature education. This is very similar to the situation in Australia, Canada and United States of America (USA) and the role of the national parks movements. Also similar to (at least) Australia and Canada, a broader integration of social and nature education occurred and the interdisciplinary, citizenship-focused field of EE emerged in the 1970s – largely due to international networking led by UNESCO-UNEP [United Nations Environment Programme] International Environmental Education Programme (IEEP) and the involvement of senior government and academic EfSD experts in international environment NGO fora, especially WWF and the Communication and Education Commission of the International Union for Conservation of Nature (IUCN).

The first national policy on EE was developed in 1988 (much later than in Australia where a national EE program was established by the Curriculum Development Centre in the early 1970s to coordinate and catalyse pre-existing state EE initiatives). Perhaps because of this delay in policy development (and the absence of the constitutional–jurisdictional issues encountered in Australia where education and environment were, and (largely) remain, state responsibilities), the national EE policy in the Netherlands was supported widely across ministries because of its emphasis on both ecological and socio-economic aspects of sustainable development. This reflects the policy thrusts of *Our Common Future*, which was published by the World Commission on Environment and Development (WCED) in 1985. The ministries involved were:

- Ministry of Environment
- Ministry of Foreign Affairs
- Ministry of Economic Affairs and Energy
- Ministry of General Affairs

- Ministry of Transport, Public Works and Water Management
- Ministry of Education.

Following the focus on integrating environmental and development concerns after the 1992 Earth Summit and 2002 World Summit on Sustainable Development, and consequent international and European Union (EU) policy trends, new forms of governance, which emphasised the involvement of citizens in envisioning the future and in decision-making, gained ground in the Netherlands. This paved the way for a very participatory, dialogical approach to EfSD based on the principles of social learning.[17]

The growing emphasis on EfSD engendered by the preparations for the UNDESD in the period 2002–2005 enabled EE to merge easily into EfSD in the Netherlands, not only in formal education but also as a central element of informal and non-formal education for youth groups, farmers, citizen organisations and church parishes. This was greatly assisted by the conceptual clarifications that resulted from leadership roles played by the Dutch government and leading Dutch NGO and academic specialists in the international environment and EE communities.

Nevertheless, separate EE and LfSD programs remain, with the relationship between them described by one commentator as 'best described from a historical perspective'. As this commentator continued:

> When ESD appeared on the Dutch policy scene in the nineties, the Dutch government embraced it as the new EE and intended to only allocate innovation money to those groups in society who would adopt ESD as the new inclusive paradigm for EE. This led to a strong response from Dutch EE organisations who argued against this on two premises:
>
> 1. the environmental–ecological–nature component of EE remains foundationally crucial and continues to demand special attention, also in an era of ESD
>
> 2. within EE too there is always a need to do things better and to do better things, so the idea that there is only room for innovation within the context of ESD and not in the context of EE is flawed.

The Dutch government responded by having two parallel programs: the National Environmental Education Program (NEEP) and the LfSD. While these two programs are currently converging, their separate origins mean that there are key differences, with NEEP supporting EE centres and organisations around fixed themes: water, energy and the green society. However, funding is only provided when multiple stakeholders participate around one of these themes and when there is a clear societal demand underlying an application for funding. In this way, NEEP supports the LfSD focus on the transitions in society towards sustainability.

3.3 The Learning for Sustainable Development program

3.3.1 Coordination at all levels

The Dutch national LfSD program was established by the Parliament of the Netherlands, with a very distinctive interdepartmental and intergovernmental framework. The six government departments that supported the 1988 EE policy initiated a cooperative venture along with provincial authorities and the association of water boards to develop a national LfSD program, 2004–2007). A second phase of LfSD from 2008 was completed in 2011.

A noteworthy feature of the LfSD program is its integration into the Dutch national Sustainable Development Strategy (KADO) as one of three interdependent strategies that are evaluated through a national sustainability monitoring process conducted by the Central Bureau of Statistics (CBS). EfSD is the third of the core strategies:

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[17] See Section 4 for an explanation of the nature of social learning. This provides an understanding of the assumptions behind the LfSD program.

- a focus on six selected themes: water, climate adaptation, sustainable energy, biofuels and development, carbon capture and storage, biodiversity and food
- the government as leader of sustainable management
- the government actively establishing dialogue on sustainable development.

The central focus of the LfSD program for this third strategy is that:

> The development of a sustainable society could be described as a continuous learning process. It involves exploring issues and dilemmas, putting choices in a broader perspective and looking further than the short term and the self-interest. As awareness and experience increases in considering the several aspects of sustainability, individuals, groups, communities and organizations strengthen their capacity to make sustainable development part of their lifestyle.

Thus, rather than being didactic in orientation, LfSD concentrates on conditions for inter-group dialogue 'as a means of raising awareness, encouraging collaboration, and enhancing collective actions'. As one EfSD specialist in the Netherlands elaborated:

> Dialogue is seen as an interactive effort to co-create novel ideas and understandings through a balanced process of inquiry, advocacy and reflection.

> The facilitation of Communities of Practice is considered an instrument and type of learning exemplary for LfSD. A group of professionals work together on issues from their daily practice, which are new, for example sustainable regional development. Collectively they develop new knowledge. The focus shifts from knowledge exchange to knowledge development and knowledge co-creation.

As indicated above, the NEEP is closely connected to the LfSD program. Developed and supported by the ministries for agriculture, environment and education (compared with the much wider list of ministries listed above for LfSD), NEEP supports the widespread 'acquisition of competences required to protect the environment' by individuals, businesses, governmental and non-governmental organisations.

Before the LfSD program is discussed in detail, five aspects of the NEEP are especially relevant to note in relation to EfSD in Australia:

1. The language in terms such as 'acquisition of competences required to protect the environment' is very helpful in terms of policy development and implementation in that it is: (i) intellectually and conceptually sophisticated but still easy to understand, and (ii) precise in its central goal of developing competencies to protect the environment (not the more ambiguous expression of large numbers of knowledge, skill and values objectives we have in Australia).

2. The first aim of the NEEP is 'to develop a common agenda in environmental education at the local, provincial and national level'.

3. Another aim is 'to increase administrative collaboration by focusing on leadership and control, and on the development of a more effective environmental education strategy'. In 2009, a Program Bureau was established to achieve this and, significantly, it has the same steering group as the Program Bureau for LfSD.

4. In order to make EE more effective, the steering group has focused NEEP activities on supporting 'vital coalitions' of local or regional stakeholders collectively trying to find ways of protecting the environment through bottom-up approaches.

5. Increasingly, NEEP and LfSD activities are being integrated at the local level.

3.3.2 Governance – structures and responsibilities

All countries in the EU have been requested to prepare strategies or national action plans for the UNDESD (as have all other countries) and to implement the United Nations Economic Commission for Europe (UNECE) Strategy for Education for Sustainable Development. The

Netherlands uses the one LfSD program for both. Thus far, two iterations have been developed and implemented: From Margin to Mainstream (2004–2007); From Strategy to (General) Practice (2008–2011).

Together, the national government and the provinces spend around €5 million a year on the LfSD.

A **steering committee** directs the focus and scope of LfSD. It is chaired by the Ministry of Agriculture and comprises members of the Ministries of Environment, Foreign Affairs, Economic Affairs and Energy, General Affairs, Transport, Public Works and Water Management,[18] and Education as well as representatives of provincial governments and the district water boards.

Program management is provided by NL Agency (of the Ministry of Economic Affairs, Agriculture and Innovation), which also implements the NEEP and is responsible for optimising the connections and communication between the two programs and their activities.

A **Provincial LfSD Director** is appointed in each of the 12 provinces to work in close contact with local councils, district water boards and local community organisations.

Their responsibilities include:

- the execution of provincial and local projects agreed in a bilateral Provincial Ambition Statement (PAS), agreed between each province and the national government to focus attention on sustainability themes of national significance

- knowledge transfer and creation through the analysis and contextualisation of regional and provincial projects in order to scale up local pilots to large scale innovations

- coordinating communication activities such as the production of newspapers and essays, the maintenance of an LfSD projects database, and the organisation of meetings among stakeholders

- building structural connections between formal, non-formal and informal education.

3.3.3 Principles and approaches

The two underpinning *principles* in LfSD are:

- EfSD must be central to all activities.

- individuals, governments, community organisations and the private sector must develop competencies in order to integrate sustainable development in all actions and decisions.

LfSD uses a variety of *strategies* to achieve these ends:

Explaining in concrete terms the concept of sustainable development:

- the publication of booklets (on, for example, sustainable management, social learning and sustainable leadership)

- the development of learning standards

- support of communities of practices

- the development of tools such as the PPP stamp (dossier to stimulate critical reflection and discussion) and a PPP tool (tool for sustainable decision-making)[19],

- Sustainable Development Ladder (good examples and practices)

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[18] As in Australia, the names of ministries are ever in flux. These were the names at the beginning of the 2008–2011 strategy. However, changes have occurred since then. For example, there is now a Ministry of Economic Affairs, Agriculture and Innovation. The purpose of listing the ministries is to illustrate the breadth of cross-departmental involvement.

[19] PPP is the 'People, Planet, Profit' motto developed at the time of the World Summit on Sustainable Development (WSSD) in 2002.

- a database of national, provincial and local sustainability projects on the LfSD website.

Bringing stakeholders at all levels together to discuss key issues:

- organising workshops
- starting up networks
- supporting websites for knowledge exchange.

Training and coaching for participants in the program:

- leadership training
- coaching to embed sustainable development in the structure and administration of organisations.

3.3.4 Audiences

The LfSD program is built on three pillars, each of which addresses a different audience and focus of EfSD. This conceptualisation of 'audiences' is noteworthy as it advances beyond the simplistic (and individualistic and 'unsavoury-sounding') notion of 'target groups'.

Level 1: the learning individual; focus: formal education

Here EfSD aimed at vision- and agenda-setting for sustainable development across all levels of the formal educational system – primary and secondary school schools, VET, and university education. Activities that enhance teacher education for sustainability are especially supported (e.g. communities of practice, action research networks, and travel support), as are major contributions to syllabus writing, learning standards and guidelines for the developers and publishers of EfSD materials.

Level 2: the learning organisation; focus: government(s) and policymaking

The objective here is to develop the competencies needed to embed sustainable development as an integral part of governmental decision-making processes. In this focus area, national, provincial and local governments learn how to deal with integral policymaking, the participation of citizens and organisations and how to improve the quality of their own structure and performances.

Level 3: the learning society; focus: complex decision-making processes in society

Within this level, learning processes are connected to situations in which several stakeholders – with their own perspectives – work towards a collective solution (e.g. in the decisions needed to establish a waste management site or to plan a community public area).

To this end, LfSD helps to establish what are called 'learning arrangements' to enable multiple stakeholders to contribute to and to learn from the decision-making process. This is the process of social learning, which is fundamental to both informal and non-formal education and through which the contributions of NGOs, businesses, and civil society groups are facilitated.

3.4 Underlying assumptions and approaches

The LfSD program actively prioritises and promotes *social learning*, not information and awareness or behaviour change *approaches*.

The social learning approach was developed by agricultural extension and natural resources management (NRM) programs at Dutch universities and was translated more broadly into other fields by the sustainability science and resilience movements, and into education by the Dutch educator Arjen Wals.[20] It has also been promoted in Australia by the Citizen Science program of the Cooperative Research Centre (CRC) for Coastal, Estuary and Waterways Management and the projects and writings of teams at the Australian National University (ANU), RMIT, Monash University and the University of the Sunshine Coast.[21]

Social learning is difficult to define precisely, but, broadly, it is a facilitated group learning process that seeks changes in understandings and norms in the mental models (of nature and society) of groups of people rather than just individuals.[22] A fuller understanding of how the social learning process works and needs to be carefully facilitated is provided in the diagram and two quotations in Box 3.1.

3.5 Monitoring and evaluation

3.5.1 Monitoring and evaluation processes

Continuous monitoring throughout the general course of the program and annual evaluations are features of the LfSD program.

Monitoring and evaluation of the LfSD program takes place at three distinct levels: the LfSD program, the target group and project levels.

Program level:

Annual evaluation reports of the LfSD program are based on four criteria/indicators: inputs (resources), throughputs (processes), outputs (products) and outcomes (effects). These criteria accord with the international list of indicators of the UNECE ESD strategy. Since 2009, the monitoring and evaluation of the LfSD program has been closely connected to the monitoring and evaluation of the NEEP.

Audience level:

Two special workgroups (across the three pillars) have been appointed to review activities within each pillar. An Education Team comprising representatives from relevant EfSD networks and interprovincial discussion groups. The Government Team discusses and evaluates the progress of LfSD activities of Pillars 2 and 3 by special and regular meetings with all provinces and ministries that cooperate in the program in order to identify possibilities for improvement.

Project level:

Templates are provided for project reports, which are uploaded onto provincial websites and the LfSD website. Online tools are provided to critique and improve projects. However, it is said that more follow-up is needed on this to enable effective knowledge transfer and scaling up from provincial and local pilot projects to national implementation.

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[20] See Wals (2007).
[21] See, for example: Keen et al. (2005), Ison et al. (2009), Gidley et al. (2009) and Smith et al. (2011).
[22] Although the connections are not generally noted in the social learning literature, this change in expectations is a fundamental aspect of social practice theories of the sustainability transition through which changes in what are considered 'normal' social practices help create a supportive social context for everyday sustainable living. See Horne et al. (2010).

Box 3.1: Understanding Social Learning
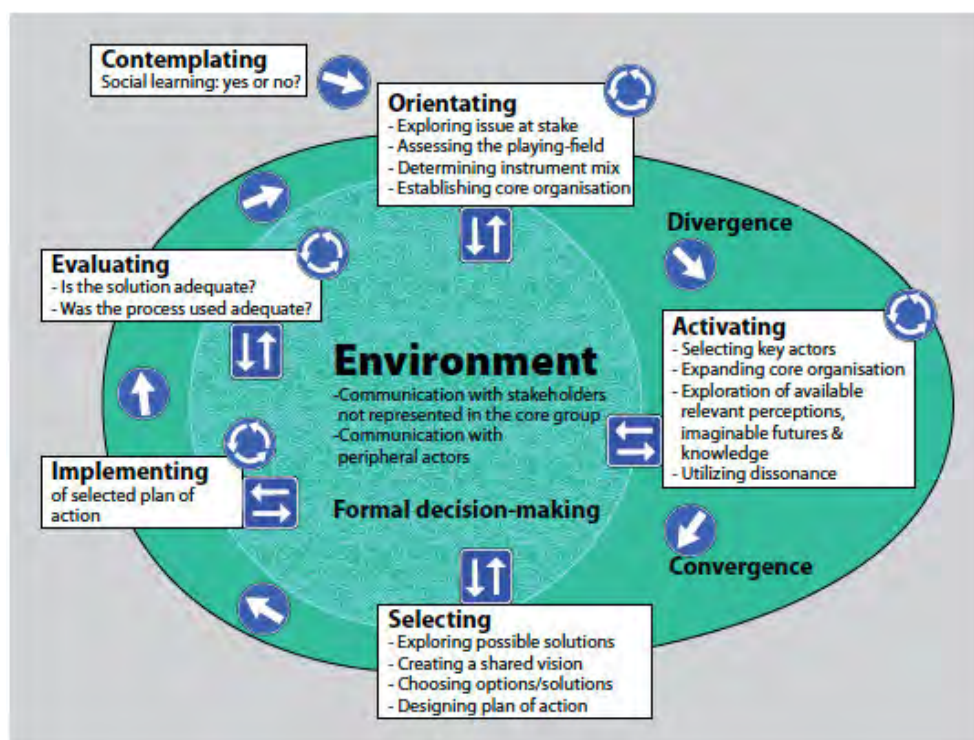
A learning cycle consisting of a number of phases in which each phase, in turn, is made up of its own learning cycle. (Wals et al. 2009, pp. 5–6)

[P]eople learn from and with one another, becoming collectively more capable of dealing with the uncertainty, complexity and risks involved in finding their way towards sustainable development. In other words, social learning is about learning from each other in heterogeneous groups and about creating trust and social cohesion. It is also about creating ownership of both the learning process and the solutions that are found, as well as about collectively finding meaning and making sense. In essence, social learning brings together people with diverse knowledge and experiences, with different backgrounds and perspectives. This diversity assists in finding more creative answers to questions, for which no ready-made solutions are available. (van deer Waal 2011, pp. 93–94)

In policy circles, but certainly outside these as well, 'social learning' is increasingly referred to as a manner in which to actively commit people to far-reaching processes of change. Social learning can be explained in a number of ways. In essence, it is about bringing people of different backgrounds together. The ensemble of perspectives, knowledge and experiences that is brought about in this way is necessary in order to come to a creative quest for answers to questions for which no ready-made solutions are available. (Wals et al. 2009, pp. 5–6)

3.5.2 Evaluation results

A SWOT analysis of LfSD based upon recent evaluations is provided in Box 3.2. This shows that EfSD has generally moved from the margins to the mainstream in the Netherlands. In recent years, EfSD and environmental education policies have been aligned and, together with consistency in assumptions and approaches, the policy implementation process has contributed towards a deepened understanding of sustainability issues and a widening of competencies for sustainable development across all community, government and business sectors.

Box 3.2: SWOT Analysis Derived from Evaluations of the LfSD Program

ESD Implementation at a Glance

This section identifies some of the strengths, opportunities, threats and weaknesses in implementing ESD in the Netherlands.

Strengths

- The LfSD programme has succeeded in positioning sustainable development in the strategic discussion of education.
- Sustainable development has gained strength within the government and has moved from a marginal to a mainstream position.
- Dutch provinces have succeeded in involving a growing number of social actors in sustainable development projects in areas such as climate change, water management, spatial planning, sustainable production and consumption.
- Administrative involvement through dialogue and participation by governments and social partners.
- A democratic society.
- High level of education, compulsory education, low illiteracy and a high percentage of Internet usage.
- High involvement of NGOs.
- Cooperation between governmental departments to generate funds.
- Conceptual development of ESD in formal, non-formal and informal education through the support of 'learning individuals', 'learning organizations' and 'learning society' (centralized and decentralized).
- Good functioning of living networks such as DHO, DMBO and Duurzame Pabo.
- Development of the Educational Repositories Network – a system of metadata for ESD within the general metadata system for digital educational materials.

Opportunities

- The establishment of strong networks in formal education would accelerate the process of embedding sustainable development in the formal education sector.
- The development of a comprehensive monitoring and evaluation system to assess LfSD and environmental education programmes.
- Ensuring online availability of ESD materials could facilitate the work of ESD educators.

Weaknesses

- The constitutional right of 'freedom of education' does not allow for much top-down influence on the formal school curriculum. Thus, schools and teachers are free to develop their own curricula. The Ministry of Education only influences education by setting central objectives at primary school level and through the realization of exams at secondary level. Inspections by the ministry focus on Cito-tests and the monitoring of school absenteeism. There is no control by the ministry about the quality of educational materials or lessons of the educational process.
- Given the vast quantity of information regarding environmental education and ESD projects, one of the current challenges is to ensure that users can find information easily and quickly. The development of software able to process ESD data into useful information constitutes another challenge.
- Difficulty in up-scaling projects which are locally embedded and executed.
- The environmental education sector is hardly innovative.
- A lack of integrated methods for ESD developed by well-known educational publishers.
- A lack of ESD evaluation processes at the school level, making it difficult to ascertain whether an increase in interest in ESD is caused by LfSD measures or by other influences.

Threats

- Low priority of ESD at schools.
- Time related difficulties: schools lack time to fulfill all basic educational obligations, with little time for extra programmes.
- Middle management tends to focus on achieving the demands of the Ministry of Education, parents and corporate business at the expense of ESD issues.
- Extensive numbers of 'educations', projects and thematic packages compete for inclusion into the curriculum. A lack of insight into the quality of these projects and packages is also detrimental.
- Some NGOs dealing with environmental education and ESD lack the competency to support educational reforms, as they tend to remain focused on messages relating to green issues.

Nevertheless, several gaps have also been identified, including:

- The heightened awareness of issues is not sufficiently matched by a sense of urgency among citizens, politicians and businesses.

- Issues such as structurally embedding EfSD in schools, the structural funding of EfSD policy, integrating EfSD programs in schools, and supporting networks are being worked on but deep change takes much longer than the LfSD program has been in operation.

- Changes in government and changing priorities still make continued and increased funding for EfSD uncertain despite the support of the six ministries participating in the LfSD program.

- An increasing demand for quantifiable results in short timeframes may shift the focus from social learning to more 'target-oriented' approaches.

3.6 Key lessons

The Netherlands model has both positive messages and implications for the governance of EfSD in two ways: (i) policy framework and implementation structures, and (ii) approaches and models.

3.6.1 Policy framework and implementation structures

Positive Messages	Implications
A whole-of-government approach can ensure that EfSD is located within a wider but strong policy framework for sustainability.	A strong policy framework for sustainability needs to be developed and widely disseminated. EfSD officers within government agencies need to be key influences in the development of the policy to ensure that EfSD is a core dimension of the policy framework for sustainability.
The LfSD program provides a framework for policy and program development, especially for EfSD for the non-formal sector.	The structure of the LfSD program can be adapted to suit circumstances in other jurisdictions
The LfSD program is complemented by a strong EfSD/EE program (NEEP) in schools.	The overlapping membership of the NEEP and LfSD programs ensures consistency of philosophy and directions.
A partnership approach enables local authorities and water utilities to work within a common policy and philosophical framework for EfSD at the local level, supported by resources from central government.	The EfSD unit of government need not necessarily be the major implementation agency of EfSD. Rather, it could see its role as providing the policy framework, guidance and resources for decentralised delivery of EfSD by others.

3.6.2 Approaches and models

Positive Messages	Implications
Social learning provides a strategy for advancing public support for sustainability, which avoids the individual blaming and short-termism of most behaviour change programs.	The roles of social learning as a policy tool needs to be widely accepted within and across government sectors. An effective capacity building strategy is needed to ensure that the agencies and organisations responsible for implementing EfSD are aware of, understand, and are capable of adapting and using social learning models and strategies for evaluation.
Social learning approaches are especially valuable in bringing consensus in areas of controversy (e.g. over development applications, etc.).	
Annual evaluation for all audiences supported by a template for self-evaluation supports continuous quality improvement.	

4. Governance of EfSD in Germany[23]

4.1 Introduction

The governance and implementation of EfSD in Germany is strongly aligned with the UNDESD. EfSD has been declared nationally as a guiding principle, and in the past decade, two large programs have been funded to test and implement EfSD in the schools context. Largely due to this effort, EfSD in both the formal and the non-formal sectors in Germany is strongly influenced by this model. Here, EfSD is based on the concept of *Gestaltungskompetenz* (design competency) with particular content orientations, a set of pedagogic and didactic principles, and an understanding of EfSD as a medium for innovation in education. While this is the prevalent model, there are a number of interest groups exerting an influence on policymaking in relation to EfSD. These include the environmental perspective, the global learning agenda, the economic development agenda and the science- and technology-based climate protection and engineering agendas.

The framework conditions in Germany are favourable for mainstreaming EfSD. There is a strong foundation in environmental movement and management; Germany is one of the leaders in innovation in science and technology; there is wide community support for sustainable action; a national sustainability strategy is in place; and efforts are underway to address governance issues that hinder the wider implementation of EfSD. While education is the responsibility of the education ministries of the *Länder*, the federal government has an interest in providing programs and support for overriding issues in education. To further drive momentum, analysts in Germany recommend the government focuses on the development of a long-term vision and a grand picture for EfSD and sustainable development. This will leverage new governance measures and policies to further progress EfSD.

4.2 Background and drivers

4.2.1 The political environment

Based on the strength and influence of the environmental movement and the German Green Party at the *Länder* and the federal levels, as well as science and the media, the German discourse on sustainable development traditionally has had a focus on environmental issues (Jänicke et al. 2001, pp. 6–10). Germany was considered a leader in environmental policy from the 1970s to the early 1990s and in 1991 volunteered to be the first country to be reviewed for the first Organisation for Economic Cooperation and Development (OECD) environmental performance review (Stigson et al. 2009, p. 5).

Throughout the 1970s, efforts were made to integrate aspects of the concept of sustainable development that were internationally established as key elements in the 1990s: the integration of policies in the environmental, social and economic spheres; the wide-ranging participation of civil society in decision-making; and a long-term view of problems and resulting strategies. Guiding principles of German environmental policy then were the precautionary principle, and its implementation based on the systematic prescription of best available technology, the 'polluter pays' principle, and the principle of cooperation. The concept of sustainable development was perceived by some as a step back from what had already been achieved.

Germany's strength in environmental policy waned from the early 1990s. The focus shifted predominantly to technological solutions and Germany became a technological leader in areas such as emission control at the source, air pollution control, water protection and waste management (Jänicke et al. 2001, pp. 6–10). With the concept of sustainable development being amenable to interpretation and use by various societal actors and interest groups, a mixed discourse on sustainable development has emerged.

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[23] Due to language issues, Dr Iris Bergmann wrote this case study, assisted by Dr Matthias Barth, DAAD (German Academic Exchange Service) Research Fellow at RMIT University.

The national government views sustainable development as both a guiding principle and an all-encompassing strategy for modernisation. In the draft progress report of the national sustainability strategy for 2012, the concept of sustainable development is portrayed as a methodology for solving problems rather than the one right answer to problems, The national strategy is based on a holistic integrative approach that unites environmental protection, economic productivity and social responsibility at national and global levels.

Earth's carrying capacity is the absolute outer limit within which the other political aims are to be optimised. So the triangle of the social, economic and ecological dimensions of sustainability in Box 4.1 includes both the absolute outer limits through the concept of optimisation within the absolute limit, and the concept of relative limits that needs to be respected when integrating the social, economic and environmental considerations of any activity (Bundesregierung 2011, p. 14). Concrete steps to protect the climate have been taken, beginning with the October 2000 Program on Climate Protection. Addressing climate change ranks high on the political agenda and Germany has taken a leading role on the national, European and international levels. This is enforced by implicit expectations of other nation states, especially within the EU, that Germany will act as a forerunner in climate policy.

Environmental and climate protection has also become a major economic factor. It is estimated that 1.8 million people work in the environmental sector and the environmental industry has grown by an average of 10 per cent annually since 2002. Nonetheless, Germany is still a high-carbon society and has not managed to decouple economic growth from energy and resource consumption (Jacob et al. 2009, pp. 17–18). While consumer awareness of ecological and social issues and a readiness to alter patterns of consumption show potential for change, there is a lack of strong political backing and consistent signals from the government. For example, green public procurement has been on the political agenda for some time, but in 2009 it was reported that green goods account for just 30 per cent of the total volume of public procurement, compared to 74 per cent in the UK, and many municipalities remain unaware of the regulations about energy efficient products (Jacob et al. 2009, p.71).

Box 4.1: The Foundations of Sustainable Development in Germany (2008)
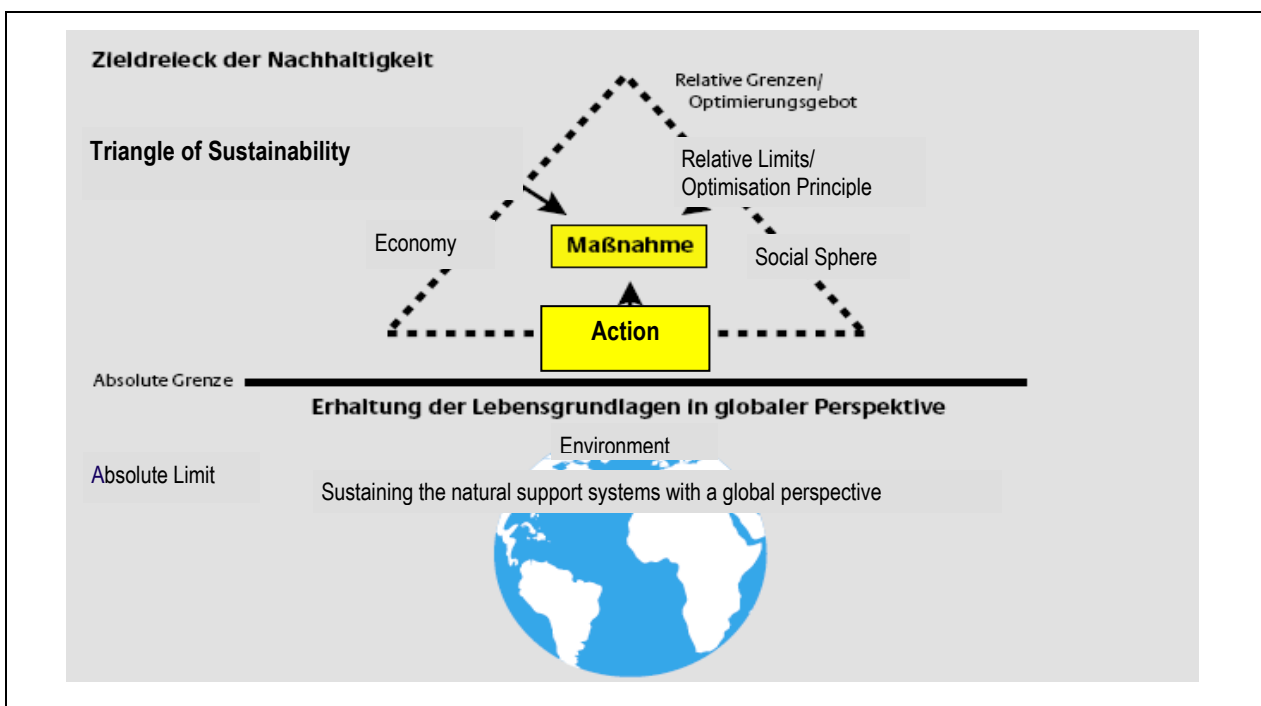
Source: German federal government, English translations added by Dr Iris Bergmann

Major weaknesses that have been identified are a lack of vision (also identified in 2001 by Jänicke et al. 2001) and confusing information being communicated, so Germany is running the

risk of losing its competitive advantage. It has been observed that the sustainable development strategy and its institutions are still at the periphery of government actions. Nonetheless, there are indications that this is slowly changing: the ministries are increasingly seeing sustainable development as a point of reference for policy development.

The nuclear catastrophe in Japan in March 2011 led to intensive discussion on the future of nuclear energy, energy production and security. The result is a clear commitment to exit nuclear energy production by 2022 at the latest, to reduce CO_2 emissions by 40 per cent by 2020 and by 80–95 per cent by 2050 (from 1990) and to increase the production of energy from renewable resources from the current 17 per cent to 35 per cent in 2020. The move toward energy efficiency and renewable energy sources will be accelerated, with a target to generate electricity to 80 per cent from renewable sources by 2050.

This is heralded as an unprecedented turning point and involves the ministries for the environment, nature and nuclear security, for the economy and technology, for finances, for transport and for urban planning and development.[24] The fallout of this development for EfSD is yet to be seen. As the subtitle to the recent peer review on sustainable development policies in Germany states: *Sustainability 'Made in Germany' – We Know You Can Do It* (Stigson et al. 2009).

4.2.2 Sustainable development governance structure

The Council for Sustainable Development (RNE) was created in 2000/2001. In conjunction with the Federal Chancellery, the Council is considered the leader of sustainable development policies in Germany. It now consists of 15 public figures from politics; industry, industry bodies and unions (with (organic) agriculture and mining currently the main represented areas); social affairs; church and conservation groups. The tasks of the Council are to advise the federal government on all matters of the national sustainability strategy and to foster social dialogue on the issue of sustainability.[25] The RNE does not take (public) positions and does not position itself as a body for scientific advice. The Council's establishment was hardly noticed by the media and the general public, but today the RNE is perceived as being highly valued, at least by the actors within the sustainability arena (Jacob et al. 2009, p. 31, 2001, p. 10).

The National Strategy for Sustainable Development (NSSD) was published in 2002. The Federal Chancellery is responsible for the NSSD. The State Secretary Committee is responsible for the implementation and further development of the concept. The strategy outlines a number of objectives and a set of institutions for implementation. 'Management-by objective', as opposed to authoritative top-down implementation, is a rather new model for administrative implementation of policies in Germany, with a highly departmentalised and specialised system, management and institutions need to be adapted in many ways (Jacob et al. 2009, p. 27).

A Parliamentary Advisory Council on Sustainable Development was first established in 2004 and reconstituted in 2010 with 22 members. Its tasks are to involve the Parliament in sustainability policies. It requires a renewed mandate after each general election. This body is considered potentially relevant yet currently rarely visible and with little impact, and in need of more administrative capacity. The Parliamentary Advisory Council stands out, however, for introducing a sustainability impact assessment in legislation procedure in 2008 that serves to counter ambivalence toward sustainable development in the legislative process (Bundesregierung 2011, p. 21; Jacob et al. 2009).

Besides the federal government, the RNE, and the Parliamentary Advisory Council on Sustainable Development in the German Bundestag, the private sector forum on sustainable

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[24] www.nachhaltigkeit.info/aktuell/neu.htm, details in Der Weg zur Energie der Zukunft see www.bundesregierung.de/Content/DE/__Anlagen/2011/06/2011-06-06-energiekonzept-eckpunkte,property=publicationFile.pdf

[25] For example, the Council has drafted a sustainability code designed to be applied to listed and capital-market-oriented companies as well as small to medium enterprises (SMEs) outlining the minimum requirements placed on sustainability management and sustainability reporting, see www.nachhaltigkeitsrat.de/uploads/media/RNE_May_2011_-_German_Sustainabiltity_Code_en_01.pdf)

development of major German enterprises (econsense), and the German Global Compact play a part in the formation of sustainability policy. The *Länder* and municipalities initially did not participate, but the *Länder* and leading associations of local authorities are involved now (see Box 4.2).

Several goals and indicators do not fall under the sole responsibility of the federal government. Vertical integration, at least coordination, of the federal, *Länder* and local level is needed. Some processes and institutions have been set up to facilitate the cooperation horizontally and vertically between the three levels of government, for example in 2008, a committee comprising the Cabinet Offices of the *Länder* under the auspices of the Federal Chancellery (Jacob et al. 2009, p. 24).

The sustainability strategy is the third strategy that has cross-sectoral application, together with the High-tech-Strategy and the Federal Climate and Energy Program. The Ministry for Food, Agriculture and Consumer Protection was the first ministry to develop a comprehensive sustainable development action plan. The Ministry for the Environment, as advocate of the sustainable development strategy, appears to have weak backing by political leadership. By 2009, several ministries and most German politicians had not recognised sustainable development as a priority. Sustainable development is not yet in the mainstream, and most German policies lead in an unsustainable direction. The concept of sustainable development, and in particular the conceptualisation in Germany as a multidimensional, all-encompassing strategy, allows the actors to choose from a range of options according to their preferences and priorities, which some consider an issue of concern (Jacob et al. 2009; Jänicke et al. 2001).

Box 4.2: Management of Sustainability, Different Institutions and their Interplay (2008)
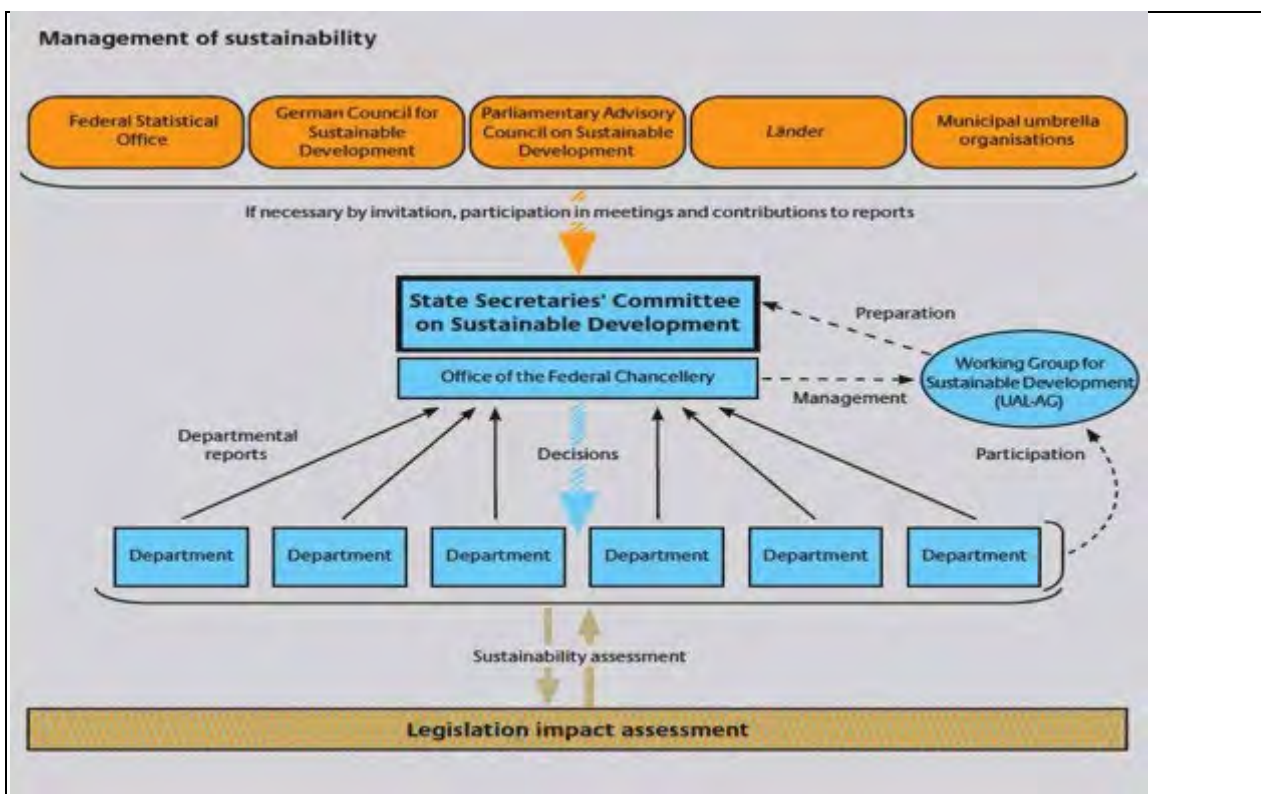
Source: German Federal Government
www.bundesregierung.de/nsc_true/Content/DE/Publikation/Bestellservice/__Anlagen/2008-11-17-fortschrittsbericht-2008,property=publicationFile.pdf/2008-11-17-fortschrittsbericht-2008

A Peer Review (Jacob et al. 2009; Stigson et al. 2009) of sustainable development policies in Germany has developed the recommendations presented in Box 4.3, with the final three involving EfSD in a broad sense.

Box 4.3: Recommendations for Strategic Action

1. Strengthening the Chancellery's leadership and creating a new strategy for implementing the Grand Design

2. Creating a Ministry for Energy and Climate Change

3. Creating a Commissioner on Sustainable Development

4. Introducing a Sustainability Action Plan and tooling up for action

5. Empowering the Parliamentary framing of the sustainability agenda, tooling up for (new) Parliamentary decision-making of sustainability assessment of pieces of legislation, and reviewing of Government's departmental sustainability reports

6. Expanding the outreach of the Council for Sustainable Development, enlarging its scope and function

7. Improving vertical integration between the Federal level and the *Länder* and between the *Länder* and local levels; encouraging sustainable development strategies in the *Länder* and regional networks

8. A public-private partnership for action, and sectoral roadmaps for implementation

9. Changing gear in policies towards customers and consumers, and markets

10. Encouraging citizens' action

11. Strategizing for 'gaining brain', and crafting learning partnerships

12. Increasing sustainability-related research and innovation and sharpening advanced studies into sustainability; breeding green clusters and engineering standards for sustainable solutions

Source: Stigson et al. 2009, p. 26
www.nachhaltigkeitsrat.de/uploads/media/RNE_Peer_Review_Report_November_2009_03.pdf

Following on from the findings of the Peer Review, the RNE stepped up its activities, focusing on the development of visions for Germany 2050, and fostering and invigorating the dialogue (see the 2010–2013 Work Program in Box 4.4, where explicit EfSD components are marked in bold).[26]

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[26] Some of the points in the Work Program have already been accomplished at the time of writing this case study and others are in progress.

Box 4.4: German Council for Sustainable Development 2010–2013 Work Program

1. Vision 2050. Future Dialogue – to elaborate visions for Germany for the period leading to 2050

2. Germany, country of raw materials? Continuing work on a sustainable use of resources, urban mining

3. Green economy, consumption and lifestyles – including:

   • proposals for sustainable development-measuring in the economic development of the population

   • development of a 'German Sustainability Codex'

   • recognition of business performances for sustainable development

4. Sustainable Cities. Dialogues with mayors on sustainable communal policies

5. Sustainable fiscal strategies

6. Demographic development, health, public services

7. Energy, climate, water, mobility

8. Sustainable Land Use

9. EfSD, integration, cultural diversity

10. Involvement of citizens

11. Parliament and sustainable development

12. Statements on policy processes towards an SDS

13. Annual conferences and further communication elaboration

14. Werkstatt N: Passing of 100 sustainability labels to projects or project idea on the basis of a set of sustainability criteria in 2011 to enhance visibility of role models in society and social business as well as to give appreciation).

Source: Summarised from
www.nachhaltigkeitsrat.de/en/the-council/work-programme/?size=ccxumfua#c11106

The above outlined positive developments in and ambitions for governance for sustainable development form an enabling base for mainstreaming of EfSD despite some difficult governance issues in relation to education.

4.2.3 Governance and EfSD

Germany is a federal parliamentary republic of 16 *Länder* with three administrative levels: federal, *Land* and municipality. Each level is autonomous and in principle independent in fulfilling their constitutionally defined tasks. The federal government is largely responsible for environmental legislation and the *Länder* for implementing federal policy. The *Länder* are also free to develop their own policies within their constitutionally guaranteed domains of responsibility. Sustainable development policy at the level of the *Länder* is, in contrast to the one at the federal level, predominantly operated by the environment ministries. Education, including its financing, is the sole responsibility of the *Länder*.[27]

EfSD at the *Länder* level is the responsibility of the environment ministries, which show varying levels of engagement. At the federal level, both the ministries of environment and education are engaged with EfSD, albeit separately. All this has obvious implications for mainstreaming EfSD. The Peer Review (Jacob et al. 2009, pp. 61–62) comments that because the *Länder* are

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[27] The federal government is only responsible to regulate university accreditation and degrees.

carefully protecting their constitutional rights and do not accept engagement from the federal level within their domains of responsibility, issues such as education were declared to be non-issues for national sustainable development policies.

The federal government provides programs and support for overriding issues in education. Federal Parliament passed its resolution Education for Sustainable Development in 2000, and called on the government to orient federal politics along the guiding principle of sustainable development and to undertake the relevant measures in the educational arena. It mandated the German UNESCO Commission to coordinate all related activities. In 2003, the German Commission to UNESCO (DUK) resolved the so-called Hamburg Declaration on the UNDESD[28], with which the central aims of the Decade has been formulated, and which called for the Alliance Learning Sustainability[29]. A unanimous decision of Parliament in 2004 resolved to develop a National Plan of Action (NPA) for the Decade which was drafted and adopted by the National Committee in the same year. The NPA together with the Hamburg Declaration (Hamburger Erklärung) are essential elements of the sustainable development strategy of the federal government[30]. Another supporting document is the Osnabrück Declaration (Osnabrücker Erklärung[31]) of the participants of the Commission for Educational Planning and Research (BLK)[32]-Congress 2001 on EfSD.

The aim of the NPA is to provide an orientation for all those engaged with EfSD:

- to further develop the concept of EfSD and broadly spread good practices
- to forge stronger links between individual players and stakeholders in EfSD
- to increase public visibility of EfSD
- to strengthen international cooperation.

This applies to the formal, non-formal and informal education sectors in Germany.

Further, the NPA formulated the aim that the federal government together with the *Länder* are to implement and expand the results of the first large EfSD program (BLK-Program 21) and to establish EfSD in schools, which was progressed with the BLK-program Transfer-21 (see below).

4.2.4 The social environment and engagement

Since 1996, the federal ministry for the environment has commissioned a study on environmental attitudes and behaviour in Germany every two years. Surveys are indicating that environmental awareness is increasing. The most recent study in 2010 reports the trends summarised in Box 4.5.

Over the past decade, awareness of the concept 'sustainable development' has more than tripled, with 13 per cent in 2000, to 22 per cent in 2004 and 43 per cent in 2010 of respondents saying that they have heard of it. While the level of awareness of the concept is growing very slowly, it is remarkable that there is a very high level of agreement with its foundational values.[33] Although there is a high level of involvement in voluntary work as social engagement (23 million people – 36 per cent of the population), few citizens take part in initiatives dedicated to the implementation of sustainable development, and involvement of individual citizens in the consultation for the national sustainability strategy development remains weak. Jacob et al.

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[28] http://www.bne-portal.de/coremedia/generator/unesco/en/04__The_20UN_20Decade_20in_20Germany/06__Publications_20and_20documents/Hamburger_20Erkl_C3_A4rung_20engl..pdf

[29] http://www.harburg21.de/agenda+21/un+dekade+bildung+fuer+nachhaltige+entwicklung

[30] http://www.harburg21.de/de/agenda+21/agenda+21+hamburg.html

[31] http://www.transfer-21.de/daten/texte/resolut.pdf

[32] BLK, the Bund-(federal)-Länder Commission, was the research policy advisory body and discussion forum of all questions of education and research 1970–2007.

[33] Comment by Professor #2.

(2009, p. 63) note the need for the federal government to improve its outreach beyond a narrow sustainable development community.

Shortly after Rio, many municipalities initiated Local Agenda 21 processes. Although some exemplary projects exist, the initiatives lost momentum. Some observers suggest that momentum has recently picked up again. While NGOs led the discussion on sustainable development in the early 1990s, business and politics have dominated the field in recent years. It is suggested that some NGOs have withdrawn from the wider debate because they believe their original ideas have been distorted. Exemptions are the BUND (Friends of the Earth), Nature and Biodiversity Conservation Union (NABU) and Deutsche Naturschutzring (DNR) – the German Nature Preservation Society – which pursued a joint sustainable development project financed by the Ministry for the Environment while remaining politically independent, and others like the WWF and NABU cooperate with large companies and organisations for concrete programs (Jacob et al. 2009).

Box 4.5: Environmental Awareness and Behaviour in Germany 2010

1. Summarised and translated by Dr Iris BergmannDespite the financial crisis, Germans consider environmental protection important.

2. Germans assign a high level of relevance to environmental politics in order to meet the challenges that our society faces.

3. Two-thirds of Germans want more action on environmental protection from the federal government.

4. Germans have high expectations of the relevant actors in the environmental arena (industry, government and in relation to individual measures, and in relation to individual and general consumption behaviour).

5. The quality of the close environment is considered very good; the environmental conditions that are spatially and temporally more distant however are considered pessimistically.

6. Particular priority is given to tasks in the area of climate protection. For example, 61 per cent believe that Germany should play a forerunner role in the international arena for climate protection (the figure has grown from 50 per cent in 2008).

7. There is great support for technological innovation; a large minority also support cultural renewal.

8. Personal engagement has grown, but the relevance of some aspects of sustainable consumption has decreased. The engagement in environmental and nature protection has grown from 4 per cent to 9 per cent in the past two years, and the use of renewable energy has more than doubled. However, organic produce is important for 34 per cent of the participants, a reduction from 42 per cent in 2008.

9. Nature is important for Germans for experience and recreation during vacations. Experiences in nature are an important aspect of quality of life.

Source: Adapted from the report commissioned by the federal Ministry for the Environment, Nature Protection and Nuclear Safety (BMU) and the Federal Environment Agency (UBA).

4.3 The approach to EfSD

4.3.1 Coordination at the federal and Länder levels

National Committee for Sustainable Development

The German UNESCO Commission appointed the National Committee for Sustainable Development in 2004 as an advising and managing body to oversee the implementation of the UNDESD in Germany in all educational sectors. It comprises 30 experts representing federal and *Länder* ministries, the Parliament, NGOs, the media, the private sector and the scientific community.[34] It is funded by the federal Ministry for Education and Research (BMBF). Its task is to set strategic priorities for the implementation process and to pursue political advocacy for EfSD. The committee meets biannually. It has an office in Berlin and an ongoing secretariat based in Bonn, which also undertakes research to identify what actions to carry out, funding priorities and the means to achieve the goals as set by the committee.[35]

The Roundtable of the Decade

At the next level, there is the Roundtable of the Decade which meets annually to implement the DESD, and consists of sustainability stakeholders of some 100 organisations from politics, the private sector and civil society, from federal, *Länder* and municipality levels.[36] They are the link between the national committee and the communities, and include actors at the practice level who have an understanding of what is needed on the ground to implement the aims set by the national committee. They establish the problems in practice, the visions and how they can be supported, and plan further EfSD activities. The roundtable acts across the sectors from early childhood, school, university and adult to community education.[37]

The working groups

At a third level, the national committee convenes working groups that are not state specific and act across the federation as a bridging agent. Eight working groups have been formed in the areas of:

- Early Childhood Education
- School Education
- Higher Education
- Extracurricular Learning and Continuing Education
- Initial and Continuing Vocational Education and Training
- Informal Learning
- Biological Diversity
- Consumption (in particular Sustainable Consumption and Climate Change).

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[34] www.bne-portal.de/coremedia/generator/unesco/en/04__The_20UN_20Decade_20in_20Germany/01__Coordinating_20bodies/Coordinating_20bodies.html

[35] Protocols of the meetings are available in German and English at the portal www.bne-portal.de/

[36] See http://www.bne-portal.de/coremedia/generator/unesco/de/08__Zielgruppeneinstiege/04__Akteure/Akteure.html; find more detail at www.bne-portal.de/coremedia/generator/unesco/de/02__UN-Dekade_20BNE/02__UN__Dekade__Deutschland/06__Gremien_20der_20UN-Dekade/Gremien_20der_20UN-Dekade.html

[37] One professor informant stated that the term 'community education' is generally not used in Germany. Depending on the context, the German equivalent would be adult education, out-of school education, informal or non-formal education.

Their purpose is to draw up concrete proposals, bring the stakeholders for each sector together and network their activities and interests, and to publicise the activities. Another task of the working groups is to propose outstanding EfSD projects for the Official Decade Project award.[38]

The working groups vary significantly in terms of their engagement and influence depending on how well they are organised. For example, the Working Group University Education has been weak for many years, but now with a new board, it is trying to become more active and influential, having created a new vision statement and action plan. Schools have traditionally been very active because, historically, EfSD in Germany has been linked with schools.[39]

The national committee, together with the roundtable and the working groups, are the most important instrument to structure the implementation of EfSD across the *Länder*. This creates the bridge between the decision-makers and the stakeholders on the ground. Because EfSD at the *Länder* level is the responsibility of the environment ministries, most of the representatives sent by the *Länder* come from these ministries. Based on the initiative of some individuals, a culture of valuing EfSD is being established at the BMBF, yet there is a persistent lack of recognition of the importance of EfSD and its potential for innovative education reform at the state levels.[40]

Two large EfSD programs have been funded and implemented to date, the BLK-Programs 21 (1999–2004) and Transfer-21 (2004–2008). These programs were designed to test and further develop a model for EfSD in schools in cooperation with the federal government and the *Länder*. An important element of these programs is that the formal sector reaches out and forms partnerships with the non-formal and informal sectors.

4.3.2 Two model programs in the formal sector

Program 21 promoted EfSD in schools with the aim of improving the quality of schooling overall. It introduced new methodologies including innovative and interdisciplinary teaching and learning methods, cooperation and networking with municipalities and the development of student enterprises. Teaching materials and guidelines for state education departments were developed, materials on the organisation of EfSD in schools were prepared, and a training program for teachers and other multipliers as trainers for EfSD was instituted. Transfer-21[41] was designed to expand and enhance the concepts, materials and structures developed in Program 21. Cooperation with stakeholders in business and science was also integrated.

Not the least because of the funding and structural support by federal and state ministries, the debate on EfSD in Germany became dominated by the concepts underlying Program 21 and Transfer-21. They are based on the work undertaken by de Haan and Harenberg and in particular on de Haan's concept of *Gestaltungskompetenz* (design competency) and its sub-competencies, the methodological approach and the content.[42]

4.3.3 Program examples in the non-formal and informal sectors

Annual Themes: the national committee has developed themes for each year to provide a non-binding focus for the EfSD activities within the states and municipalities, to activate new partners and to facilitate communication of the concept and aims of EfSD. Themes have included Cultural Diversity (2007), Water (2008), Energy (2009), Money (2010), Cities (2011), Nutrition (2012), and Mobility (2013). There is no theme for 2014 to allow space for summaries, overviews, conclusions and future visions of EfSD at the end of the UNDESD.[43]

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[38] www.bne-portal.de/coremedia/generator/unesco/en/04__The_20UN_20Decade_20in_20Germany/01__Coordinating_20bodies/Coordinating_20bodies.html

[39] Informant.

[40] Informant.

[41] www.transfer-21.de

[42] Informant.

[43] www.bne-portal.de

The RNE initiates a diverse range of programs including film projects, competitions and an annual conference. A few examples are described below.

Alliance Learning Sustainability: one of the important instruments of the UNDESD and the national committee is the program Alliance Learning Sustainability. Organisations apply for their projects to be recognised as Projects of the Decade. The status is awarded for two years for projects that are innovative and carry the spirit of EfSD. To maintain recognition as a Decade project, the organisation has to reapply after two years when they have to provide evidence that they are still active according to the quality criteria. This awards program is designed to demonstrate the ongoing growth process of the Decade in Germany. The award does not include funding but being recognised as a Project of the Decade carries high recognition value. By now there are more than 1000 Projects of the Decade.[44]

Citizens Initiate Sustainability (Bürger Initiieren Nachhaltigkeit – BIN): is a grants program funded by the government and the RNE. It aims to encourage local sustainability initiatives and civic engagement and recognises initiatives relevant for a local city or municipality that contributes to its sustainability. The 2008–2009 award, for example, was devoted to the issue of intergenerational dialogue. The projects need to be an expression of civil involvement and of the active formation of social processes. They need to strengthen the intergenerational networking of all participants, to be at a well-advanced planning stage or have already been completed and to be role models to inspire others.[45]

Dialogue Future Vision 2050: following the recommendation of the Peer Review, the RNE initiated an innovative participatory project Dialogue Future Vision 2050 in 2011. The RNE invited 85 young people aged 15–33 to take part in a process to develop and discuss their visions for Germany 2050. Topics included the environment, energy, sustainable economies and consumption, social integration and the future of education. The results were presented on various occasions, including the eleventh annual conference of the RNE in June 2011 in Berlin. A member of the council observed in these visions a turning away from the economic short-term imperative to long-term and sustainable future-oriented thinking.[46]

The informal sector: one of our informants refers to a couple of projects involving the mass media that stood out. One is an RNE-initiated film project where young people were invited to produce, in cooperation with sustainability scientists, artists and communication experts, 99-second short films on sustainability themes. Productions were screened in cooperation with large cinemas before the feature movie like advertisements. Another thread being taken up by the media is the popular interest in science and technology on television. There are more and more science and technology topics presented that are now being interspersed with sustainability issues.

4.3.4 Strategy at the *Länder* level: case study North German Alliance

An example at the *Länder* level is the interstate cooperation of the North German Alliance in Support of the UN-Decade of EfSD (NUN)[47]. It is a partnership between the neighbouring North German states of Hamburg, Mecklenburg-Vorpommern, Niedersachsen und Schleswig-Holstein, and Bremen as guest. It is supported by the German Association for International Cooperation (GIZ) and the UNESCO Institute for Lifelong Learning, Hamburg. NUN's aim is to facilitate the implementation of the UNDESD through cooperation of the government and non-government institutions and between the four states.

NUN has created seven working groups to include all educational sectors: early childhood education, school education, vocational education, universities, informal education and

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[44] Informant; www.bne-portal.de
[45] www.bund-bin.de
[46] http://www.nachhaltigkeitsrat.de/news-nachhaltigkeit/2011/2011-04-07/rne-erprobt-neues-verfahren-fuer-buergerteilhabe-an-langfristpolitik/?size=phurasvefjx
[47] www.nun-dekade.de

international further education (learning from the South)[48]. Individual NUN *Länder* are responsible for individual sectors, but the working groups include representatives across the member states. One of NUN's activities is the biannual conference, with the first held in 2005. (Documentation for these conferences is available at www.nun-dekade.de) NUN is also pursuing a certification system for non-formal EfSD providers in the NUN member states.

By 2014, NUN wants to have achieved the following:

- a certification system for non-formal EfSD providers in each member state
- interstate further education programs to be in place
- a marketing campaign for the NUN brand to be in place.

4.3.5 Strategy – informal and non-formal education

A number of efforts are underway to organise the informal and non-formal sector for EfSD with working groups at the federal, *Länder* and interstate levels. The federal working group Informal Learning (AG iL) meets quarterly. A website for informal learning was created in 2007.[49] For example, the city-state Hamburg has a working group for informal learning under their initiative Hamburg Learns Sustainability which also meets quarterly[50].

Informal education

NUN describes the informal education sector as a conglomerate of institutions and services that do not have education as their primary concern but nonetheless have educational influences on society. These include news media in print and online, television, libraries, the internet in general, youth organisations, leisure activity providers and the family. It also includes providers such as zoos, museums, environmental centres and nature reserves. Informal learning can also occur in the context of volunteering, at work and in the context of lifelong learning for those who from the age of 20 are not participating in any regular education or training programs. In addition, there are a growing number of exhibitions and out-of-school institutions dealing with the subject of sustainable development (SD) which run their activities under the umbrella of EfSD[51].

Non-formal education

NUN aims to strengthen the non-formal sector through interstate cooperation and by orienting learning processes and networks on themes specific to the region (e.g. protection of the sea, wind energy, tourism).[52] The Association Nature and the Environment[53] states that while there has been no agreed definition of non-formal education, the following groups have recently emerged as non-formal providers in the EfSD context: 'green' institutions (environmental centres, forest schools and school farms), and organisations which focus on consumer and intercultural education, such as global learning, climate protection, consumer protection and private and government information hubs.

In Niedersachsen, Regional Environmental Education Centres (RUZ) have been strengthened by the development of an organised network since the beginning of the 1990s[54]. They focus on

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[48] The aim of international further education – learning from the South is considered an area of study that needs to be applied across all other fields. It assumes that sustainability can only be achieved with a global perspective and cooperation. Experiences of the South are used as a starting point for EfSD. The exchange with the South helps the North to understand how to do justice to our responsibility for sustainable development in the One World, see www.nun-dekade.de/themenbereiche/internationale-weiterbildung

[49] See www.informelles-lernen.de

[50] www.hamburg.de/bildungsbereiche/1355792/informelles-lernen.html

[51] Comment Matthias Barth.

[52] www.nun-dekade.de/themenbereiche/informelle-bildung/

[53] Arbeitsgemeinschaft Natur und Umwelt is the umbrella organisation for the environmental centres and institutes, initiatives, providers and individuals who are active in the non-formal sector for environmental and nature education, environmental protection and research.

[54] www.mk.niedersachsen.de/live/live.php?navigation_id=1931&art

outdoor experiential, action-oriented and interdisciplinary environmental education. Their tasks are to conduct projects for schools, further development for teachers in cooperation with teacher training providers, development and provision of teaching and learning materials and building networks of collaborators within the community (e.g. with farmers, beekeepers, forestry agencies, small businesses, associations, local and regional government agencies, Local Agenda 21 offices and One-World-Initiatives). They are also involved in supporting the implementation of state-wide programs and initiatives, such as Transfer-21. Niedersachsen has set up a process of recognition for RUZs (see below).

4.4 Underlying assumptions and approaches

4.4.1 Gestaltungskompetenz

The main underlying assumption of EfSD in Germany is based on the concept of *Gestaltungskompetenz* (design competency) as the aim of education. This concept was developed by de Haan[55] and published in 1998 under the title *Education for Sustainable Development – A Framework* (BLK-Heft 69). In 1999, he and Harenberg authored *Education for Sustainable* **Development – Expertise on the Program** (BLK-Heft 72) where they define EfSD, determine relevant content and outline the pedagogic and didactic principles. Both the 1998 and 1999 documents are BLK publications and the first policy papers on EfSD.

Gestaltungskompetenz is the 'ability to apply knowledge of sustainable development and to recognise problems of not sustainable development.'[56] In short, *Gestaltungskompetenz* refers to competencies:

- of understanding (Verständigungskompetenz)
- for networked thinking and planning (Vernetzungs- und Planungskompetenz)
- for solidarity (Kompetenz zur Solidaritaet)
- for motivation (Motivationskompetenz)
- of reflective thinking (Reflexionskompetenz).

(de Haan & Harenberg 1999, p. 26)

Gestaltungskompetenz is further divided into sub-competencies, which grew from an initial list of seven developed at the end of the 1990s by de Haan, to 12 sub-competencies. In 2008, this was adapted to align with the categories of key competencies of the OECD (Box 4.6).

De Haan and Harenberg propose that EfSD is understood not only as an environmental subject as such, but as a concept for innovation in schools and quality education and one that needs to be integrated into all subject areas and school activities. De Haan reasoned earlier that since there is no direct link between EE and environmental behaviour, it is logical for EE to morph conceptually into EfSD. Sustainability is extended to not only include the ecological dimension, but also the economic and social dimensions.

De Haan and Harenberg's framework is the foundation for Program 21 and Transfer-21 (see Box 4.7).[57] While the program recommendations below refer to the school context, they are applicable to any institution, educational as well as non-educational, when conceptualised within the context of a learning organisation.

While this model of EfSD was implemented in the school context, it became a reference point and theoretical framework for EfSD in all sectors (the formal, non-formal and informal), and is widely supported by the federal and *Länder* authorities. Our informant explains that despite the prevalence of this model, many would still not consider it to be the overarching theoretical framework for EfSD in Germany. Being guided by one approach would be considered too

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[55] Then FU Berlin. Means? De Haan became the Chair of the National Committee for Sustainable Development.
[56] www.transfer-21.de
[57] Informant.

pragmatic and too trite. Any discussion of didactics and pedagogies touches many academic sensibilities and would get bogged down in details so an agreement could never be reached. Unofficially, however, practice in Germany is shaped by the understanding of EfSD as tested in Program 21 and Transfer-21.[58]

Box 4.6: Sub-competencies of *Gestaltungskompetenz* and OECD Competence Categories

OECD Competence Categories	Sub-competencies of *Gestaltungskompetenz*
Use media and tools interactively	Competency to form a view: Building up knowledge with an open mind and by integrating new perspectives Competency for anticipation: Being able to analyse and evaluate new developments with foresight Competency for gaining insight in an interdisciplinary way: Gaining insight and acting in an interdisciplinary fashion Competency in dealing with incomplete and complex information: Being able to recognise and evaluate risks, dangers and uncertainties
Interact in heterogeneous groups	Competency for cooperation: Being able to plan and act in cooperation with others Competency in overcoming individual decision-making dilemmas: Being able to consider conflicting aims when reflecting on strategies for action Competency for participation: Being able to participate in collective decision-making processes Competency for motivation: Being able to motivate oneself and others to become active
Act autonomously	Competency for reflection on guiding ideas: Being able to reflect on one's own and others' guiding ideas Competency for acting ethically: Being able to use concepts of justice as a basis for decision-making and action Competency for acting autonomously: Being able to plan and act autonomously Competency in supporting others: Being able to show empathy for others

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[58] Informant.

Box 4.7: Recommendation for a Program to Facilitate *Gestaltungskompetenz* for EfSD

Educational Aim: Gestaltungskompetenz through EfSD	
Educational and organisational principles (modules)	Themes
Interdisciplinary learning	Syndromes of global change Sustainable Germany Environment and development Mobility and sustainability Health and sustainability
Participatory learning	Cooperating for a sustainable city Cooperating for a sustainable region Participation in Local Agenda 21 Development of sustainability indicators
Innovative structures	School profile Sustainable Development School sustainability audit Student enterprises and sustainable economy New forms of external partnerships
Aim of the program: Integration of EfSD into all subjects and the schools' management and operations	

Source: Adapted from de Haan and Harenberg 1999, pp. 61, 88

4.4.2 Alternative perspectives potentially influencing policy

Non-formal adult education, all-day schools and global learning

The non-formal adult education sector has been strong and was very engaged with EE during the 1980s until the early 1990s. Now it is the weakest sector in Germany in terms of adoption of EfSD. Our informant reminds us that traditionally non-formal adult education had been a 'red' topic and has always been strong in the *Länder* governed by the Social Democratic Party (SPD). During the 1990s, with a change in government, support for this sector declined and those who had worked in the field had to reorient to the new climate. Also, there was less community interest in adult EE, possibly because economic issues were prioritised, and the Zeitgeist has shifted. In 1995, BUND und Misereor[59] commissioned a study on the concept of sustainable development as a guiding principle for Germany. Publicity followed which helped to popularise the topic and the concept of global learning. The separation of the two camps, that is the proponents of adult EE and those of global learning, persists today (Apel 2005).

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[59] An organisation of the Catholic Church in Germany providing developmental aid in developing countries.

Based on this background, three implementation avenues for EfSD emerge. First, environmental educators formerly active in the non-formal adult education sector found new opportunities in the new all-day schools. All-day schools are becoming increasingly popular[60] and they are very interested to develop outer curricular activities. They are looking for partners to provide programs and EfSD is seen as a welcome model to fill this gap.

Second, the concept of global learning is penetrating the non-formal adult education space providing avenues of engagement, albeit speaking to a different clientele. Global learning has its predecessors and variations in developmental-political pedagogy, or Third World pedagogy and One World initiatives. Global learning still overlaps with de Haan's and Harenberg's framework, but the triangle of the environment, the economy and the social sphere has morphed into a square, shifting the attention toward the developmental, socio-economic and intercultural aspects of sustainable development. In 2007, the BMZ (federal Ministry for Economic Cooperation and Development) in cooperation with the KMK (the Standing Conference of the Ministers of Education and Cultural Affairs) published the Framework for Global Learning in the Context of EfSD (KMK and BMZ 2006). Third, we could speculate that adult education might find a new entry into EfSD in the context of action for climate protection and social transformation based on strong community concern.

Transformation-education and transformative education

The Scientific Council of the Federal Government Global Environmental Change (WBGU) 2011 report[61] introduces the concept of social transformation that has scientific knowledge and action competence as its foundation. This most recent report contains a chapter on planning for education and research, which has been commissioned by the BMBF and the BMU.[62] Here, a concept of education for transformation is championed that has two dimensions: *transformation-education* and *transformative education*. The former endeavours to provide society with the knowledge gained in transformation research, make this knowledge accessible, including the understanding of the necessity to act and of global responsibility, and thus generate a systematic understanding of options for action.

Transformative education focuses on options for action and solutions that are also thematically oriented. Both concepts regard the social actor as an active participant. It is also recognised here that the transmission of knowledge alone is not sufficient, and that values orientations and action competence need to be part of it. While the theoretical grounding of EfSD fits well with the competencies outlined in this document, the authors regard EfSD as a component of their concept. The WBGU sees value in EfSD and calls for mechanisms to be put in place so that EfSD can be continued beyond the UNDESD.

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[60] Traditionally, school finishes around lunchtime and the students return home for lunch. In many parts, there is still a strong bias against all-day schooling.
[61] The WBGU was founded in 1992 as an independent advisory council. It publishes flagship reports every two years, choosing its own theme. The German Government also commissions the council to prepare special reports and policy papers. See www.wbgu.de/en/mission/
[62] The federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

4.5 Monitoring and evaluation

Some evaluation reports or summaries of evaluation reports could be retrieved, including for Program 21, for Transfer-21 and of non-formal EfSD providers and their programs. It is not always evident what methodology was used for the evaluation. It seems that at the *Länder* level, no funds were provided for evaluation but in the case of Niedersachsen, a member of NUN, a report that contains a SWOT analysis was published online.

4.5.1 Monitoring and evaluation processes

A few findings of the EfSD school program evaluations have relevance for the non-formal, and to some degree also for the informal sectors, due to the prevalence and the importance of networking and the formation of partnerships with community and local business and industry organisations. Some of these aspects are presented below.

BLK-Program 21 (1999–2004) and 21Transfer-21 (2004–2008)

It seems that the outcomes of the evaluation of Program 21 did not carry any surprises. Overall, results were very positive and Rode (2005) found that the integration of EfSD was successful. There was a high level of motivation among all teaching staff. EfSD was perceived as attractive, it provides themes and challenges, and facilitates innovation in the curriculum, and it is solidly embedded in the participating schools.

Teachers made significant gains in competencies that are likely to be of great relevance in future engagement in terms of interdisciplinary aspects, handling complexity and allowing space for student planning and design of lessons. Engagement of students was initially slow, but grew with the opportunities for self-direction, and they demonstrated learning of many of the sub-competencies of *Gestaltungskompetenz*. Participants declared great interest in participating in Transfer-21.

Transfer-21 was evaluated at the student, teacher and systemic levels, teaching methods and the cognitive aspects of student learning. Overall, the strengths and weaknesses of the program are consistent with what one might expect, such as strengthening of the networking structures and partnerships (including those between the formal and non-formal sectors); there are structures inherent in the formal system that hinder progress; and great enthusiasm and engagement of participants was generated.

Niedersachsen

A project report for Niedersachen, a member of NUN, for Transfer-21 was retrieved. It presents a description of the activities, highlights and a SWOT analysis. In Niedersachsen 17.5 per cent of schools participated in the program.

The main focus of the program was on the initiation and support of sustainable school firms, on projects under the themes mobility, agriculture and nutrition in cooperation with external partners, and on methods of self-organised learning and student participation.

The following reasons are named for this success rate:

1. Almost all participating schools are already members of well-functioning and reliable networks that have been going for many years. There is a high level of appreciation of the concept of EfSD within these schools.

2. Nierdersachsen had already developed initiatives in the area of economy and EfSD through a program of Sustainable Student Firms. In 2008, 270 sustainable student cooperatives have been working in 13 regional working groups in close cooperation with regional environmental education centres, and seven primary schools have developed subject content. The Association of Cooperatives North (Genossenschaftsverband Nord) sets up real-life situations by testing and registering the student cooperatives if they fulfil the requirements.

3. Support from a state-wide network of 29 RUZs. (Niedersächsisches Kultusministerium 2008)

The strengths of the program are based on large, productive and continuing networks; on networks that intertwine; consistent maintenance and management of the networks; integration of external partners; networking between the ministries at state level; expansion of the program Voluntary Ecological Year for all-day schools; sustainable economies; and a climate school network.

Non-formal education

The DBU[63], a federal foundation supporting environmental projects and EfSD, commissioned two studies into the non-formal EfSD sector 10 years apart. The first study was conducted by de Haan and his research team over the period 1997–1999, to evaluate practice and the perspective of providers in this sector and the potential for innovation within the discourse of sustainability and education. It defined EE providers as those who claim that this is what they offer, even when it is not their core activity, or when it includes provision of environmental information and advice only. The study contacted 7000 institutions, of which 4600 responded. Approximately a third of those covered sustainability related themes, most of which were 'green' themes with a focus on nature. Some of the results include:[64]

1. Most institutions offering many hours of EE are in North Germany and two other states; not enough is provided in the South of Germany.

2. The environmental centres are the largest group of providers, more than associations, NGOs and adult education centres (Volkshochschulen), adding up to 25 million hours per year (schools offer 115 million hours per year).

3. 70 per cent of themes covered are 'green' themes.

Most methods are talks, seminars and workshops. Innovative and participative methods are used in only 10 per cent of institutions. Regional cooperation occurred with networks in agriculture, rural advisory bodies, early childhood and schools, teacher training, university institutions, community environmental education, science and research, nutrition, environmental protection and consumer protection.

A recent study (2008–2011) conducted by Rode and Wendler examined the potential for further development of this sector and its effectiveness.[65] The empirical model for the evaluation is based on the concept of diffusion in innovation research[66]. Approximately 1900 institutions responded. Since the study in 1999, a focus on EfSD themes is more recognisable, for example, energy, building and transport. It is not clear whether this is a response to general social and educational discourse or to the scope of the UNDESD.

Other findings include:

- approximately one-third of the providers engage 'sometimes' or 'often' with EfSD

- 75 per cent of providers have integrated sustainability as guiding principle

- 22 per cent name EfSD explicitly in their aims or tasks, although this criterion is difficult to define

- approximately 50 per cent of the providers achieved 29 points out of a possible 40 on integrating the core elements of EfSD in their programs (integration of social with economic and ecological aspects, integration of local and global aspects, interdisciplinary and participatory elements)

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[63] Federal Foundation for the Environment.
[64] www.umweltbildung.de/3489.html
[65] Some results are published on http://www.umweltbildung.de/index.php?id=6106
[66] Informant.

- sustainability and operations: 15 per cent apply sustainable practices, and 65 per cent are on their way to doing so or do some aspects of it.

Every third provider in the non-formal sector reported working in cooperation with a local sustainability initiative, and approximately 70 per cent are in dialogue with political actors, municipalities or businesses. While there was a positive tendency among 10 per cent of EfSD providers to orient themselves to EfSD principles in terms of operations and organisational practices (less in the areas of content, methods and staff qualifications), Rode and Wendler concluded:

> Despite this positive tendency, there is a long way to go to integrate EfSD more widely in the non-formal sector. Almost 20 years after the Agenda 21 resolution and almost five years into the UNDESD, EfSD has not gained foothold in the non-formal sector … Most providers implement some elements of EfSD. A comprehensive implementation … remains mostly an unfulfilled claim. (Rode and Wendler 2011, pp.13-14, translation by Dr Iris Bergmann)

So if the providers aren't ready for a comprehensive approach to EfSD, we cannot yet expect that EfSD reaches far into the population. Based on the results of their survey of implementation of EfSD in the non-formal sector, Rode and Wendler developed the following recommendations at the institutional level and at the level of governance for the non-formal sector:

Institutional level recommendations:

1. recognition of the institution as a learning organisation
2. development of professional competencies along the principles of EfSD
3. development of a clear EfSD profile and pedagogic concept, and clear formulation of aims for the educational practice
4. using all possible avenues for cooperation systematically, also to do justice to the interdisciplinary character of issues of sustainability, and, for example, along the model of Learning Regions
5. embedding of decision-makers from industry, society and politics as target group.

Recommendation at the level of governance:

1. create more incentives to accelerate an orientation along the principles of EfSD, and recognition of achievements to date
2. popularisation of the concept of EfSD
3. orientation of funding guidelines along EfSD criteria
4. expansion of long-term institutional support as opposed to short-term funding
5. development of new and support for existing support structures to guarantee the implementation of EfSD beyond the UNDESD
6. advance the discussion of standards and quality indicators for programs and courses, equipment, institutions and staff for the non-formal sector that does justice to the heterogeneity of the providers in this sector.[67]

Informal education

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[67] Rode and Wendler (2011), pp. 122–128, summary and translation by Dr Iris Bergmann.

The DBU plans a study to explore the increasing number of informal education avenues that have the potential to raise interest, awareness and motivate to act for sustainability. This will include social media such as Facebook or Wikipedia, new methods such as Flashmobs or informal network meetings of leaders from business and associations at the local level.

Policy-related research and monitoring

The following policy-related research and monitoring mechanisms are in place:

1. The resolution of the national committee requires the federal government to report on EfSD for each parliamentary term of four years. The first report was published in 2002 for 1997–2001, the second for 2001–2005, the third for 2005–2009 and the next is anticipated in 2013.

2. Progress reports on the sustainability strategy were published in 2004 and 2008, and the 2012 one is available in draft form.

3. The Federal Chancellery had commissioned a peer review of Germany's sustainable development policies which was facilitated by the RNE. The peers comprise a team of independent experts and practitioners from business, civil society, politics and administration from Sweden, Finland, Great Britain, the Netherlands, India, Canada and the USA. The review (Stigson et al. 2009) and the background report (Jacob et al. 2009) have informed this case study. Both are available in English.

4. A biannual indicator report is delivered by the Federal Statistical Office. The first was published in 2006, with 21 indicators of National Sustainable Development. By then, there were four indicators that related to EfSD: the percentage of early school leavers (Indicator 9a), the proportion of university graduates aged 25 years (Indicator 9b), and the share of students starting a degree course (Indicator 9c).

   A share of foreign school leavers with a graduation certificate is used in the chapter Social Cohesion/Integration of foreign citizens (Indicator 19). In the RNE traffic light report (RNE 2008), the only education-related indicator that is rated 'green' is the share of students who start a university education (9c).

The draft progress report on the sustainability strategy for 2012 (Bundesregierung 2011) refers to some underperforming areas in education: Education for All, the need to increase participation rates for secondary school education, vocational training and university education for disadvantaged groups such as immigrants, and lifelong learning.

These factors are all included in the list of sustainability indicators and the RNE (2010) identified them as being in need of urgent attention. The government's progress report also recommends examining whether investment in research and education are to be represented as investment in the future as an indicator for sustainable development.

However, at this stage, the draft progress report falls short of recognising further far-reaching EfSD measures recommended by the RNE and only makes some general reference to the UNDESD and to project examples. Instead, it presents education as a target of corporate social responsibility: an economic and values-oriented education as the basis for holistic judgment and action competence in a global economy. This includes questions of ethics and an understanding of problems in terms of sustainability and teaching of values such as trust, respect and integrity for sustainable economic and social development.

Planned activities include, for example, supporting school and business networks. Here is a clear link to the EfSD model advanced through the BLK programs, albeit a limited perspective satisfying business and development interests.

The RNE recommends the following, also including governance issues:

- the need to better coordinate educational and institutional standards across the *Länder*; differences in standards need to serve the learners and not geographical boundaries

- mainstreaming of EfSD as already tested in the past decade

- more teachers, further improvement for teacher training in particular in the area of EfSD, profiling the teaching profession as a profession of the future

- quantitative and qualitative improvements for university education also in terms of funding and orientation along the principles of sustainability

- anchoring of EfSD in the national sustainability strategy

- integration of EfSD into the curriculum and all subjects, into teacher training, educational standards and assessment criteria and reporting; as a concept to drive innovation in education; sustainability auditing and ranking of public institutions

- research to develop instruments to measure objectively how EfSD contributes to the development of competencies in schools and vocational training institutions.

Nonetheless, the government's progress report refers to strategies to further integrate EfSD in vocational education, and to the relevance of education for technological innovation. All in all, EfSD is not yet conceptualised at the governmental level as an agent for cultural change.

4.5.2 Research for EfSD and sustainable development

Since 2008, an interdisciplinary project in cooperation with Austria and Switzerland has aimed to develop indicators for EfSD. The BMBF funds it with €660,000.

The RNE (2010) also recommends support for research to develop instruments that measure how EfSD contributes to the development of competencies in schools and vocational training institutions. The BMBF funds a program for socio-ecological research[68], including a project that investigates the contribution of educational institutions to sustainable consumption of youth (BINK). It aims to develop a model for a culture of sustainable consumption that combines formal and informal educational settings to facilitate sustainable consumption behaviour. Another recent research project From Knowledge to Action addresses the knowledge–behaviour gap. The recent draft progress report recommends the research priorities social-ecological research and economic sciences for sustainability. The federal government intends to provide an additional €12 million for this legislative period for education, research and development.[69]

The federal government's High-Tech Initiative[70] aims specifically to develop and test innovative technology to improve the resource efficiency of raw materials and minerals. The BMBF supports a major research program Research for Sustainability (Forschungsprogramm Nachhaltigkeit, FONA)[71]. FONA was funded with €800 million from 2004 to 2009.

The research program is interdisciplinary and applied and focuses on the four areas: sustainability in industry and economy, sustainable concepts for the regions, sustainable use of resources and strategies for social action. The program thus connects technological progress with social processes and transfer into the educational system and processes. FONA has been expanded and the new Framework Program is supported with €2 billion until 2015.

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[68] http://www.sozial-oekologische-forschung.org
[69] Bundesregierung 2011, p. 146.
[70] www.hightech-strategie.de/en/index.php
[71] www.fona.de/en/index.php

4.5.3 Conclusion

Our informant confirms that there is a positive climate for EfSD in Germany in so far as the governance sector is taking their commitment to the UNDESD seriously; they are keen to present the EfSD achievements as strong and Germany is taking a lead role. EfSD is also a topic for funding priorities and there are still untapped opportunities for EfSD in the all-day school context. The program evaluations sighted also show very positive results.

However, it appears that to date, there are no plans to take the results of Transfer-21 further in larger coordinated efforts across the states, neither for the non-formal or the formal sectors. From the online documentation it appears that the focus has shifted to fostering dialogue and on using the informal sector extensively for dissemination of sustainability content.

The RNE (2010, pp. 55–57) recommends the following steps for the formal sector which can be transferred to the non-formal and informal sectors and are consistent with findings from this case study:

- more integration of EfSD into more subject areas, as well as into teacher training programs. EfSD needs to be included in education standards and the reporting requirements
- EfSD to be employed as a concept for innovation and quality management. A federal forum needs to be instituted where the states introduce their plans and results to that end and that allows for exchange and networking
- support of sustainability auditing for public institutions and the introduction of a ranking program.

4.6 Key lessons

The German experience with EfSD has both positive messages and implications for the governance of EfSD.

4.6.1 Policy framework and implementation structures

Positive Messages	Implications
EfSD needs to be located within a wider but strong policy framework for sustainability.	A strong policy framework for sustainability needs to be developed and widely disseminated.
	EfSD officers need to be key influences in the development of the policy.
This framework should be structured and promoted to provide the meta-narrative for the transition to sustainability by the state as well as individuals and families, neighbourhoods and communities, organisations, schools and workplaces, and the wider society as a whole.	Government needs to be comfortable in its responsibilities for leading cultural change for sustainability and able to justify this and the ethics of the approaches being used.
	The resulting meta-narrative of the sustainability transition needs to be widely disseminated, discussed, debated and defended across all sectors of society.

It is recognised that there is a need to improve horizontal as well as vertical integration and cooperation within a federal structure and it is demonstrated that measures can be put in place and difficulties can be overcome.	Initially, scope of action may appear limited so allies will need to be found to improve horizontal and vertical integration and cooperation. The need for such policy coordination requires additional resources and capacity building.
Policymaking for sustainability can successfully draw on science and identify EfSD needs and trends from there, and thus act as an important driving force.	Need to balance the recommendation with a social science perspective and evaluate them: i) against the intersection of science and social sciences in an interdisciplinary fashion, ii) with an environmental sustainability perspective at its core, and iii) with integration of community expectations in a participatory fashion.

4.6.2 Approaches and models

Positive Messages	Implications
The roles of the EfSD unit within government could be seen as providing intellectual leadership in the field through undertaking and contracting policy-relevant research that can be used to develop recommended models and strategies for EfSD by those agencies and organisations responsible for implementing EfSD.	An effective dissemination and capacity building strategy is needed to ensure that the agencies and organisations responsible for implementing EfSD are aware of, understand, and are capable of adapting and using the recommended evidence-based models and strategies.
The strong discussion and interpretation of EfSD and the concept of Gestaltungskompetenz has the potential to involve all sectors and stakeholders and for them to give it meaning from their various perspectives.	Vigilance is required to avoid misuse by certain parties, that is, there is a need for continuous monitoring and evaluating to improve the quality of EfSD policies, actions and tools, to maintain values focus, and prevent 'green-wash'.

There is a risk of too many mixed messages from government bodies and representatives in terms of sustainable development issues to please all interest groups.

There is a need to not lose sight of the implementation focus.

Consequently, there is an urgent need to develop an overarching long-term grand vision, that is, a meta-narrative. |

A differentiation between the non-formal and informal sector and identification of the key players opens up new opportunities for alliances and strategies, particularly in the informal sector.	There may be untapped potential in exploring and creating alliances across the departmental sectors, industries, etc. It may be beneficial to intensify cooperation with networks that do not traditionally engage with the EfSD agenda. There is a need to identify untapped potential for alliances for EfSD with key players in the wider informal sector.
The German model for EfSD is based on the concept of Gestaltungskompetenz (design competency) together with the three teaching and organisation principles for the acquisition of competencies: interdisciplinary knowledge, participatory learning and establishment of innovative structures.	The concept of 'EfSD as a medium for innovation in education' holds great potential but this needs to be cautiously evaluated against the risk of overemphasising the needs that business and industry, and science and technology demand from the educational sector. It is of utmost importance to conceptualise the environmental, social and cultural needs as having priority, with science and technology and business and industry serving them for a truly sustainable society rather than vice versa (society serving the needs of the economy, science and technology). With this in mind: there is a need to undertake research to demonstrate the benefits of EfSD, both in terms of sustainability outcomes and traditional academic measures there is a need to identify technological, scientific, social and environmental future industries with a sustainability perspective in mind, and to identify how current EfSD approaches fit with the upcoming skills and competency needs, and what further developments in EfSD are desired there is a need to meet the corresponding training needs of teachers and other multipliers.
A focus on dialogue and participatory processes in the informal arena is currently being played out in Germany to engage larger numbers of the population in the sustainability discourse and in creating a vision for a sustainable future. Generally there is significant interest from civil society to participate in a formative process.	Structures and funds for participatory processes need to be provided from the outset. There is a need to create long-term visions for sustainability and identify the role of EfSD to achieve those, but not to lose sight of short-term and medium-term perspectives.

5. Governance of EfSD in Ontario, Canada

5.1 Introduction

Canada is a federation like Australia, and issues pertaining to education and sustainable development are predominantly provincial (state) responsibilities. Thus, after an introduction on the situation in Canada overall, this case study focuses on one province. Ontario was chosen as the case study for three reasons. First, the influential EfSD NGO, Learning for a Sustainable Future, was founded in Ontario with a national mandate by the National Round Table on Environment and Economy (NRTEE) in the early 1990s and thus, has had influence beyond the province. Second, two important networks are based there: EEON and the Education Alliance for a Sustainable Ontario (EASO). These are representative of similar organisations in other provinces. Third, several key informants are based in Ontario, although a colleague from another province was asked to comment on the initial draft of this case study for validation purposes.

5.2 Background and drivers

5.2.1 Policy environment and public attitudes

Canada played a leading role in the 1992 Earth Summit, with the former Chief Executive Officer (CEO) of Petro Canada, Maurice Strong[72], appointed Chairman of the Earth Summit. Canada then hosted the follow-up conference Eco-ED in Toronto later in 1992. This strong involvement reflects major cultural traditions – and political commitment – to conservation and social justice and to environmental education in Canada. For example, in 1990, Canada developed a Green Plan which sought to establish Canada as an environmental leader and advocate of sustainable development practices. This was followed by the 1992 Code of Environmental Stewardship, the 1995 Guide to Green Government, the 1999 Sustainable Development in Government Operations, the 2008 Federal Sustainable Development Act, and the 2010 Federal Sustainable Development Strategy for Canada. A Commissioner of the Environment and Sustainable Development (CESD) was appointed within the Auditor General's Department of Canada following the 1995 guide to provide independent analyses and recommendations on the federal government's efforts to protect the environment and foster sustainable development.[73] As a result, 28 federal departments and agencies are required to submit a sustainable development strategy to Parliament and report progress every three years.[74]

However, there is little reference to EfSD or community learning in any of these materials. The website of Environment Canada, the agency responsible for the Federal Sustainable Development Act, and the Federal Sustainable Development Strategy does not include education, environmental education or EfSD in its index or site map. The only pertinent sections contain lesson plans for teachers and guides for businesses and community groups on environmental stewardship and sources of possible project funding. However, there are many mechanisms for promoting incidental learning for sustainability such as NRTEE[75] and guidelines for sustainability reporting in industry.[76] The work of the NRTEE is described in Box 5.1.

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[72] Strong commissioned the world's first 'state of the environment' report Only One Earth: The Care and Maintenance of a Small Planet in preparation for the first United Nations (UN) meeting on the environment in Stockholm in 1972. He went on to become Under-Secretary in the UN and a leading advisor on sustainable development to UN Secretary General Kofi Annan. Strong also served as Canada's representative on the WCED (the Brundtland Commmission). The principal author of the WCED report (Our Common Future) was also a Canadian: Jim MacNeill, who served as Secretary General of the Commission.

[73] For background on CESD, see www.oag-bvg.gc.ca/internet/English/cesd_fs_e_29451.html

[74] For further information on policies and structures for sustainable development see Sustainability in Canada, Program 11 in the online radio series at www.lsf-lst.ca/en/what-is-esd/esd-radio-series

[75] See www.nrtee-trnee.ca

[76] See www.ec.gc.ca/p2/default.asp?lang=En&n=B599CE29-1

The fundamental principle underlying the NRTEE is learning through collaboration, and policy analysis and review. This is deemed vital in order to address the divergent perspectives on development/environment issues in Canada, provide secure forums for cross-perspective debates out of the media spotlight, allow the compromises that underpin consensus to emerge, and enable broadly supported policy positions to emerge. As a recent report noted, learning is both the fundamental process and outcome of all NRTEE activities:

> collaborative initiatives that address long-term issues enable evaluation, learning, and readjustment as time goes on. This is important: most sustainable development policy areas require continuous recalibration, not one-off decisions … Long-term and ongoing collaborative processes enable learning from past mistakes and the incorporation of new information. Most sustainable development policies are based at least in part on research from the scientists who study the environment. Policy processes, like the science on which they draw, must continually learn, evolve, and adapt to new information (NRTEE 2010, p. 14).

Box 5.1: National Round Table on the Economy and the Environment

The NRTEE was established in 1988 'to play the role of catalyst in identifying, explaining and promoting, in all sectors of Canadian society and in all regions of Canada, principles and practices of sustainable development'. It comprises members drawn from all social and economic sectors, who are appointed for three years, to act as independent catalysts for public discussion, research, policy formulation and advice. Its roles include:

Bring divergent interests together: NRTEE brings together groups and organisations with different perspectives to seek stronger understanding and consensus on sustainability issues.

Undertake research on priority issues: NRTEE research projects are conducted by policy advisors with the help of outside issue experts over time periods that vary between one to three years. Recent work has focused on issues relating to: Climate, Energy, Water, Biodiversity and Governance.

Disseminate research results nationally and internationally: Generally between 4 and 6 reports are published annually, each highlighting the need for policy actions in specific areas and recommending measures to address these needs. A comprehensive communications package of conferences, panel discussions and local workshops is built around each report to engage a broad audience of people, foster partnerships and promote action.

Advise the federal government and key stakeholders: NRTEE works with federal departments, agencies and key national, provincial and territorial stakeholders to suggest ways to make environmental and economic concerns a central plank of their decision-making processes and encourage the adoption of our recommendations. Through the Minister of Environment, the Government of Canada may also ask the NRTEE to conduct research and provide advice on key and emerging issues.

Source: www.nrtee-trnee.ca

Nevertheless, recent survey findings indicate that 53 per cent of Canadians have never heard of the term 'sustainability' and 70 per cent are unable to define it. However, once the term is defined, over 80 per cent rated sustainability as a top or high priority national goal. Detailed findings from this survey are presented in Box 5.2.

Box 5.2: Canadian Attitudes to Sustainable Development Issues

What Canadians agree on

1.	92% of Canadians agree Canada should phase in mandatory standards requiring all new buildings and appliances to deliver 50% more energy efficiency in 10 years
2.	89% approve of meeting 100% of Canada's new electricity needs through conservation measures, or renewable clean energy
3.	84% agree that we need stricter laws and regulations to protect the environment
4.	83% agree Canada should reduce taxes on income, payroll and investment, and replace these with taxes on pollution and depletion of natural resources
5.	83% want the government to set strict national sustainability targets and report back to Canadians regularly on progress
6.	82% agree Canada should introduce laws to promote denser, walkable cities that would make public transit more practical and reduce traffic congestion. Some 71% want the same laws to protect farmland and reduce the environmental impacts of urban sprawl
7.	79% approve of tax rebates on fuel-efficient vehicles funded by double goods and services tax (GST) paid on 'gas guzzlers' not used for commercial or industrial purposes
8.	67% agree that Canadians consume more than our share of world resources
9.	64% disagree that protecting the environment usually means sacrificing comfort and convenience.

Source: James Hoggan and Associates, www.hoggan.com

Taken from a public opinion poll conducted by James Hoggan and Associates for BC Hydro, Alcan, David Suzuki Foundation, Ethical Funds and several other organisations. The findings were made public at Globe 2006 in March, 2006 in Vancouver B.C. Data provided by Professor David Bell (2009).

5.2.2 Community advocacy for EfSD

The general lack of attention to EfSD in formal policy in the 1990s led to a strong program of community advocacy. Five years of lobbying by EfSD advocates resulted in a partnership between Environment Canada (a federal department), Manitoba Education and an EfSD NGO Learning for a Sustainable Future (LSF)[77] to promote EfSD through nine provincial-territorial ESD Working Groups (ESDWGs).

The purpose of the ESDWGs is to foster a culture of sustainability in Canada by engaging leaders from provincial and territorial ministries, the federal government, the formal, non-formal, and informal education sectors, as well as business and community organisations in discussions and actions to advance EfSD. To this end, the ESDWGs are very active in sponsoring public forums, providing input to provincial curriculum reviews, developing learning resources, developing workshops and conferences, and creating websites.

An umbrella group, ESD Canada, links the provincial-territorial ESDWGs via a federal ESD Canada National Council. It has a large 'expert council' and is serviced by a steering group, a secretariat and subcommittees (see Box 5.3).

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[77] LSF is a non-profit organisation created to integrate EfSD into the curriculum at all grade levels in Canada. LSF was founded by a group of youth, educators, business leaders, and government and community members. See< http://www.lsf-lst.c>

Box 5.3: Structure of ESD Canada

National ESD Expert Council Structure
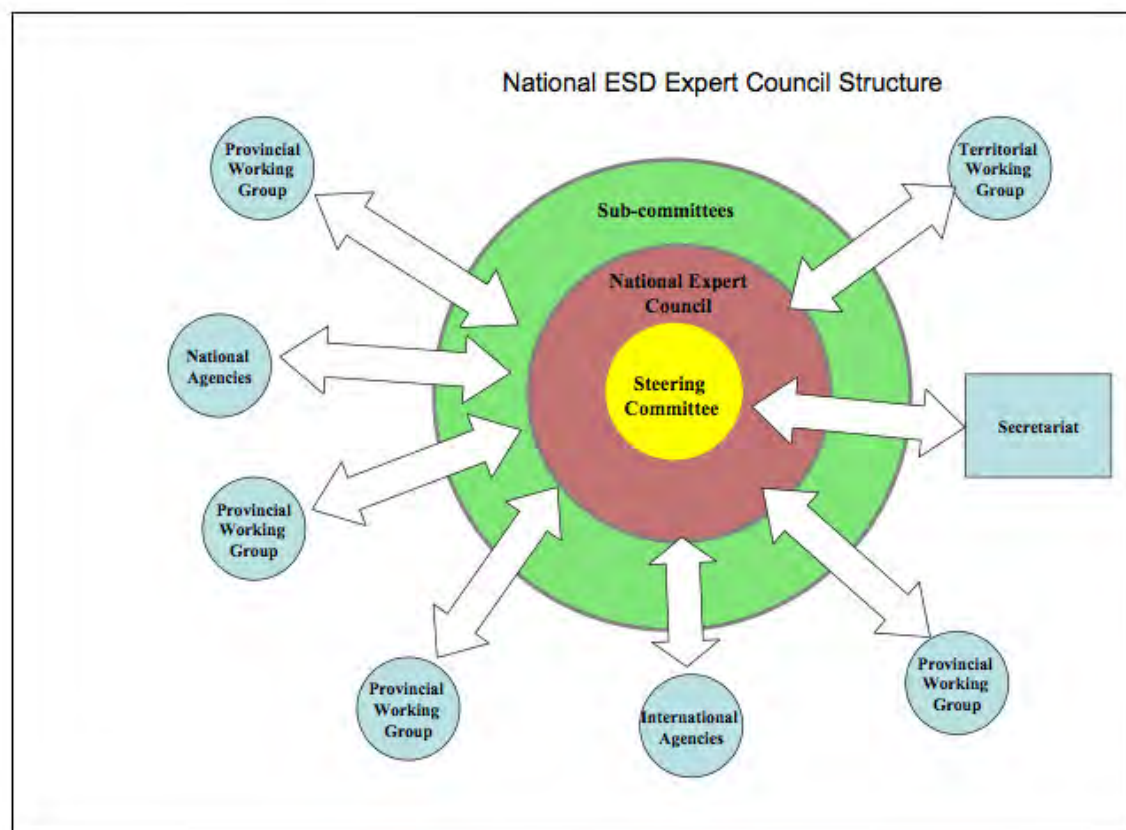
The goal of ESD Canada is: to promote a culture of EfSD through the strengthening and development of partnerships/collaborations that build capacity for EfSD in the formal, non-formal and informal education sectors in Canada.

It does this by bringing together representatives of provincial-territorial ESDWGs, as well as national and international organiations, in order to:

- strengthen, promote and communicate EfSD in Canada
- provide leadership and support innovation in EfSD
- coordinate the identification of EfSD activities across Canada
- identify gaps at a national level and the process to address gaps
- identify and disseminate EfSD research to provincial/territorial ESDWGs and national and international organisations as appropriate
- monitor and report on EfSD progress in Canada in cooperation with ESDWGs
- develop and implement a plan for financial stability of the network and ESDWGs.

There is a strong environmental base in these activities at both federal and provincial levels. This is quite similar to Australia; strong, but separate, development education, global education and human rights education movements are complementary aspects of EfSD in Canada.[78]

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[78] In Canada see www.codecan.org/, and in Australia www.globaleducation.edna.edu.au/globaled/page1.html

5.2.3 Ontario

This report focuses on the activities of the Ontario ESDWG – EASO.[79]

Government support for community-based EfSD in Ontario seems to be limited to information campaigns on environmental stewardship and sources of project funding.[80] There appears to be no coordinated approach to cross-provincial department or cross-level of government collaboration for community-based EfSD.[81] Thus, in Ontario as in other Canadian provinces, an ESDWG networks community- and professional-based NGOs to promote, catalyse and coordinate EfSD in these broader contexts beyond school-level EE.s

With funding from Environment Canada and two foundations, EEON was formed in 2000 and is now part of the EASO, a network of Ontario organisations supporting the UNDESD in concert with similar alliances in other provinces.

Given the traditionally voluntary nature of much environmental education in Canada, EEON sought to facilitate the development of a Strategic Plan for Environmental and Sustainability Education (E&SE) for Ontario. This was done through a series of workshops across the province, and in which more than 500 people across social, education and economic sectors participated. *Greening the Way Ontario Learns* (EEON 2003) was the result, and might be considered the first 'public strategic plan' for EfSD in Canada.[82]

5.3 *Greening the Way Ontario Learns:* A public strategic plan for environmental and sustainability education

Using the term E&SE, *Greening the Way Ontario Learns* is based upon Capra's concept of ecological literacy, which he explains as:

> The great challenge of our time is to build and nurture sustainable communities – communities that are designed in such a way that their ways of life, businesses, economies, physical structures, and technologies do not interfere with nature's inherent ability to sustain life. The first step in this endeavor is to understand the principles of organization that ecosystems have developed to sustain the web of life. This understanding is what we call ecological literacy.

5.3.1 Principles

This perspective leads to a set of guiding principles to underpin E&SE:

- humans are a part of the natural environment
- 'environment' must be considered in its totality, and focus on the dynamic interactions between human systems and natural systems
- the best environmental learning is interdisciplinary
- environmental learning encompasses both short- and long-term futures, from the local to the regional, national and global levels
- critical thinking, consideration of a diversity of viewpoints, and problem-solving are core skills

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[79] For an overview of activities of all ESDWGs across Canada and joint ESDWG activities, see www.lsf-lst.ca/en/pwg/index.php

[80] This advice is organised by topic. For example, on water education, see www.ene.gov.on.ca/environment/en/main/contents/details?term=public_education

[81] By contrast, in formal education, the Council of Ministers of Education of Canada (CMEC) has established a ESDWG to help promote and coordinate EfSD in the formal education sector (K–12) in each province and territory.

[82] See www.eeon.org

- values and environmental ethics guide attitudes and environmental decision-making and actions
- citizen participation in sustainable solutions is essential
- E&SE is a process of lifelong learning.

This list could be criticised for being too dependent upon Tbilisi-era thinking about EE and neglectful of the social, economic and cultural aspects of sustainability. Nevertheless, the list is one of the few extant examples of authors of an EfSD strategy being prepared to identify core learnings for EfSD. This may be a reflection of the influence of LSF, the professional organisation that developed one of the earliest sets of knowledge, skill, attitudinal and action objectives for EfSD.[83]

5.3.2 Audiences

Greening the Way Ontario Learns was written to guide those responsible for EfSD programs for 17 different, but overlapping social sectors, called 'audiences':

1. Aboriginal Peoples
2. Businesses
3. Consumers
4. Families
5. Governments and Public Agencies
6. Labour Organisations
7. Media
8. Medical and Public Health Professionals
9. New Canadians
10. Outdoor Recreation Users
11. Post-secondary Faculty
12. Post-secondary Students
13. Preschool–Grade 12 Students
14. Preschool–Grade 12 Teachers
15. Religious Groups
16. Rural Landowners and Farmers
17. Youth and Citizens' Groups

5.3.3 Structure of the plan

Greening the Way Ontario Learns provides detailed guidance for planning EfSD for each of these audiences, under the following common headings:

- outcomes – and sample indicators for each one
- audience needs
- strategies, including: policies, programs and projects; resources; and support.

See Appendix for an example of the strategy for the general public audience, titled 'Consumers'.

While the detailed nature of the guidance for each audience is impressive, *Greening the Way Ontario Learns* insists that the plan is to be used flexibly and adapted to suit local conditions and audiences.

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[83] Learning for a Sustainable Future was founded in 1991, www.lsf-lst.ca/en

5.3.4 Approaches

An analysis of the approaches to EfSD in the many strategies indicates that no overall philosophy underpins *Greening the Way Ontario Learns* as, for example, there is in the Netherlands with the social learning approach.

However, at least four elements of an approach can be identified:

- a belief in the power of information to change attitudes and affect behaviour
- the need to build on existing good practice – the 'strengths approach' – by promoting programs already available through government, industry or educational institutions
- the importance of synergies between the activities of communities, governments and the corporate sector
- the importance of participation in local projects for environmental stewardship.

Together, these address the breadth of knowledge, attitudinal and action objectives of EfSD. However, they seem to be somewhat 'top–down' in focus and to have a moralising tone.

For example, among the strategies for the 'families' audience are the following:

- provide courses on green shopping and home maintenance and energy efficiency
- encourage families to adopt environmental mission statements and display them in their homes
- encourage repairing items rather than disposing of them; teach the environmental impacts of waste
- provide green public service announcements that promote sustainable practices such as fuel economy, energy efficiency, alternative energy, biodegradability and reduced air emissions (EEON 2003, pp. 41–42).

5.3.5 Implementation

The strength of *Greening the Way Ontario Learns* as a publicly developed strategy is also its key weakness. The detailed guidance for planning EfSD for each of the audiences was developed collaboratively and, hence, has the potential for a strong sense of ownership and commitment to implementation. However, its voluntary nature and lack of integration into government policy and programs are limitations.

Thus, the strategy for implementation is an 'invitation' to 'all members of the public to adopt and carry out the strategies listed here' by:

- making adoption of EEON strategies a formal part of your organisation's activities
- designing your own strategies which support E&SE, or inform EEON of related activities in which you are already engaged
- letting EEON know which strategy (strategies) you adopt
- joining the EEON listserv, which provides a central information exchange for articles, resources activities in Ontario and beyond.[84]

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[84] Also see www.eeon.org

5.4 Evaluation

5.4.1 Testimonies

There has been no formal evaluation of *Greening the Way Ontario Learns*. However, it has been widely praised by leading public figures and specialists in Canada, for example:

> *Greening the Way Ontario Learns* is breathtaking in its scope. It offers roadmaps to environmental awareness for a long list of social and occupational groups. One yellow brick road for each group. At the end of all roads, a vision of harmony – socially, economically, environmentally. It's practical. It's exciting. It can be done.
> — Cameron Smith, Environmental Columnist, *Toronto Star*

> … an important step towards improving the ecological literacy of Ontario citizens – an essential factor in promoting health-sustaining environments for all.
> — The Environmental Health Committee, Ontario College of Family Physicians

> … a catalyst for positive change. Its vision of environmental literacy for all citizens can create a sound economy and true prosperity for all. Sustainability makes good business sense.
> — Rahumathulla Marikkar, Interface Flooring Systems

> In affirming the need to 'live in respect in Creation,' *Greening the Way Ontario Learns* can be an important encouragement for broader and deeper engagement for us and other faith communities.
> — David G. Hallman, Programme Officer for Energy and Environment, United Church of Canada

5.4.2 Impacts in schools

Despite, the lack of evaluation, one measure of the impact of *Greening the Way Ontario Learns* can be seen in the response of the Ontario government to school-level EE. EE in schools has always been strong in Ontario and, as in Australia, is supported by strong networks of field study centres and sustainable schools programs. The range of classroom materials and other resources support provided for teachers in schools is also very extensive.[85]

However, in 2007, the Ontario Government commissioned a Working Group on Environmental Education (the Bondar Committee) to report on the needs of environmental sustainability education in the province. Its report, *Shaping Schools, Shaping Our Future* (Working Group on Environmental Education 2007) was accepted in 2009 and led to the development of the Ministry of Education policy document, *Acting Today, Shaping Tomorrow* (Ontario Ministry of Education 2010). EfSD was made an integral element across the entire curriculum, with the following long-term goals and strategies:

Goal 1   By the end of Grade 12, students will acquire knowledge, skills, and perspectives that foster understanding of their fundamental connections to each other, to the world around them, and to all living things.

Strategy 1.1: Increase student knowledge and develop skills and perspectives that foster environmental stewardship.

Strategy 1.2: Model and teach environmental education through an integrated approach that promotes collaboration in the development of resources and activities.

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[85] This advice is organised by topic. For example, on waste education, see
www.ene.gov.on.ca/environment/en/industry/standards/ici_waste_reduction/school/index.htm

Goal 2   Increase student engagement by fostering active participation in environmental projects and building links between schools and communities.

    Strategy 2.1: Build student capacity to take action on environmental issues.

    Strategy 2.2: Provide leadership support to enhance student engagement and community involvement.

Goal 3   Increase the capacity of system leaders to implement evidence-based environmental education programming, practices, and operations.

    Strategy 3.1: Increase the extent to which environmental education is integrated into school board policies, procedures, and strategic plans.

    Strategy 3.2: Enhance the integration of environmentally responsible practices into the management of resources, operations, and facilities.

Evaluation and indicators are central to the school strategy, with three types of indicators recommended:

- status indicators: the status of environmental education as implementation begins
- facilitative indicators: the supports that are available to facilitate implementation
- effect indicators: the results achieved at different stages of implementation.

Box 5.4 is an example of 'Effects Indicators' for the Ministry of Education, school boards and individual schools.

Box 5.4: Effects Indicators for the Ministry of Education, School Boards and Individual Schools

	Ministry	School Board	School
Output Indicators	• Environmental education integrated into curriculum review process • Environmental education integrated into other frameworks and guides	• Policy for environmental education established • School board staff participating in professional development related to environmental education • Board-wide committee established to coordinate implementation within the board	• Environmental education plan developed • Schools consider purchases of resources and materials through the lens of environmental education and environmentally responsible management
Outcome Indicators	• Shared inventory of school board practices created	• Implementation plan in place that is renewed, revised, and communicated annually	• School council provides advice on implementation • Community partners involved as resources for school planning • Number of student-focused, action-oriented environmental education projects increasing
Impact Indicators	• Student leadership and engagement improved • Alignment between initiatives improved, leading to better outcomes for all students	• Opportunities for student leadership in environmental education increased • Environmentally responsible practices are included in board activities and operations	• Environmentally responsible practices included in school activities and operations • Students are more involved and engaged in environmental education • Environmental education used as an integrating theme for planning purposes at the whole school level

Adapted from "Table 2: Understanding the Differences between ESD Indicator Types", in *Asia-Pacific Guidelines for the Development of National ESD Indicators* (Bangkok: UNESCO, 2007), pp. 37–39. Originally published in D. Tilbury and S. Janousek, "Element 1: Summary of Documented Experiences in Development of ESD Indicators & Element 3: Networking in Expert Groups on ESD Indicators", Report submitted by the Australian Research Institute of Education for Sustainability to the Australian Government Department of the Environment and Heritage, 2006.

Source: Ontario Ministry of Education 2010, p. 24.

5.5 Key lessons

The Canadian and Ontario models have both positive messages and implications for the governance of EfSD.

5.6.1 Policy framework and implementation structures

Messages	Implications
Canada and Ontario have strong policy frameworks for sustainability but not for EfSD – and, as a result, experience a lack of coherency in approach and coordination of activities.	A strong policy framework for EfSD is needed – both integrated within sustainability policy and in its own right.
The round table process has been extremely successful in providing safe forums for discussion and debate between environmental and economic stakeholder groups, and for developing collaborative policy recommendations.	Countries could consider establishing and resourcing a round table process for advancing social LfS.
Community advocacy for EfSD is a powerful support mechanism for EfSD.	Regional 'working groups' for EfSD could be established and mentored by the government and regional/state professional associations.
Provincial-territorial ESDWGs provide a wide range of services to promote EfSD networking and coordination at the local level.	
Both publically developed and government strategies for EfSD can be effective but need synergies between them.	Regional ESDWGs could be charged with developing broad-audience regional EfSD strategies based upon a centrally developed and resourced strategic framework.

5.6.2 Approaches and models

Positive Messages	Implications
The lack of a core philosophy or set of approaches for EfSD in Canada limits its effectiveness.	Countries may find value in considering the advantages and disadvantages of adopting a particular philosophy or approach to EfSD.
The voluntary nature of EfSD planning means that there is a lack of effective implementation and evaluation in Canada and Ontario.	There is a need for centrally planned and resourced EfSD offices.
The lack of coordination and evaluation means that there is little evidence base for planning and implementing EfSD.	An effective coordination, evaluation, research and capacity building strategy is needed.

6. Governance of EfSD in Victoria, Australia

6.1 Introduction

The outstanding feature of the Victorian case study is that it demonstrates a model for EfSD governance that builds on existing expertise, delivery systems, clientele and the work done in Victoria over the past decades by community groups, individuals and NGOs. In that sense, there are indications of a systemic approach to governance with government evolving as an enabler, creating structures, frameworks and incentives to drive EfSD implementation from the bottom up and from within the community. The affiliated management approach in Victoria builds on joint partnerships, and the pedagogic approach of the model of learning-based change.

However, mixed messages from state and federal governments require significant strategic effort from within Victorian departments and agencies responsible for education and the environment to further the mainstreaming of EfSD, and not to lose momentum. This can be achieved with leadership and a cross-sectoral, cross-departmental and inter-departmental whole-of-organisation commitment to sustainability for mainstreaming of EfSD in Victoria.

6.2 Background and drivers

6.2.1 The political and social environment

Like many others, Victoria has expressed ambitions to be a leader for sustainability. The Department of Premier and Cabinet (DPC) published directions for policymaking within a sustainable development framework in 2001 (*Growing Victoria Together*), with an update in 2005. It was followed in 2006 by *Our Environment, Our Future – Sustainability Action Statement* published by the DSE. With this statement, the government identifies five areas for immediate action:

- responding to the challenge of climate change
- maintaining and restoring our natural assets
- using resources more efficiently
- reducing everyday environmental impacts
- government leadership.

The action statement is addressed to government, industry, farmers, businesses and households. It lists 150 priority initiatives and includes the release of an Environmental Procurement Framework comprising procurement policy and guidelines.[86] The action statement requires departments and agencies to include the directions of the environmental sustainability framework in their business and operational planning, including their environmental management systems (EMS). A series of programs including ResourceSmart Government, ResourceSmart Healthcare, ResourceSmart Tertiary Education and the ResourceSmart AuSSI Vic framework[87] were developed by DSE and SV to facilitate the implementation of EMS.

The Victorian *Climate Change White Paper* was published in 2010. It was lauded as setting 'a new climate change policy and action benchmark for Governments in this country' based on a

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[86] The Australian and New Zealand governments agreed on a Framework for Sustainable Procurement in 2007 to guide the national and state governments in incorporating sustainability principles into procurement decision-making.

[87] www.resourcesmart.vic.gov.au/default.aspx

broad coverage of all emitting sectors, the depth of the regulatory and fiscal tools used and the strength of the emissions targets.[88]

The White Paper legislates:

- to cut 2000 CO_2 emissions by at least 20 per cent by 2020
- to make Victoria the solar state
- to support cleaner and more efficient homes
- to position Victoria to be a global leader in clean technology
- to create new opportunities in agriculture, food and forestry
- to deliver innovative transport solutions
- to making government green
- to adapt to climate change and strengthen the Climate Communities program.

With Climate Communities, the government committed to supporting education for householders, business, the community and the school sector. This includes expanding the Climate Communities grants program, with regional facilitators to support local action, a new statewide behaviour change campaign, and a Climate Communities web portal (see Box 6.1).

However, the climate change policy and program landscape in Victoria changed fundamentally after the Commonwealth Government passed the *Clean Energy Act 2011*, which provides a national framework for emissions reduction through a carbon price. In response, the Victorian Government amended its climate change policy and programs to reduce its role in emissions mitigation, discontinuing programs such a Climate Communities, and instead is focussing on managing and adapting to climate risks.[89]

6.2.2 EfSD policy frameworks

In Victoria, a first EE strategy *Learning to Care for Our Environment* was developed in 1992 (VEEC 1992). DSE (2005, p. 14) acknowledges strong parallels between this strategy and those released by NSW, Western Australia (WA), the Commonwealth of Australia, New Zealand, the UK and the UN. The strategy was not comprehensively implemented because the responsible body the Victorian Environmental Education Council (VEEC), which was established in 1989, was discontinued under the Kennett Government in 1992, just as they were releasing the EE strategy. It has not been replaced[90].

In 2005, and linked to the UNDESD, the Minister for Environment launched Victoria's draft environmental sustainability strategy *Learning to Live Sustainably* (DSE 2005)[91]. The strategy is an initiative of *Our Environment, Our Future* and thus, EfSD was strategically aligned with a broader environmental sustainability framework. Accordingly, it takes the three main strategic directions from the framework: maintaining and restoring natural assets, using resources more efficiently and reducing everyday environmental impacts. Apart from the strategic directions, the strategy sets out the operating principles and priority actions for sustainability education in Victoria from 2006 to 2015.

Box 6.1: Victorian Climate Change White Paper: Education in Households, Businesses, Communities and Schools

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[88] Ian Porter, CEO of the Alternative Technology Association http://renew.org.au/energy-efficiency/climate-change-white-paper-positions-victoria-as-a-strong-leader-on-climate-change/

[89] See Victorian Government response to the Climate Change Act Review, March 2012 at http://www.climatechange.vic.gov.au/__data/assets/pdf_file/0010/136486/CCAREV-Report_online.pdf

[90] Professor #1, email 15.09.2011
[91] www.dse.vic.gov.au/conservation-and-environment/our-environment-our-future-victorias-environmental-sustainability-framework

CLIMATE COMMUNITIES - EMPOWERING COMMUNITIES TO CHANGE

Households	Businesses	Community Groups	Schools
Empowering Victorian households	**Driving climate change opportunities and adjustment**	**Enabling change in Victorian communities**	**Education for sustainability – ResourceSmart AuSSi Vic**
Climate Communities will strive to change the behaviour of Victorian households through a mix of information and advice, labelling, financial incentives and more convenient services. Initiatives will include: - Expansion of the Black Balloons program to motivate all Victorian households to reduce energy use and access energy efficiency programs - A single web portal providing access to all Victorian Government programs, services and rebates relating to climate change and sustainability - Programs promoting sustainable food and transport choices - Home assessment, retrofit, information and advice services to complement existing measures to improve the energy performance of Victoria's housing stock	Climate Communities will highlight leading business efforts on sustainability and encourage businesses to undertake sustainable improvements that will underpin increased competitiveness and profitability. Initiatives will include: - Support for small and medium enterprises undertaking projects that will improve energy efficiency, boost productivity, lower operating costs and reduce carbon emissions - Providing business with coordinated information, tools and education activities, including the rollout of 5 Star Sustainability Tools for business and industry, that will help with planning for the future. Programs will also be delivered through partnerships, networks and forums with business associations to promote sustainability and long term behaviour change - Access to innovative technologies and practices, and identification of new industry opportunities - Programs that encourage efficient use of resources along supply chains to help businesses increase profitability and lower carbon emissions	Climate Communities will provide new opportunities for community groups and clubs to undertake climate change and sustainability initiatives. It will also promote community sustainability leaders and 'champions' and showcase local projects to encourage a broader range of people to take part in community responses to climate change. Initiatives will include: - Local leadership programs, which will use local leaders and identities to encourage voluntary action on climate change - Precinct-based facilitators – a program in which facilitators will help residents and workers in sustainable precincts to develop local solutions that go beyond buildings - Support for existing local sustainability and climate change networks to continue building knowledge and capacity within communities	Climate Communities will promote behaviour change through the formal education sector by extending the existing ResourceSmart AuSSI Vic program to all Government primary and secondary schools, and selected early childhood and tertiary facilities. - This will continue the education of young people about sustainability as they move from their early years to adulthood. It will also provide the wider Victorian community with access to education and behaviour change programs through universities, TAFEs and other training organisations. - AuSSI Vic modules encourage awareness raising, strategic planning, practical action and environmental leadership within schools and their wider communities.

Source: DPC 2010, p. 26

Box 6.2: Victorians' Environmental Attitudes

> • Victorians are increasingly 'very concerned' about the environment and generally pursue environmentally sustainable behaviours with a number of these increasing in prevalence since 2008. However, there is a slight loss of confidence in being able to personally influence climate change.
>
> • 42% are very concerned about the present state of the environment, an increase of 4% since 2008; 86% expressed some degree of concern.
>
> • 18% nominated (without prompting) an environmental issue as the most important issue for attention by the Victorian Government.
>
> • 89% agreed that the government should consider environmental concerns for decision-making. There is widespread support for government investment in renewable energy sources.
>
> • most Victorians felt they could do something to help the environment as individuals (86%) and that it was worth doing even if others did not (79%), although there was a decline in these sentiments noted over the last 12 months (2008/2009).

Source: SV 2009

The Department of Education and Early Childhood Development (DEECD) (formerly Department of Education and Training) released its environmental sustainability strategy *The Way Forward* in 2005. This was revised to cover the timeframe 2008–2013 and published in 2009 under the title *Looking Ahead*. In this document, DEECD acknowledges the need to work together with DSE and to reach beyond its immediate formal education focus to address local and global environmental impacts.[92]

6.3 The Approach to EfSD

6.3.1 Coordination

As in other states and territories in Australia, under the Constitution there is a separation of responsibilities for environment and formal education in Victoria. Government agencies with key environmental responsibilities and also significant education roles are the DSE (policy), the EPA (enforcement) and SV (enabler and educational program delivery). In addition, the Commissioner for Environmental Sustainability (CES)[93] interacts with both environmental matters (governance, management and education) as an auditor, and engages on the ground with communities and the public debate.

The Sustainability Fund is unique to Victoria. There are also important linkages, initiatives and partnerships for EfSD in the formal education sector, and other government departments not primarily focused on the environment or education. (See Box 6.3 for an overview.)

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[92] www.education.vic.gov.au/about/deptpolicies/environment/default.htm
[93] The Commissioner's other functions are to prepare State of the Environment reports, to conduct annual strategic audits of the implementation of EMS by agencies and public authorities, and to advise the Minister in relation to any matters relating to ecologically sustainable development. See www.ces.vic.gov.au/ces/

Box 6.3: Governance and EfSD in Victoria – Roles and Relationships

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Victorian Government

Department of Treasury and Finance

all departments, as well as the EPA and SV are required to report their environmental performance (annual report)

Auditor-General

audits effectiveness against targets

Commissioner

independent statutory office reporting on Victoria's environment

Department of Premier and Cabinet

strategic policy leadership

Sustainability Focus

DSE

policy

EPA

enforces regulation

SV

EfSD program delivery and enabler (information, education and awareness)

Sustainability Fund

open grants and strategic funding initiatives

DEECD

integrates EfSD into the formal sector

DPI, DHS, DVC, DOT

deliver community education programs with aspects of EfSD

Three government departments

DSE is the lead government agency for promoting and managing the sustainability of the natural and built environment. Education is one of its primary functions in terms of promoting sustainable resource use and management practices in the general community and industries. DSE leads the implementation of the Learning to Live Sustainably framework. SV was established in 2005 for the delivery and as an enabler of environmental sustainability programs.[94] SV is also required to work with DSE and other government departments on environmental sustainability policies and strategies. The EPA is primarily an enforcement agency but also has an educational role in terms of providing information and education to the public regarding the protection and improvement of the environment relating to the reduction, monitoring and control of air and water pollution, waste and noise.

Sustainability Fund

The Victorian Government established the Sustainability Fund in 2004 to support community groups, local governments, businesses and industry to deliver projects. The fund is financed through the Victorian Landfill Levy, administered by the Minister for Environment and Climate Change, and the Premier (previously the Victorian Treasurer), and is managed by SV. Its priorities are to build resource efficient capacity, provide a catalyst for innovation and mainstream practical solutions to help deliver Victoria's sustainability agenda. Between 2005

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[94] SV was formed following a merger of EcoRecycle and Sustainable Energy Authority Victoria (SEAV) see www.sustainability.vic.gov.au/www/html/1336-about-sustainability-victoria.asp

and 2010, the Sustainability Fund has provided over $166.7 million to 167 organisations for 254 projects and strategic initiatives across Victoria. Most funds went into mainstreaming sustainable behaviours (42 per cent), 23 per cent supported innovation or best practice, and 35 per cent supported strategic tools and trends (SV 2010a).[95]

The Commissioner for Environmental Sustainability

Apart from the Australian Capital Territory (ACT), Victoria is the only Australian state or territory to have an independent environment commissioner. The CES role was established in 2003. One of its functions is to audit public education programs relating to ecologically sustainable development. The Commissioner engages directly with communities and other stakeholders and encourages diverse communities to be involved in discussions with the office in relation to issues such as climate change adaptation, sustainability through environmental management, green procurement and education.[96]

Departments and agencies not primarily focused on the environment or education

A number of other departments and agencies provide community education and awareness programs covering some dimension of education for sustainability, notably the DHS, DOT, DPI, DVC, and Parks Victoria. These programs demonstrate the recognition of the systemic connections between the issues of their primary responsibilities and issues of sustainability. The initiatives also demonstrate the great potential for interdepartmental cooperation and partnerships for EfSD.

For example, DHS, as the provider of health, community and housing services, has the lead responsibility for Go for Your Life. This program is an initiative across government which includes a range of community-based programs aiming to increase physical activity, healthy eating and community involvement. While environmental considerations are not a major focus, they highlight some links between healthy lifestyles and a healthy environment.

DOT delivers a range of TravelSmart projects and works closely with households and local government. The DPI offers community education and extension programs including Landlearn, which is a state-wide program to incorporate studies of sustainable agriculture and natural resource management in schools. Their Catchment and Agriculture Services division delivers extension programs to support the growth of sustainable agricultural businesses and local communities to farmers (partially funded by DSE).

DVC supports the delivery of the Sustainability Street approach (developed by Vox Bandicoot) in Melbourne, which aims to bring local communities together to learn about ecological sustainability and to encourage others to join the groundswell for sustainability.

Finally, Parks Victoria's extensive Healthy Parks, Healthy People program aims to communicate the benefits of a healthy park system and its contribution to the health of individuals and society. Parks Victoria also provides interpretation activities in parks and reserves and education programs for schools.

The formal education sector – DEECD

DEECD is responsible for EfSD in the school sector. The department expresses its support for whole school planning in EfDS, and for increasing the understanding of environmental sustainability within the department and among stakeholders and in the wider community.[97] ResourceSmart AuSSI Vic is the DEECD program of expanding EMS in the formal education sector by linking sustainability programs available for schools.

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[95] www.sustainability.vic.gov.au/www/html/3003-sustainability-fund.asp
[96] www.ces.vic.gov.au
[97] www.education.vic.gov.au/about/deptpolicies/environment/default.htm

The framework was developed from the initial sustainable schools pilots in 2002–03 and aligns with the three major strategies of the 2008 Blueprint for Education and Early Childhood Development:

- system improvements
- partnerships with parents and communities
- workforce reform by building teacher capacity and links between schools and their wider communities. (DEECD 2010, p. 11)

6.3.2 Strategy

The EfSD sector in Victoria has been built on the expertise, passion, commitment and work done over the past decades by community groups, individuals, researchers and NGOs. In fact, the DSE states that coordination and partnership with existing successful education and behaviour change programs for environmental sustainability are a key strength in Victoria, with well-established expertise, delivery systems and clientele for particular sectors and localities. Indeed, one of the priorities expressed in the Learning to Live Sustainably framework is to provide support for continuing development of these programs, and collaboration between them (DSE 2005, p. 19).

Learning to Live Sustainably is a 10-year strategy which focuses on the immediate day-to-day experience of Victorians in school, home, work and community contexts. It builds on the concept of life-long learning and emphasises development of awareness, understanding, values, skills, attitudes, aspirations and commitment as essential elements for environmental sustainability. It supports a range of organisations and individuals across the community, government, education and business sectors, with the aim of promoting long-term change. Learning to Live Sustainably considers two timeframes and is designed to:

- deliver substantial learning and behaviour change for environmental sustainability within the first three years through those organisations and sectors of society that have the capacity to pick up quickly on the vision of sustainability and to lead community change

- engage many further organisations and sectors over a longer time frame to sequentially build 'whole-community' learning and behaviour change over a ten year period (DSE 2005, p. 7).

Effective partnerships, collaboration and participation built on existing partnerships involving a wide range of groups and individuals are seen as critical to the success of the programs. This also means optimising impact by joining existing programs.[98] For the introduction of new programs, the local situation needs to be mapped to identify additional groups and organisations active in the particular locale. This can include regional, state and federal government agencies (DSE 2005, p. 26) (see Box 6.4). For example, a joint program of ACF, EV and DSE acknowledges over 120 partnering organisations in their report (DSE 2010).

Strategic funding priorities

The Sustainability Fund offers open funding rounds, and as part of the Sustainability Action Statement (DSE 2006), it focuses on three specialised funding programs (SV 2010a):

1. The EcoLiving grants program includes the development of eleven EcoLiving Centres and projects providing education programs and support for householders and communities for sustainable living.

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[98] DSE, Australian Conservation Foundation (ACF) and Environment Victoria (EV) join to combine two programs: the ACF's GreenHome Program and EV's Regional Sustainable Living Program. The key difference between the programs was the target audience: general community vs hard-to-reach groups such as seniors, young people, multicultural communities and low-income families.

2. The Neighbourhood Renewal grants program for sustainable action in Neighbourhood Renewal areas that links environmental protection and awareness projects with social and economic outcomes.

3. The Victorian Local Sustainability Accord (VLSA) provides grants to help local governments address sustainability issues. The VLSA was established in 2005 to improve relationships and foster joint working arrangements between local and state government, and aims to build the capacity of councils in community education, information and engagement. Priorities addressing climate change adaptation have been added for the 2010–2012 delivery framework (DSE 2010).

In total, sustainability education and behaviour change projects were the largest group of projects, representing 33 per cent of all projects and 30 per cent of the total funding provided; 44 per cent went to local government projects, and 26 per cent to the NGO and community sector (SV 2010a).

Projects include council-run programs that help local residents make simple energy and water saving changes, and a social marketing and research-focused program that aims to reduce the amount of food waste sent to landfill. The behaviour change projects use integrated marketing campaigns, television programs and online communication resources. Many employ social marketing techniques and undertake new research into the effectiveness of behaviour change tools.[99] The Black Balloons Campaign for reducing household carbon emissions is a successful example of this.[100]

6.4 Underlying assumptions and approaches

The learning-based behaviour change approach in the Victorian Learning to Live Sustainably framework involves the development of knowledge, skills, values, attitudes and aspirations leading to changed behaviour in support of environmental sustainability. This includes all the ways in which people learn including a combination of formal education, non-formal and informal education (the latter being referred to as 'people learning for themselves'). Critical outcomes include immediate behaviour changes and an ongoing capacity of citizens and organisations to effectively respond to future challenges. EfSD is thus understood as a community development and capacity building process.

Successful education for environmental sustainability depends on learning that results from active involvement in processes for change. It is considered one factor in a suite of measures that need to go hand in hand to optimise the multiplier effect. These include measures of regulation and enforcement, financial incentives and availability of infrastructure and technology (DSE 2005, pp. 7–10).
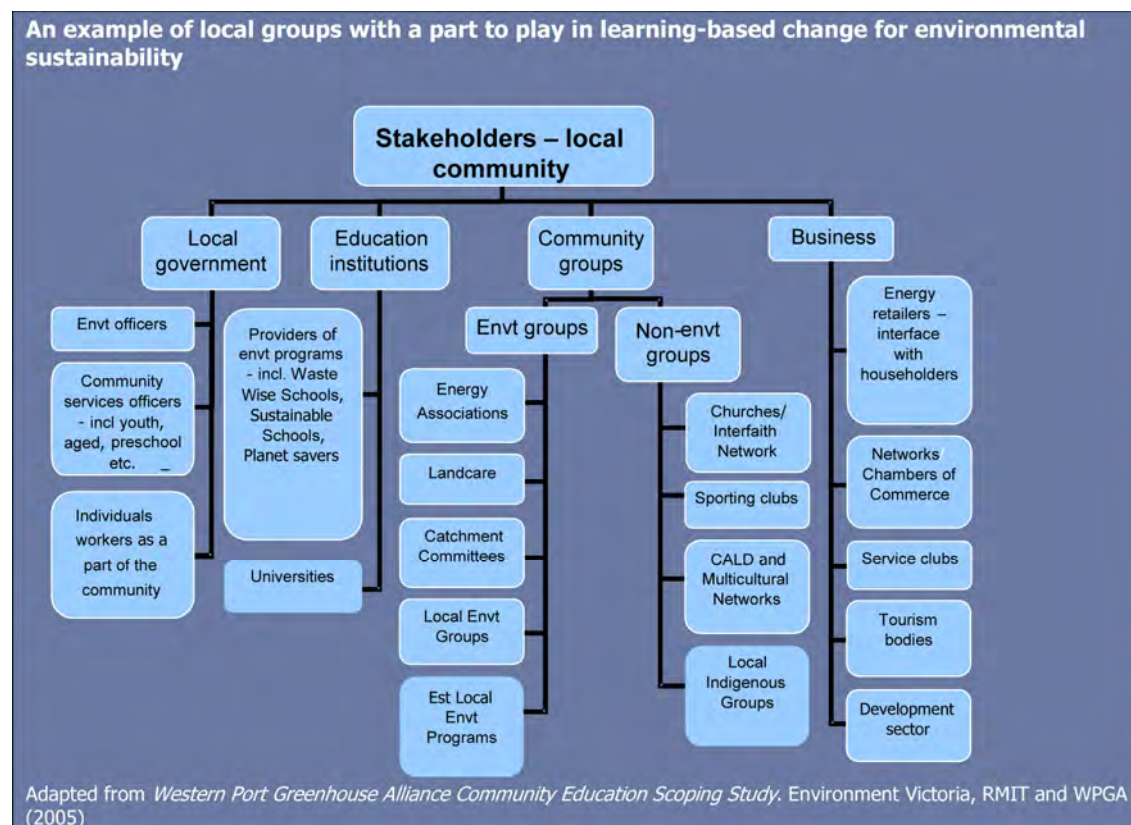
DSE adopts the 'Four Es' model of behaviour change for sustainability of the UK Government Sustainable Development Strategy (see Box 2.5). Learning-based change is coordinated with a range of potential influences on behaviour change. It conceptualises measures according to their potential to enable, engage, exemplify and encourage to ultimately catalyse learning and behaviour change. These measures are integrated in a way that they reinforce each other. The adoption of an adaptive approach of review and continuous improvement is also important.

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[99] For example, the television series Carbon Cops and Sustainable Gardening Australia using video and social media.

[100] The Black Balloons advertisements can be viewed at www.saveenergy.vic.gov.au/blackballoons.aspx. It is stated there that a 'black balloon is a simple way to measure and visually represent our greenhouse gas emissions'. A balloon can hold about 50 grams of greenhouse gas and the average Victorian household produces around 10.7 tonnes (213,000 black balloons) of greenhouse gas emissions each year from energy used in the home.

Box 6.4: Local Groups' Involvement in Learning-based Change Program

An example of local groups with a part to play in learning-based change for environmental sustainability

Adapted from *Western Port Greenhouse Alliance Community Education Scoping Study*. Environment Victoria, RMIT and WPGA (2005)

Source: DSE 2005, p. 28

6.5 Monitoring and evaluation

6.5.1 Monitoring and evaluation processes

Mandated monitoring and evaluation processes are enacted by the Victorian Auditor-General's Office (VAGO) and the CES. The VAGO audits the departments' and agencies' effectiveness against their targets. The Commissioner found that Victoria's measures for environmental protection were underperforming[101].

Apart from the obvious negative short- and long-term environmental, social and economic impacts, there is a credibility problem that may impact on the community's trust and engagement in behaviour change programs. DEECD (2009 pp. 11–12) has acknowledged that the community expects the state government to be a leader in environmental sustainability and considers it a reputation risk if the government does not meet community expectations in terms of environmental performance.

In the same vein, the Commissioner points to the need for walking the talk, recommending that:

- leadership is imperative if sustainable practices are to be embedded across the operations of each Victorian Government department

- green procurement should become the usual business approach for government departments and agencies. (CES 2010)

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[101] For example, from June 2010 to June 2011, this refers to the areas of facilitating renewable energy development, soil health management, managing temporary restrictions on surface water rights including steps to minimise river health damage, sustainable management of Victoria's groundwater resources, municipal solid waste management and control and regulation of hazardous waste. See www.audit.vic.gov.au/reports_and_publications/latest_reports.aspx

The Commissioner is required to audit the implementation of EMS by Victorian government departments and agencies, as well as EfSD programs. This includes examining the application of adaptive governance principles in the assessment of public education programs as part of a broader audit of EfSD programs. The Minister for Environment and Climate Change ordered an internal strategic review of SV with the report due by 31 August 2011. An audit of ResourceSmart AuSSI Vic is included in the Commissioner's 2010 report.

The Commissioner recommends the expansion of ResourceSmart AuSSI Vic which has implications for the non-formal and informal sectors because the program is built on outside school partnerships, including local businesses, NGOs, community organisations and individuals, and potentially other government departments. An expansion of ResourceSmart AuSSI Vic also points to the need for more synergies to be developed between the formal, non-formal and informal sectors.

DEECD (2009) aims for 100 per cent of government schools to have adopted ResourceSmart AuSSI Vic by 2015, but the Commissioner found that currently not enough places are funded to reach that goal. Moreover, Gough (2010) points to the need for systemic changes[102] to reach 100 per cent which is an issue that has validity for program implementation across the sectors, and for mainstreaming of EfSD in Victoria and elsewhere in general.

Some other critical needs in terms of program evaluation for successful EfSD implementation across Victoria emerge:

- more attention to evaluation overall
- a shift toward the development and refinement of qualitative indicators and evaluation approaches, which are supported by qualitative measures
- participatory approaches for indicator development. (Clear Horizon and EV 2010; Guevara et al. 2010; SV 2010b; UrbanTrans 2009).

6.6 Key lessons

The Victorian experience with EfSD has both positive messages and implications for the governance of EfSD in other jurisdictions. Some of the positive messages and implications from the other case studies also apply here and are marked.

6.6.1 Policy framework and implementation structures

Positive Messages	Implications
EfSD needs to be located within a wider but strong policy framework for sustainability.	A strong policy framework for sustainability needs to be developed and widely disseminated. EfSD officers need to be key influences in the development of the policy.

[102] Gough (2010) refers specifically to the introduction of EfSD as a core part of DEECD policy like literacy and numeracy, not voluntary, leadership training for principals, to mandate EfSD as a core component of teacher education programs, to introduce coordinators and support staff within schools, DEECD and regional offices.

This framework should be structured and promoted to provide the meta-narrative for the transition to sustainability by the state as well as individuals and families, neighbourhoods and communities, organisations, schools and workplaces and the wider society as a whole.	Government needs to be comfortable in its responsibilities for leading cultural change for sustainability and able to justify this and the ethics of the approaches being used. The resulting meta-narrative of the sustainability transition needs to be widely disseminated, discussed, debated and defended across all sectors of society.
There is flexibility within existing government structures to mainstream EfSD and introduce new agencies to facilitate the process.	State departments and agencies need to walk the talk not only for credibility reasons, but to build and entrench the capacity for mainstreaming EfSD within their own institutions. There is also a need for more intergovernmental cooperation.

6.6.2 Approaches and models

Positive Messages	Implications
The roles of the EfSD unit of government could be seen as providing intellectual leadership in the field by undertaking and contracting policy-relevant research that can be used to develop recommended models and strategies for EfSD by those agencies and organisations responsible for implementing EfSD.	An effective dissemination and capacity building strategy is needed to ensure that the agencies and organisations responsible for implementing EfSD are aware of, understand, and are capable of adapting and using the recommended evidence-based models and strategies.
The partnership model, and the model of building on existing expertise, passion and commitment from within the community, NGOs, some business sectors and individuals have great potential for adoption in other contexts.	There is a need to think in long-term timeframes (as well as short- and medium-term timeframes), for cementing local relationships and turning behaviour change into habits. Ensure that existing expertise is mapped and included as partners. Information and data needs need to be addressed. Shift the emphasis toward the development of qualitative, with quantitative indicators as support.

7. Governance for EfSD: a synthesis

7.1 Introduction

The purpose of this chapter is to present a cross-case analysis of the governance and policy processes in the five jurisdictions and to synthesise the lessons learnt from leading practice in the area as a guide for future decision-making.

The section begins with an explanation of the nature of governance and why it is important, and identifies six characteristics of 'good governance' for EfSD. These are difficult to achieve in their totality. Thus, the following section outlines the governance challenges being faced by governments in the five case studies. These challenges are being addressed in various ways across the five cases, although not comprehensively on every challenge by any one country. Thus, the elements of good governance for EfSD need to be seen across the cases rather than in any individual one.

These key findings of the study are analysed in terms of the six characteristics of good governance. The chapter concludes with a synthesis of the case studies and a summary of answers to the original research questions.

7.2 Governance

7.2.1 The nature of governance

At a simple level, governance refers to the structures and processes by which an organisation manages its responsibilities and actions, especially to ensure that its goals and policies are implemented faithfully and effectively. As such, the concept of 'governance' is not a new one. As one UN agency defines it, governance is just 'the process of decision-making and the process by which decisions are implemented (or not implemented)'.[103] In this regard, governance is a means for maintaining oversight and accountability in the implementation of policies and the systems used to monitor and record implementation strategies and outcomes.

However, government is only one of the actors in governance. Other actors involved vary, depending on the level of government and field of activity involved. At the neighbourhood scale, for example, as well as locally elected councillors and the professional staff employed by the local council, other actors may include business associations and leaders, prominent lawyers, doctors and teachers, community service organisations and the media. All may play a role in making and influencing decisions and in guiding and monitoring their implementation. Similarly, governance extends beyond formal government structures through which decisions are made and implemented.

Summarising the meaning of governance, Verspaandonk (2001) describes it as 'government's interaction with civil society and citizens' within the contexts of 'the interaction of traditions, values, institutions and processes that shape society'. As such governance includes both the actions of governments and those directed towards government as well 'the constraints and accountability mechanisms' under which governments operate (Verspaandonk 2001, p. 1).

A key feature of the context of contemporary governance is the concept of the 'organisational society' in which government services are no longer provided solely by neutral public servants but through multi-organisational programs delivered by loosely coupled networks of government agencies, professional associations, private companies and community-based organisations (Ewalt 2001).

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[103] UNESCAP (nd) What is Good Governance? Accessed online 21 August 2011, at
<http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/gg/governance.asp>

7.2.2 The governance challenges in EfSD

This report began by stating, 'Managing the provision and delivery of EfSD is a problematic task'. Looking across the five case studies, the following reasons for this can be identified.

First, the scope of EfSD is broad and confusing to many. For example, EfSD generally developed out of the EE movement and, thus, there is confusion about the scope of sustainable development as an area of learning. Often, it is restricted to a focus on the natural environment and conservation issues rather than their integration and mutual dependence on economic, social, cultural and political factors. In addition, environmental ministries and agencies of government have generally proven more committed to EE than education ministries and agencies, and in recent years, have continued this support under the name of EfSD.

These two factors have led to confusion about the scope of EfSD. For example, *Learning for Sustainability 2007-10*, the NSW EE plan for EfSD emphasises outcomes such as minimising the impacts of climate change, developing a clean energy future, securing sustainable supplies of water, using water wisely, improving air quality, reducing waste and protecting native vegetation, biodiversity, land, rivers and coastal waterways. This is despite the aim of the plan to support preserving the environment and for creating a socially and economically equitable society (NSW Council on Environmental Education 2006, p. 37). The NSW EE plan is not alone in this as there is a similar mismatch between a multi-dimensional view of sustainability in most statements, in Australia and internationally, about rationales and goals for EfSD and a narrower 'eco-' emphasis in the scope and detail of policy documents and plans.

Second, the nature of 'education' in EfSD is similarly broad and confusing. Many actors in EfSD confuse 'education' with 'schooling' and thus focus their activities on EfSD within the formal education system. The irony is that this occurs at the same time as government ministries and agencies for education tend to provide less support for EfSD than environmental ministries and agencies. 'Education' is generally seen in broad terms by educationalists as a process for developing higher order cognitive processing skills and the clarification of attitudes and values so that people can: (i) make up their own minds about questions of fact and opinion, controversial issues, and lifestyle decisions, and (ii) make plans to collaborate with others to take action on issues that concern them. These goals of autonomy, personal efficacy and civic responsibility are much broader than the goal of changing people's behaviour in many EfSD programs, especially those motivated by concerns for efficient resource use.

There is also the issue of competence and understanding of contemporary thinking and strategies. Naturally, there is generally less educational expertise in environmental ministries and agencies than education ones. The lack of expertise in adult and community education is especially a problem given the diversity across communities and the difficulty of attracting their attention to opportunities to learn about sustainability.

Related to the problem of uncertainty about the nature of education and related expertise is that many actors see the purpose of EfSD as bringing about broad cultural change as a necessary prerequisite to sustainability. However, there are few proven strategies for achieving cultural change and, indeed, little understanding of what it actually entails and little public acceptance of the role of governments in promoting cultural change.

The third challenge is one of coordination across relevant government departments. Such issues make the provision of EfSD particularly problematic, especially in the non-formal or community education sector. Over 30 years of advocacy, research, professional practice and government support have resulted in generally sound policy, programs and support for EE (and its EfSD incarnations) in the school sector, with EE/EfSD in universities and VET also progressing, albeit at a slower pace than in schools. However, the divided responsibilities between ministries and agencies for education and environment in promoting and supporting school EfSD are exacerbated at the tertiary level where pressure is also being applied by ministries and agencies for economic development, innovation and industry seeking urgent action to prepare future employees for a carbon-constrained economy.

The challenges of promoting and supporting EfSD for non-formal and informal education are even greater. Providing education about the numerous aspects of sustainability – water, biodiversity, waste, energy, climate change, transport, etc. – is not the realm or responsibility of any one government ministry or agency or any one level of government. In addition there are the social and economic aspects of sustainable development such as intercultural respect, anti-racism, religious tolerance, food security and green economic futures. Local, regional, state/provincial and national governments have responsibilities for all these areas to varying degrees and have specialist ministries and agencies looking after each one, and drawing upon different and sometimes conflicting models and methods of community learning. As a result, coordination across sustainability sectors and levels of government is a major challenge, with overlaps, duplication and mixed and confusing messages often the result.

A fourth challenge to the governance of EfSD is the fact that, like all education, EfSD is a political endeavour. The contrast between the social democratic and utilitarian views of education and EfSD, as outlined above, is a reflection of this. However, the form that EfSD will take in any society – or, at least the form of EfSD that governments can most readily support – is directly related to the political values of parties in power.

The ascendancy of neo-liberalism in many Western governments means that the utilitarianism of resource efficiency and the culture of individualism embedded in behaviour change models mean that socially-democratic approaches to EfSD are less likely to receive support than utilitarian ones. This ideological divide means that governments are also often unable to access the advice of specialist EfSD researchers and practitioners, especially where many such specialists lean towards a social democratic view of EfSD.

7.2.3 'Good governance'

One of the major challenges for governments in supporting governance is providing the settings through which all interested parties can contribute in a meaningful and coordinated way to the development of policies, programs and projects, and to their implementation, organisation, coordination, promotion, delivery and evaluation. This is what the literature refers to as 'good governance'. There are multiple conceptions of what this might entail. For example, the UN Economic and Social Commission for the Asia Pacific (UNESCAP) outlines eight principles of 'good governance':

1. consensus-orientation
2. participation
3. accountability
4. responsiveness
5. transparency
6. equality and inclusiveness
7. adherence to rule of law
8. effectiveness and efficiency.

The OECD (2012) lists six principles:

1. accountability
2. transparency
3. efficiency and effectiveness
4. responsiveness
5. forward vision
6. rule of law.

Other sources identify many of the same principles although using different terms (e.g. 'fairness' in referring to respect for equality and the rule of law), and use additional ones such as 'strategic direction' and 'subsidiary of activities' within a nested hierarchy of policies and strategies.[104]

This extensive list was used as a framework for analysing the five case studies. As the case studies were read (and coded) against these principles, the ones that seemed most pertinent (i.e. those that were most frequently found in the case studies) were noted and a shorter list prepared. The case studies were then analysed using these factors as themes for coding, with an eye also for factors in the case studies not mentioned in the literature. This was especially important as the factors in the literature referred to governance in general, and did not take account of the specific contexts and challenges of EfSD.

A smaller set of six themes or dimensions of 'good governance' in EfSD emerged from this process of coding and data reduction. These were:

1. structural integration across levels of government and different government departments and agencies with a role to undertake EfSD

2. policy integration through which EfSD policies are seen as contributors to wider education and sustainability policies

3. coordination of EfSD activities across all stakeholder groups and agreement on specific responsibilities

4. participation, consensus-orientation and responsiveness to ensure wide ownership and commitment across the EfSD community

5. conceptual coherency so that different EfSD activities by different stakeholder groups do not undermine others through a lack of conceptual and methodological consistency

6. accountability for effectiveness and efficiency.

Box 7.1 outlines the meaning of these characteristics or principles as they emerged in the cross-case analysis. Good governance is an ideal that is not easy to achieve in its totality in 'organisational society'. However, the closer that governments can come to it, the more effective and coordinated the policy will be.

The following section discusses the extent to which these six characteristics of good governance for EfSD can be observed in the five case studies.

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[104] For a review of characteristics of good governance, see: UNDP (1997) Governance for Sustainable Human Development. Accessed online 12 August 2011 at http://mirror.undp.org/magnet/policy/; Institute on Governance (2011) Principles of Good Governance. Accessed online 14 August 2011, at http://iog.ca/en/about-us/governance/governance-principles

Box 7.1: Characteristics of Good Governance

Integrated structures of government

Integrated structures of government – ministries, departments and agencies at national, state/provincial, regional and local levels – are the hallmark of good governance. The degree to which this occurs is a sign of the relative importance governments place on EfSD as a strategy for achieving sustainability. Ensuring all relevant ministries and agencies of government are coordinated into an integrated structure of support for sustainable development and EfSD is the major governance issue for EfSD.

Policy integration

Good governance requires the integration of policy across and within diverse fields. To be effective, policies and programs need to be nested so that each contributes to the agreed, higher order goals of a society. Aspirations for sustainability and ways of achieving them are often embedded within a national/state/provincial strategy for sustainable development, which contains focused action plans for economic prosperity, social justice and inclusion, and ecological integrity. These action plans may contain a range of rules and regulations, economic incentives and penalties, and voluntary mechanisms. Education, training and capacity building are integral to these, especially in the effective implementation of voluntary, community-based tools for sustainability.

Vertical and horizontal coordination

It is vital that the efforts of all actors in loosely coupled, multi-organisational fields (such as EfSD) be coordinated, if not integrated. The motives, interests and audiences for different actors rarely coincide, and the theories and strategies for change upon which they base their activities may cut across each other. It may not be possible to integrate the activities of all actors into a unified program but all efforts should be made to ensure that they are complementary and supportive of each other to the greatest extent possible.

Participation, consensus orientation and responsiveness

These are central to participation and transparency in good governance. There are many actors and many viewpoints in all societies. Good governance requires not only the full participation but also the mediation of these different interests in order to reach a broad consensus on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve it. This can only result from an understanding of, and responsiveness to, the historical, cultural and social contexts of a given society or community.

Conceptual coherency

A result of participation, consensus and responsiveness in governance is a shared vision of a sustainable society and an agreed set of goals, approaches and division of responsibilities. The multiple interests of all social actors means that many programs, tools and activities will be developed to achieve the vision, but these are unified by a common understanding about how the transition to sustainability can be achieved. That is, a common conceptual model or theory of change is shared across stakeholders.

Accountability: effectiveness and efficiency

Accountability is a key requirement of good governance as it can help ensure that processes and institutions are appropriate to, and effective in, producing outcomes that meet the needs of society while making the best use of available resources. Accountability also ensures that there are clear lines of responsibility for implementation or, if this is not appropriate, avenues for communication, sharing of experiences and capacity building. across stakeholders.

7.3 Analysis of governance for EfSD across the cases

Box 7.2 illustrates the extent to which the six characteristics of good governance for EfSD can be observed in the five case studies. This is a subjective judgement and reflects the resources available for each case study. While no one jurisdiction displayed all six characteristics, each was seeking to address the challenges of governance in locally relevant ways, although not comprehensively in every case. Thus, the elements of good governance for EfSD are best seen across the cases rather than in any individual one. Good governance is an ideal that is not easy to achieve in its totality, but one that is worth striving for.

It is noteworthy that the Netherlands was exceptional in demonstrating that all six characteristics of good governance for EfSD at a medium or high level compared with the other four countries. Germany and Victoria, Australia, demonstrated fewer of these characteristics while Ontario, Canada, and England were notable in reflecting only one or two of them. Thus, on one level, the Netherlands can be seen as an ideal or prototype that other jurisdictions could usefully study. This is true but misses three points relevant to learning lessons for application elsewhere:

1. whatever is seen as excellent in any jurisdiction has to be contextualised and modified to be of value elsewhere

2. Canada displayed the highest level of all in the demonstration of Principle 4 (Participation, Consensus and Responsiveness), a principle that is a key underpinning of the collaborative spirit necessary for effective governance in a democracy

3. England may have demonstrated low levels of coordination and unity in its approach to EfSD. This is a reflection of cultural and political factors – and demonstrates the significance of context in discussions of policy and governance. In addition, the strong research base underpinning EfSD in England and the strong support of non-state stakeholders more than compensate for this seeming lack of governance and result in England demonstrating exemplary and innovative EfSD practice in both formal and non-formal education settings.

Nevertheless, Box 7.2 is accurate enough to identify the jurisdictions that reflect adherence and/or innovation on each of the characteristics of good governance for EfSD. These are the shaded elements of Box 7.2. Thus, a map pointing towards good governance for EfSD can be drawn from an analysis of the actions being taken in the different jurisdictions ranking highest on each of the six characteristics. These actions on the six principles of 'good governance' in EfSD are discussed in the following section.

Box 7.2: Characteristics of Good Governance Across the Case Studies

Characteristics of 'Good Governance'	England	Netherlands	Germany	Ontario	Victoria
• **Structural integration**	Low	High	Medium	Low	High
• **Policy Integration**	Low	High	Medium	Low	Low
• **Coordination**	Low	High	High	Medium	Medium
• **Participation, consensus & responsiveness**	Low	Medium	Medium	High	Medium
• **Conceptual coherence**	Medium	High	Medium	Low	Low
• **Accountability:** • **Effectiveness & Efficiency**	Low	Medium	Low	Low	Low

7.4 Examples of principles of good governance in EfSD

7.4.1 Integrated structures of government

Integrated structures of government – ministries, departments and agencies at national, state/provincial, regional and local levels are the hallmark of good governance. The degree to which this occurs is a sign of the relative importance governments place on EfSD as a strategy for achieving sustainability. Ensuring all relevant ministries and agencies of government are coordinated into an integrated structure of support for sustainable development and EfSD is the major governance issue for EfSD.

Victoria, Germany and the Netherlands display a high degree of structural integration for EfSD – Victoria and Germany at the organisational level, and the Netherlands at the organisational level as well as in relation to planning, policy and implementation.

Victoria

Victoria has an extremely well-integrated approach to the management of sustainable development and EfSD across relevant sectors of government. Three government departments have key responsibilities for achieving the sustainable development goals of the government, as identified in key state policy documents: *Growing Victoria Together* (2001, 2005) and *Our Environment, Our Future – Sustainability Action Statement* (2006). These departments are:

DSE – primarily responsible for policy

EPA – primarily responsible for regulation and enforcement

SV – primarily responsible as an enabler and capacity building for sustainable development.

In addition, the CES[105] interacts with both environmental matters (governance, management and education) as an auditor, and engages on the ground with communities and the public debate. The Sustainability Fund is unique to Victoria, promoting linkages, initiatives and partnerships with local government, community organisations and the private sector. All these organs of government have responsibilities for community-based EfSD in one form or another, and interact with, and report to, traditional lead agencies of government such as the Cabinet Office, the Auditor-General, and the Department of Treasury and Finance.

Box 7.3 provides an overview of these integrated structures in relation to EfSD. It also includes the DEECD which is responsible for EfSD in the formal education sector, and other government departments that deliver EfSD in specific areas, such as primary industries, etc.

Details of the roles and responsibilities for EfSD of each of these departments and agencies are provided in the Victorian case study. However, the task of coordinating EfSD across all these bodies is enormous and occurs mostly on a project-by-project basis. Attempts have been made to develop a state EfSD policy but these have not succeeded due to the scale of the coordination and consultation tasks involved and resource priorities.

Germany

A council for sustainable development (the RNE) was created in 2000/2001. In conjunction with the Federal Chancellery, the council is considered the leader of sustainable development policies in Germany, and comprises 15 public figures from politics; industry, industry bodies and unions; social affairs; and church and conservation groups. The tasks of the council are to advise the federal government on all matters of the national sustainability strategy and to foster social dialogue on the issue of sustainability.[106]

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[105] See http://www.ces.vic.gov.au/ces/
[106] For example, the council has drafted a sustainability code designed to be applied to listed and capital market-oriented companies as well as SMEs outlining the minimum requirements placed on sustainability management

Box 7.3: Governance and EfSD in Victoria – Roles and Relationships

<div style="border:1px solid black">

Victorian Government

Department of Treasury and Finance	**Auditor-General**	**Commissioner**	**Department of Premier and Cabinet**
all departments, as well as the EPA and SV are required to report their environmental performance (annual report)	audits effectiveness against targets	independent statutory office reporting on Victoria's environment.	strategic policy leadership

Sustainability Focus

DSE	EPA	SV	**Sustainability Fund**	DEECD	**DPI, DHS, DVC, DOT**
policy	enforces regulation	ESD program delivery and enabler (information, education and awareness)	open grants and strategic funding initiatives	integrates EfS into the formal sector	deliver community education programs with aspects of EfS

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The German NSSD was published in 2002 and outlined objectives and strategies and mandated that these be implemented through a 'management by objectives' approach, compared with the traditional top-down approach to implementation in Germany. This required new models for policy administration and changes to the highly departmentalised and specialised system of agencies in Germany. A Parliamentary Advisory Council on Sustainable Development was established in 2004 to involve the Parliament in sustainability policies and counter ambivalence to sustainable development in the legislative process.

Sustainable development is not the sole responsibility of the federal government. Thus, vertical integration or, at least, coordination of the federal, *Länder* and local government levels is needed. A committee comprising the Cabinet Offices of the *Länder* under the auspices of the Federal Chancellery has been set up to facilitate this. In addition, a private sector forum on sustainable development (econsense) and the German Global Compact play a part in the formation of sustainability policy. The *Länder* and municipalities were not initially involved in this but the *Länder* and leading associations of local authorities are now members.

A review of sustainable development structures and policies in Germany developed a range of recommendations, with the final three involving EfSD in a broad sense. As shown in Box 7.4, these integrate a broad view of EfSD into the major policy framework for sustainable development in Germany, with Items 9–12 (marked in bold) all related to EfSD.

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and sustainability reporting, see
http://www.nachhaltigkeitsrat.de/uploads/media/RNE_May_2011__German_Sustainabiltity_Code_en_01.pdf

Box 7.4: Recommendations for Improving Structure and Policies for Sustainable Development in Germany

1. Strengthen the Chancellery's leadership and creating a new strategy for implementing the Grand Design

2. Create a Ministry for Energy and Climate Change

3. Create a Commissioner on Sustainable Development

4. Introduce a Sustainability Action Plan and tooling up for action

5. Empower the Parliamentary framing of the sustainability agenda

6. Expand the outreach of the Council for Sustainable Development, enlarging its scope and function

7. Improve vertical integration between the Federal level and the *Länder* and between the *Länder* and local levels; encouraging sustainable development strategies in the *Länder* and regional networks

8. A public-private partnership for action, and sectoral roadmaps for implementation

9. Focus sustainability policies on customers, consumers and markets

10. Encourage citizens' action

11. Strategize for 'gaining brain', and crafting learning partnerships

12. Increase sustainability-related research and innovation and sharpening advanced studies into sustainability; breeding green clusters and engineering standards for sustainable solutions.

Source: Stigson et al. 2009, p. 26[107]

The Netherlands

While it is not clear how these integrated structures for sustainable development and EfSD are actually implemented in Victoria or Germany, the Netherlands has a long history of integrating the responsibilities of multiple government ministries and agencies in the governance of EfSD.

The first national policy on EE was developed in 1988 to coordinate and catalyse pre-existing initiatives. It was supported widely across ministries because of its emphasis on both ecological and socio-economic aspects of sustainable development.

The ministries involved were:

Ministry of Environment

Ministry of Foreign Affairs

Ministry of Economic Affairs and Energy

Ministry of General Affairs

Ministry of Transport, Public Works and Water Management

Ministry of Education.

A national EfSD program, 'LfSD, was established in 2004 with the same distinctive interdepartmental and intergovernmental framework. The six government departments that

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[107] Stigson, B. et al. (2009) Peer Review on Sustainable Development Policies in Germany, German Council for Sustainable Development, Berlin. Available online at
www.nachhaltigkeitsrat.de/uploads/media/RNE_Peer_Review_Report_November_2009_03.pdf

supported the 1988 EE policy initiated a cooperative venture along with provincial authorities and the association of water boards to develop a national LfSD program enshrined in an act by the Netherlands Parliament.

This high level of government support, together with the establishment of mechanisms for the joint development of policy and coordination of policy implementation, has resulted in the Netherlands being rated highly on almost all characteristics of good governance, as seen as in the following sections.

7.4.2 Policy integration

Good governance requires the integration of policy across and within diverse fields. To be effective, policies and programs need to be nested so that each contributes to the agreed, higher order goals of a society. Aspirations for sustainability and ways of achieving them are often embedded within a national/state/provincial strategy for sustainable development, which contains focused action plans for economic prosperity, social justice and inclusion, and ecological integrity. These action plans may contain a range of rules and regulations, economic incentives and penalties, and voluntary mechanisms. Education, training and capacity building are integral to these, especially in the effective implementation of a voluntary, community-based tool for sustainability.

The Netherlands is the standout example of policy integration among the five case studies. KADO,[108] its NSSD, is supported by three interdependent strategies:

1. a focus on six selected themes: water, climate adaptation, sustainable energy, biofuels and development, carbon capture and storage, biodiversity and food

2. the government as leader of sustainable management

3. the government actively establishing dialogue on sustainable development.

The third is EfSD, for which a national LfSD program was established by the Netherlands Parliament, with a very distinctive interdepartmental and intergovernmental framework. Phase 1 ran from 2004 to 2007, with a second phase from 2008 to 2011.[109]

The central focus of the LfSD program is that achieving a sustainable society is:

> a continuous learning process. It involves exploring issues and dilemmas, putting choices in a broader perspective and looking further than the short term and the self-interest. As awareness and experience increases in considering the several aspects of sustainability, individuals, groups, communities and organizations strengthen their capacity to make sustainable development part of their lifestyle.

Ways in which this policy is implemented in a coordinated way are described in the next section. The NEEP is closely connected to the LfSD program. Developed and supported by the ministries for agriculture, environment and education, NEEP supports the widespread 'acquisition of competencies required to protect the environment' by individuals, businesses, governmental and non-governmental organisations.

Increasingly, NEEP and LfSD activities are being integrated at the local level as a result of the appointment of a common steering group for the Program Bureaux for both NEEP and LfSD.

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[108] For a review of the Dutch NSSD and related processes, see www.sd-network.eu/?k=country%20profiles&s=single%20country%20profile&country=The%20Netherlands. Accessed 20 July 2011.

[109] See ESD in The Netherlands: Learning for Sustainable Development 2008-2011. Available online at www.senternovem.nl/Leren_voor_duurzame_ontwikkeling/English

7.4.3 Coordination

It is vital that the efforts of all actors in loosely coupled, multi-organisational fields (such as EfSD) be coordinated, if not integrated. The motives, interests and audiences for different actors rarely coincide, and the theories and strategies for change upon which they base their activities may cut across each other. It may not be possible to integrate the activities of all actors into a unified program but all efforts should be made to ensure that they are complementary and supportive of each other to the greatest extent possible.

The UNDESD and associated actions of the UNECE have been influential in promoting the coordination of EfSD within Europe. Thus the Netherlands and Germany provide examples of mechanisms for supporting strong coordination of EfSD across government departments, levels of government, and the private, professional and community sectors.

The Netherlands

All countries in the EU have been requested to prepare strategies or national action plans for the UNDESD and to implement the UNECE EfSD Strategy. The Netherlands uses the LfSD program for both. Thus far, two iterations of LfSD have been developed and implemented, with the national government and the provinces together spending around €5 million a year on them.

The two iterations are linked and their names show the development occurring across the decade:

- From Margin to Mainstream (2004–2007)
- From Strategy to (General) Practice (2008–2011).

The LfSD is supported by high degrees of stakeholder participation and a coherent conceptual framework for EfSD. These are discussed in following sections. The mechanisms for coordination, including a national steering committee, national program management and provincial directors, are outlined below:

A **steering committee** directs the focus and scope of LfSD. It is chaired by the Ministry of Agriculture and comprises members of the Ministries of Environment, Foreign Affairs, Economic Affairs and Energy, General Affairs, Transport, Public Works and Water Management,[110] and Education as well as representatives of provincial governments and the district water boards.

Program management is provided by NL Agency (of the Ministry of Economic Affairs, Agriculture and Innovation), which also implements the NEEP and is responsible for optimising the connections and communication between the two programs and their activities.

A **Provincial LfSD Director** is appointed in each of the 12 provinces to work in close contact with local councils, district water boards and local community organisations. Their responsibilities include:

- the execution of provincial and local projects agreed in a bilateral PAS, agreed between each province and the national government to focus attention on sustainability themes of national significance
- knowledge transfer and creation through the analysis and contextualisation of regional and provincial projects in order to scale up local pilots to large scale innovations
- coordinating communication activities such as the production of newspapers and essays, the maintenance of a LfSD projects database, and the organisation of meetings amongst stakeholders

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[110] As in many countries, the names of ministries are ever in flux. These were the names at the beginning of the 2008–2011 strategy. However, changes have occurred since then. For example, there is now a Ministry of Economic Affairs, Agriculture and Innovation. The purpose of listing the ministries is to illustrate the breadth of cross-departmental involvement.

- building structural connections between formal, non-formal and informal education.

The strategies used to support coordination at these three organisational levels of LfSD include:

Explaining in concrete terms the concept of sustainable development by:

- the publication of booklets (on, for example, sustainable management, social learning and sustainable leadership)

- the development of learning standards

- supporting communities of practice

- the development of tools such as the 'PPP stamp' (dossier to stimulate critical reflection and discussion) and a 'PPP tool' (tool for sustainable decision-making)

Sustainable Development Ladder (a variety of good examples and practices):

- the publication of a database of national, provincial and local sustainability projects on the LfSD website.

Bringing stakeholders at all levels together to discuss key issues by:

- organising workshops

- starting up networks

- supporting websites for knowledge exchange.

Training and coaching to participants in LfSD through:

- leadership training

- coaching to embed sustainable development in the structure and administration of organisations.

Germany

The coordination of EfSD in Germany comes through the National Committee for Sustainable Development appointed by the German UNESCO Commission in 2004 as an advising and managing body to oversee the implementation of the UNDESD in Germany in all educational sectors. It comprises 30 experts representing federal and *Länder* ministries, the Parliament, NGOs, the media, the private sector and the scientific community.[111]

Funded by the BMBF, its task is to set strategic priorities for the implementation process and to pursue political advocacy for EfSD. The committee meets biannually. It has an office in Berlin and an ongoing secretariat based in Bonn, which also undertakes research to identify actions to undertake, funding priorities and means to achieve the goals as set by the committee.[112]

A Round Table of the Decade sits beneath the national committee. It consists of more than 100 sustainability stakeholders from politics, the private sector and civil society, and from federal, Land and municipality levels.[113] The round table meets annually and acts as a link between the national committee and the EfSD organisations and practitioners who have an understanding of what is needed on the ground to achieve the aims set by the national committee. It identifies problems at the practice level, the visions for EfSD held across the sectors from early childhood,

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[111] See http://www.bne-portal.de/coremedia/generator/unesco/en/04__The_20UN_20Decade_20in_20Germany/01__Coordinating_20bodies/Coordinating_20bodies.html

[112] Records of the meetings are available in both German and English at http://www.bne-portal.de/

[113] See www.bne-portal.de/coremedia/generator/unesco/de/08__Zielgruppeneinstiege/04__Akteure/ Akteure.html, with more detail here at www.bne-portal.de/coremedia/generator/unesco/de/02__UN-Dekade_20BNE/02__UN__Dekade__Deutschland/06__Gremien_20der_20UN-Dekade/Gremien_20der_20UN-Dekade.html>

school, university to adult and community education, and how these can be supported through the development of EfSD activities[114]

At a third level, the national committee convenes working groups in the specialist areas of:

Early Childhood Education

School Education

Higher Education

Extracurricular Learning and Continuing Education

- Initial and Continuing Vocational Education and Training
- Informal Learning
- Biological Diversity
- Consumption (in particular Sustainable Consumption and Climate Change).

Their purpose is to draw up concrete proposals, bring the stakeholders for each sector together, network their activities and interests, and publicise their activities. Another task of the working groups is to propose outstanding EfSD projects for the Official Decade Project award.[115]

The national committee together with the round table and the working groups are the most important instrument to structure the implementation of EfSD across the *Länder*. This creates the bridge between the decision-makers and the stakeholders on the ground. Because EfSD at the *Länder* level is the responsibility of the environment ministries, most of the representatives sent by the *Länder* come from these ministries. However, a supportive culture for EfSD is being established at the BMBF based on the initiative of some individuals, yet there is a persistent lack of recognition of the importance of EfSD and its potential for innovative education reform at the state levels.[116]

England, Ontario and Victoria

England, Ontario and Victoria each display additional mechanisms for coordination. In England, coordination has not come from government but from alliances of environmental and development education NGOs. These include think tanks and policy-focused groups (such as Forum for the Future) and NGOs (such as WWF-UK). Community-based learning centres, teacher support units and project hubs for environmental, urban and development education have been funded by local authorities, sometimes national governments, the private sector, NGOs and foundations and have become common features of the English EfSD landscape for over 30 years. Chief among these have been the Development Education Association[117], the Council for Environmental Education (now 'SE-Ed', Sustainability and Environmental Education)[118], and the Field Studies Council.[119]

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[114] In Germany, the term 'community education' is generally not used. Depending on the context, the German equivalent would be adult education, out-of school education, informal or non-formal education.

[115] See www.bne-portal.de/coremedia/generator/unesco/en/04__The_20UN_20Decade_20in_20Germany/ 01__Coordinating_20bodies/Coordinating_20bodies.html

[116] Informant.

[117] Renamed 'Think Global' in 2011. With funding predominantly from DFID, Think Global is a membership-based charity (comprising many development and environment NGOs, as well as a wide network of Development Education Centres, schools, universities and other civil society bodies) that works to educate and engage the UK public on global issues. See www.think-global.org.uk/

[118] Relaunched under the new charity name 'SE-Ed', Sustainability and Environmental Education seeks to drive forward EfSD into the mainstream of the education system – schools, colleges, universities, teachers and their communities. See www.se-ed.co.uk/contact/about

[119] See www.desd.org.uk/ for a review of these are related organisations.

Similarly, in Ontario, community and professional organisations interested in EfSD have been the major source of coordination. Government support for community-based EfSD in Ontario seems to be limited to information campaigns on environmental stewardship and sources of project funding.[120] There appears to be no coordinated approach to cross-provincial department or cross-level of government collaboration for EfSD.[121]

This lack of attention to EfSD in national or provincial government policy in the 1990s led to a strong program of community advocacy for EfSD. Five years of lobbying by EfSD advocates resulted in a partnership between Environment Canada (a federal department), Manitoba Education, and an EfSD NGO LSF[122] to promote EfSD through nine provincial-territorial ESDWGs.

The purpose of the ESDWGs is to foster a culture of sustainability in Canada by engaging leaders from provincial and territorial ministries, the federal government, the formal, non-formal, and informal education sectors, as well as business and community organisations in discussions and actions to advance EfSD. To this end, the ESDWGs are very active in sponsoring public forums, providing input to provincial curriculum reviews, developing learning resources, developing workshops and conferences, and creating websites.

An umbrella group, ESD Canada, links the provincial-territorial ESDWGs via a federal ESD Canada National Council. It has a large 'expert council' and is serviced by a steering group, a secretariat and sub-committees (see Box 7.4). The goal of EfSD Canada is:

> to promote a culture of EfSD through the strengthening and development of partnerships/collaborations that build capacity for EfSD in the formal, non-formal and informal education sectors in Canada.

It does this by bringing together representatives of provincial and territorial ESDWGs, as well as national and international organisations, in order to:

- strengthen, promote and communicate EfSD in Canada
- provide leadership and support innovation in EfSD
- coordinate the identification of EfSD activities across Canada
- identify gaps at a national level and the process to address gaps
- identify and disseminate EfSD research to provincial-territorial ESDWGs and national and international organisations as appropriate
- monitor and report on EfSD progress in Canada in cooperation with provincial-territorial ESDWGs
- develop and implement a plan for financial stability of the network and ESDWGs.

The Canadian NRTEE is another example of a mechanism for coordinating LfS, especially across the policy, business and general public levels.[123] While not often recognised as EfSD (at least by EfSD practitioners), the fundamental principle underlying the NRTEE is learning through collaboration and policy analysis, and review of the divergent perspectives on development/environment issues in Canada. See Box 7.6 for an outline of NTREE activities.

Box 7.5: Coordinating Structures for EfSD Canada

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[120] This advice is organised by topic. For example, on water education, see www.ene.gov.on.ca/environment/en/main/contents/details?term=public_education
[121] By contrast, in formal education, the CMEC has established a Working Group on EfSD to help promote and coordinate EfSD in the formal education sector (K–12) in each province and territory.

[122] LSF is a non-profit organisation created to integrate education for sustainable development into the curriculum at all grade levels in Canada. LSF was founded by a group of youth, educators, business leaders, and government and community members. See www.lsf-lst.c

[123] See www.trnee-nrtee.gc.ca/eng/index.php check address????

National ESD Expert Council Structure
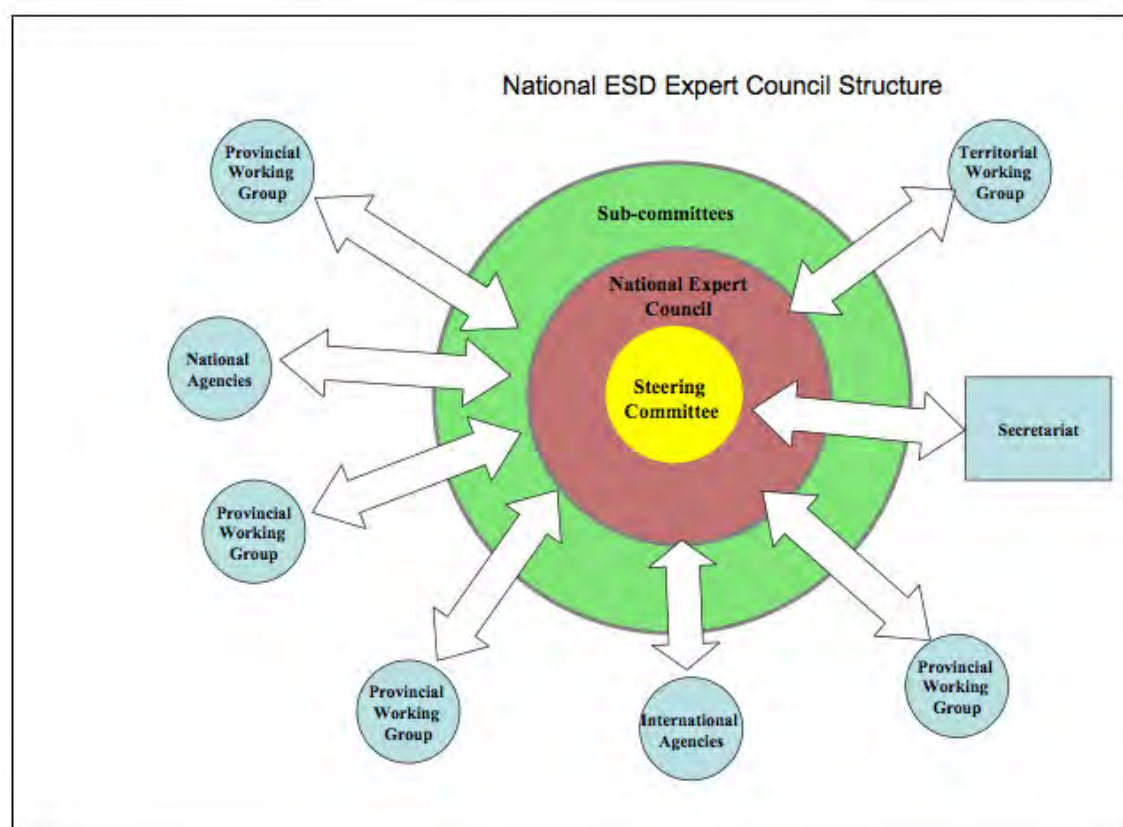
Box 7.6: EfSD Through the National Round Table for Environment and Economy in Canada

The NRTEE was established in 1988 'to play the role of catalyst in identifying, explaining and promoting, in all sectors of Canadian society and in all regions of Canada, principles and practices of sustainable development'. It comprises members drawn form all social and economic sectors, who are appointed for three years, to act as independent catalysts for public discussion, research, policy formulation and advice. Its roles include:

Bring divergent interests together: NRTEE brings together groups and organisations with different perspectives to seek stronger understanding and consensus on sustainability issues.

Undertake research on priority issues: NRTEE research projects are conducted by policy advisors with the help of outside issue experts over time periods that vary between one to three years. Recent work has focused on issues relating to: Climate, Energy, Water, Biodiversity and Governance.

Disseminate research results nationally and internationally: Generally between 4 and 6 reports are published annually, each highlighting the need for policy actions in specific areas and recommending measures to address these needs. A comprehensive communications package of conferences, panel discussions and local workshops is built around each report to engage a broad audience of people, foster partnerships and promote action.

Advise the federal government and key stakeholders: NRTEE works with federal departments, agencies and key national, provincial and territorial stakeholders to suggest ways to make environmental and economic concerns a central plank of their decision-making processes and encourage the adoption of our recommendations. Through the Minister of Environment, the Government of Canada may also ask the NRTEE to conduct research and provide advice on key and emerging issues.

The NTREE provides a secure forum for cross-perspective debates out of the media spotlight, allows the compromises that underpin consensus to emerge, and enables broadly supported policy positions to emerge. As a recent report noted, learning is both the fundamental process and outcome of all NTREE activities:

collaborative initiatives that address long-term issues enable evaluation, learning, and readjustment as time goes on. This is important: most sustainable development policy areas require continuous recalibration, not one-off decisions … Long-term and ongoing collaborative processes enable learning from past mistakes and the incorporation of new information. Most sustainable development policies are based at least in part on research from the scientists who study the environment. Policy processes, like the science on which they draw, must continually learn, evolve, and adapt to new information.[124]

In Victoria, coordination is promoted through an innovative networking process involving Open Space Forums for the EfSD sector. Organised by SV, participants in the Open Space events include EfSD practitioners in local councils, environment centres, schools and private enterprises as well as people involved at the policy level – indeed anybody working in the EfSD space. At an Open Space Forum, like-minded groups come together to plan shared Action Learning Projects that are then facilitated and, sometimes, resourced by SV. These support programs have evolved into programs of organisational incentives and support, and it is now planned to provide top-down support for organisations to further implement Action Learning Projects.

7.4.4 Consensus orientation, consultation and responsiveness

There are many actors and as many view points in all societies. Good governance requires not only the full participation but also the mediation of these different interests in order to reach a broad consensus on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve it. This can only result from an understanding of, and responsiveness to, the historical, cultural and social contexts of a given society or community.

Transparency and public participation are the hallmarks of democratic governance in its broader sense. However, in specific fields such as EfSD, the important point is that policies and programs are developed through wide consultation with stakeholders and constituencies, with an eye to being responsive to expressed needs and policy suggestions. All effort needs to be made to reach out to cultural and socio-economic groups that are not traditionally involved in formal consultation processes but for whom EfSD can bring enormous benefits.

All of the jurisdictions in the case studies displayed an openness to consensus in culturally appropriate ways. Even in England, where there were few avenues for coordination of EfSD, this was a response to the political situation vis-a-vis devolution. Perhaps this openness accounts for England's record of innovation in various aspects of EfSD where, even without central coordination, 'a thousand flowers have bloomed'. Thus, in addition to innovative work in schools, there has been much innovative work in key areas of EfSD including: the integration of sustainable development into government and government agency operations; work-based learning and development; and a wide range of sustainability-focused interventions within civil society, trade unions, universities and colleges, and professional associations. England might be seen as a world leader in these areas of EfSD.[125]

A key challenge is to explain why this has occurred in England. Discussions with the EfSD informants there indicate three possible reasons for this. The first is the strong tradition of excellence in teacher education in England where an Honours degree is the minimum qualification for a secondary teacher, and in-service education and postgraduate studies by educators has generally been well supported both by employing authorities and professional associations/networks. Second, university research in EfSD is policy and practice oriented and there is a strong connection between researchers and professional associations, with frequent interactions made possible by the much higher population density and short distances in

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[124] National Round Table on the Environment and the Economy and Public Policy Forum (2010) Progress Through Process: Achieving Sustainable Development Together, NRTEE and Policy Forum, Ottowa, p. 14.

[125] The best overview of this wide range of activities is provided on the website of EfSD Coordinating Group of the UK National Commission for UNESCO. See www.desd.org.uk/

England (compared with Australia). Finally, There is the possibility that the lack of centralised coordination or mandated approaches has a liberating impact, catalysing initiative and innovation to fill the void.

However, it is Canada that displays, in its very different way, a high degree of participation in the development of EfSD, reflecting the significant role that non-government actors can play in the governance process.

Canada

Similar to England, there has long been a lack of central coordination of EfSD in Canada and most of its provinces. However, this has not prevented wide participation and government acceptance of EfSD planning by community and professional organisations, for example the ESDWGs. A significant example is the development of a public strategy for EfSD in Ontario.

The absence of cross-department or cross-level government collaboration for EfSD in Ontario, as in other Canadian provinces, means that the ESDWGs play a significant role in networking community and professionally based NGOs to promote, catalyse and coordinate EfSD, especially beyond school-level EE. This facilitated Environment Canada and two foundations funding EEON in 2000 as well as EASO in 2005, as a network supporting the UNDESD.

Given the voluntary nature of much EE and now EfSD in Canada, EEON facilitated the development of a strategic plan for E&SE for Ontario. This was done through a series of workshops across the province, in which more than 500 people across social, education and economic sectors participated. *Greening the Way Ontario Learns* (EEO 2003) was the result, and might be considered the first public 'strategic plan' for EfSD in Canada.[126] Unfortunately, the strength of *Greening the Way Ontario Learns* as a publicly developed strategy is also its key weakness. Its detailed guidance for planning EfSD was developed collaboratively and, hence, has the potential for a strong sense of ownership and commitment to implementation. However, its voluntary nature and lack of integration into government policy and programs are limitations. Thus, the strategy for implementation is an 'invitation' to 'all members of the public to adopt and carry out the strategies listed here.[127] (EEO 2003, p. 41–42)

7.4.5 Conceptual coherency

A result of participation, consensus and responsiveness in governance is a shared vision of a sustainable society and an agreed set of goals, approaches and division of responsibilities. The multiple interests of all social actors means that many programs, tools and activities will be developed to achieve the vision but these are unified by a common understanding about how the transition to sustainability can be achieved. That is, a common conceptual model or theory of change is shared across stakeholders.

A major problem of many EfSD programs and projects is the lack of a coherent theory of change. If the purpose of EfSD is to develop human capacities for building a sustainable future, programs and projects that lack a conceptual model of how the enhanced knowledge, skills and values can be applied to problems of unsustainability and translated into successful actions, then they are certainly going to fail. Similarly, there is a need for a coherent understanding of how individual learning interacts with social and organisational learning and strategies for using these to change cultural values that undermine action for a sustainable future.

An example of a conceptual model from the LfSD program in the Netherlands illustrates the clarification of thinking that can come from being clear on a theory of change. It concerns the conceptualisation of 'audiences' for EfSD. The LfSD program is described as being built on three pillars, each of which addresses a different audience and focus for EfSD:

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[126] Environmental Education Ontario (2003) Greening the Way Ontario Learns, EEON, Toronto. See http://www.eeon.org

[127] ibid., pp. 41–42.

Pillar 1: The learning individual; Focus: formal education EfSD focuses on all levels of the entire formal educational system – primary and secondary schools, VET and university education, especially teacher education.

Pillar 2: The learning organisation; Focus: government(s) and policymaking EfSD seeks to develop the competencies needed to embed sustainable development as an integral part of governmental decision-making processes. In this focus area, national, provincial and local governments learn how to deal with integral policymaking, the participation of citizens and organisations and how to improve the quality of their own structure and performances.

Pillar 3: The learning society; Focus: complex decision-making processes in society EfSD provides learning processes connected to situations in which several stakeholders – with their own perspectives – work towards a collective solution.

Germany, the Netherlands and England provide examples of wider conceptual models at the levels of individual, social and cultural learning, respectively.

Germany – conceptual model underpinning individual learning

EfSD in Germany is based on the concept of *Gestaltungskompetenz* (design competency) as the key contribution of EfSD to education. *Gestaltungskompetenz* is the 'ability to apply knowledge of sustainable development and to recognise problems of unsustainable development.'[128] This involves competencies:

- of understanding (Verständigungskompetenz)
- for networked thinking and planning (Vernetzungs- und Planungskompetenz)
- for solidarity (Kompetenz zur Solidaritaet)
- for motivation (Motivationskompetenz)
- of reflective thinking (Reflexionskompetenz).[129]

Gestaltungskompetenz is further divided into 12 sub-competencies aligned with the categories of key competencies of education suggested by the OECD. As Box 7.7 illustrates, these provide a solid basis for curriculum planning as they indicate the scope of learning objectives needed to develop the human capacities for building a sustainable future. This view sees EfSD not only as an environmental subject but also as a process for innovation in schools, integrated into all subject areas and school activities and gave rise to the curriculum policies of Program 21 (1999–2004) and Transfer-21 (2004–2008),[130] These are illustrated in Box 7.8.

Box 7.7: Sub-competencies of *Gestaltungskompetenz*

OECD Competence Categories	Sub-competencies of *Gestaltungskompetenz*
Use media and tools interactively	Competency to **form a view**: Building up knowledge with an open mind and by integrating new perspectives Competency for **anticipation**: Being able to analyse and evaluate new developments with foresight

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[128] www.transfer-21.de

[129] de Haan, G. and Harenberg. D. (1999): Bildung für eine nachhaltige Entwicklung – Gutachten zum Programm. See www.blk-bonn.de/papers/heft72.pdf

[130] For an evaluation of the Transfer-21 program see Rode, 2005. See www.transfer-21.de/daten/evaluation/Abschlusserhebung.pdf

	Competency for **gaining insights in an interdisciplinary way**: Gaining insight and acting in an interdisciplinary fashion Competency in **dealing with incomplete and complex information**: Being able to recognise and evaluate risks, dangers and uncertainties
Interact in heterogeneous groups	Competency for **cooperation**: Being able to plan and act in cooperation with others Competency in **overcoming individual decision-making dilemmas**: Being able to consider conflicting aims when reflecting about strategies for action Competency for **participation**: Being able to participate in collective decision-making processes Competency for **motivation**: Being able to motivate oneself and others to become active
Act autonomously	Competency for **reflection** on guiding ideas: Being able to reflect upon one's own and others' guiding ideas Competency for **acting ethically**: Being able to use concepts of justice as a basis for decision-making and action Competency for **acting autonomously**: Being able to plan and act autonomously Competency in **supporting others**: Being able to show **empathy** for others

Source:
www.bildunglsa.de/files/8d92ca70abb56d9124c479583e5e25e6/Teilkompetenzen.pdf, p. 21, translated by Dr Iris Bergmann

Box 7.8: Recommendation for a Program to Facilitate *Gestaltungskompetenz* for EfSD

Educational Aim: ***Gestaltungskompetenz* for EfSD**	
Educational and Organisational Principles (Modules)	**Themes**
Interdisciplinary learning	Syndromes of global change Sustainable Germany Environment and development Mobility and sustainability Health and sustainability
Participatory learning	Cooperating for a sustainable city Cooperating for a sustainable region Participation in Local Agenda 21 Development of sustainability indicators
Inovative structures	School profiles Sustainable Development School sustainability audit Student enterprises and sustainable economy New forms of external partnerships
Aim of the program: Integration of ESD into all subjects and the schools' management and operations	

Adapted from de Haan and Harenberg 1999, pp. 61, 88

The Netherlands – conceptual model underpinning social learning

The nature and purpose of social learning is outlined above in Pillar 3 of LfSD in the Netherlands. The LfSD program actively prioritises and promotes social learning, not information and awareness or behaviour change approaches in EfSD.

The social learning approach was developed by agricultural extension and NRM programs at Dutch universities and was translated more broadly into other fields by the sustainability science and resilience movements, and into education by the Dutch educator Arjen Wals. It has also been promoted in Australia by the Citizen Science program of the CRC for Coastal, Estuary and Waterways Management and the projects and writings of teams at ANU, RMIT, Monash University and the University of the Sunshine Coast.[131]

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[131] See, for example: Gidley, J. et al (2009); Ison, R. et al (2009); Keen, M et al (2005); and Smith, T. et al (2011)

Social learning is difficult to define precisely, but, broadly, it is a facilitated group learning process that seeks changes in understandings and norms in the mental models (of nature and society) of groups of people rather than just individuals.

A model of how the social learning process works and needs to be carefully facilitated is shown in Box 7.9. This model illustrates that:

> people learn from and with one another, becoming collectively more capable of dealing with the uncertainty, complexity and risks involved in finding their way towards sustainable development. In other words, social learning is about learning from each other in heterogeneous groups and about creating trust and social cohesion. It is also about creating ownership of both the learning process and the solutions that are found, as well as about collectively finding meaning and making and sense. In essence, social learning brings together people with diverse knowledge and experiences, with different backgrounds and perspectives. This diversity assists in finding more creative answers to questions, for which no ready-made solutions are available.[132]

England – conceptual model underpinning cultural change to support learning for sustainability

As indicated above, one of the ways that the UK government has promoted pathways to sustainable development is through research by think tanks such as the SDC. Similar to the focus on wider social learning in the Netherlands, the SDC report *I Will If You Will* promotes systemic change not individual behavior change as the foundation needed for the sustainability transition.[133] Thus, *I Will If You Will* talks about the 'Triangle of Change' (Box 7.10) which involves mutually supported changes in individual, corporate and government actions as a part of the process of cultural change. As a discussion paper from the UK Cabinet Office titled *Achieving Culture Change: A Policy Framework* explains:

Many policy outcomes depend on how we – as individuals and groups – behave. Our actions are important determinants of whether we will live productive and healthy lives, in clean and sustainable environments, in communities free from fear or isolation. Unfortunately all too often we fail – collectively and individually – to behave in the way required to achieve the outcomes we would like.[134]

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[132] van deer Waal, M.E. (2011) The Netherlands, in National Journeys towards Education for Sustainable Development, UNESCO, Paris, pp. 93–94.

[133] Sustainable Development Commission (2006) I Will If You Will: Towards Sustainable Consumption, DEFRA, London.

[134] Knott, et al. (2008) Achieving Culture Change: A Policy Framework, Cabinet Office, London, p. 40.

Box 7.9: Social Learning as a Cycle of Embedded Learning Phases[135]
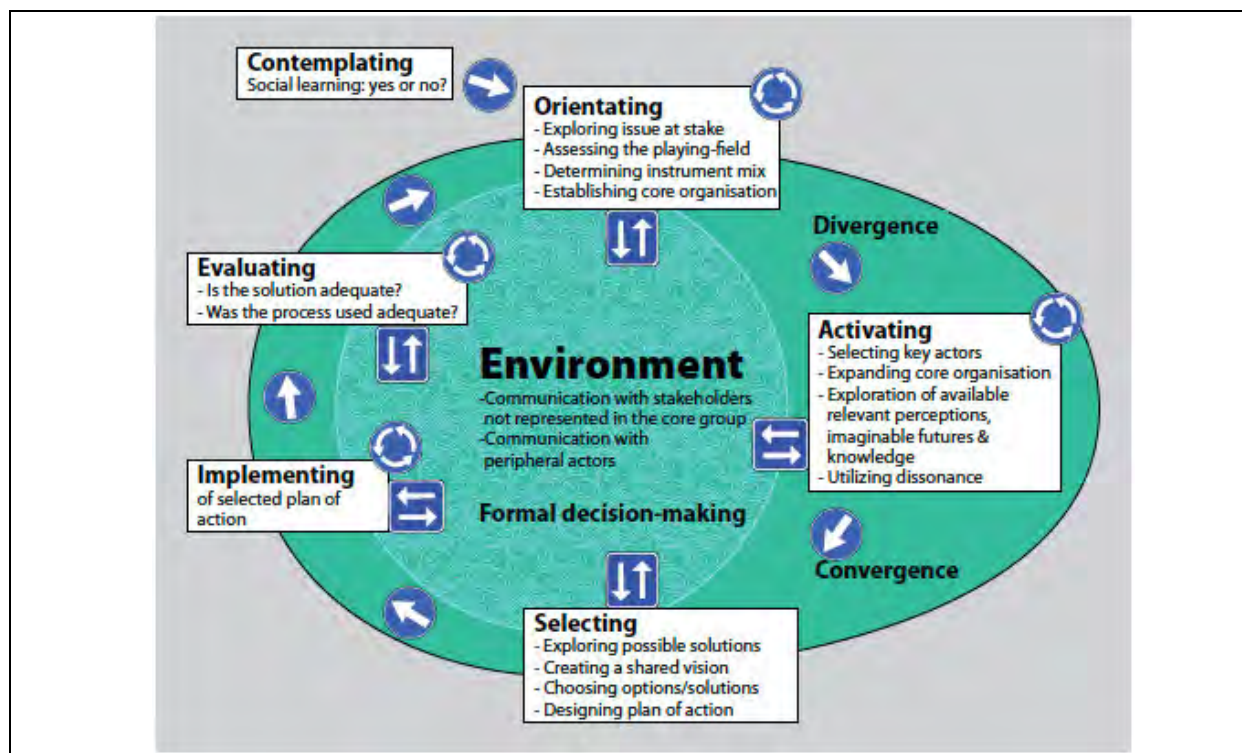
Source: Wals et al. 2009, pp. 5–6

Box 7.10: The Triangle of Change

Source: Sustainable Development Commission 2006, p. 7

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[135] Wals, A., Hoeven, N., & van der, Blanken, H. (2009) Acoustics of Social Learning. Designing Learning Processes that Contribute to a More Sustainable World, Wageningen Academic Publishers, Wageningen, pp. 5–6.

In such cases governments have traditionally used a combination of incentives, legislation and regulation in an attempt to encourage and persuade the public into adopting different forms of behaviour. In many cases these have proved effective. However, there is an increasing recognition that 'cultural capital' factors – our attitudes, values, aspirations and sense of self-efficacy – are also important determinants of our behaviour. We know that goals relating to educational attainment, social mobility and opportunity, healthy living, environmental sustainability, and maintaining thriving communities depend as much on cultural capital as they do on government action to provide investment and opportunity. (Knott et al. 2008, p. 6; my emphasis)

Achieving Culture Change: A Policy Framework is a significant publication which contains three points relating to the need for a coherent conceptual model of social change through EfSD.

First, cultural values comprise ideas about what people deem important in life. At the societal level these are often manifested as social norms, that is, the rules and guidelines that steer human behaviour. These vary from informal norms to those supported by more formal sanctions or rewards. At the individual level the cultural values that people hold determine their attitudes to specific ideas and activities that, in turn, influence decisions about individual behaviour.
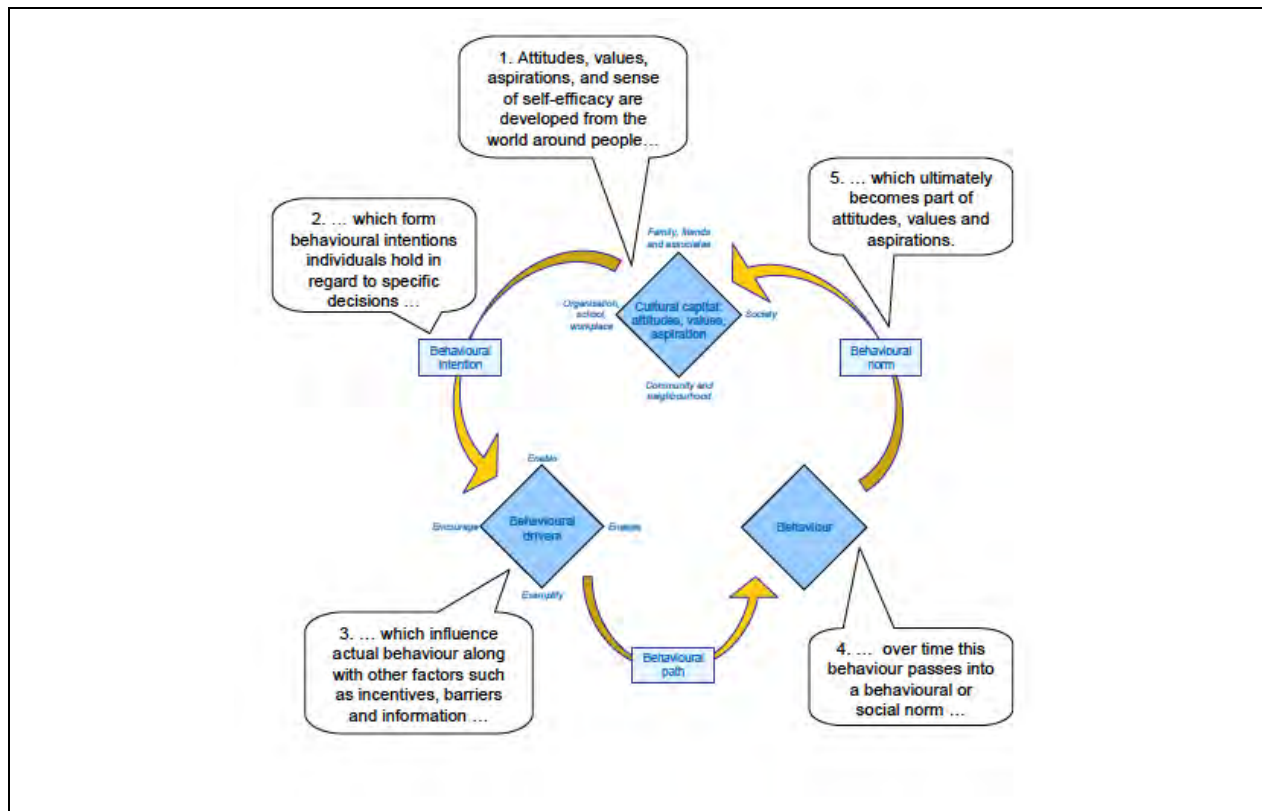
Cultural capital is formed through our interaction with both the immediate environment and broader society-wide forces, and shapes the behavioural intentions we have in regards to the specific decisions and choices we can make. In some cases cultural capital has a strong influence on behavioural intentions; in other cases less so. How these behavioural intentions interact with the incentives, legislation, regulation and level of information and engagement we face in any given situation determines our actual behaviour. The relationships between behaviour and cultural change are shown in Box 7.11.

Second, it is possible – and necessary – for government to intervene to develop cultural capital in particular ways to serve particular policy goals. However, government actions to influence the lifestyles of citizens – as policies to encourage sustainable behaviour inevitably do – are sometimes considered 'challenging' (OECD 1997, p. 48). Policies that seek to affect the values and lifestyles of citizens through education, particularly school education, pose particular difficulties. The spectre of 'social engineering' and 'indoctrination' are concerns for teachers and parents who favour balanced perspectives. This means that particular care is needed to disseminate professionally ethical ways of bringing about desired social changes through schools.

However, in the broad area of sustainable living there is broad public consensus on the types of lifestyle behaviours that can enhance resource efficiency and conservation liveability, as well as enhance social inclusion and catalyse new forms of economic productivity. However, changes at the levels of individual, family and, even, community values are not enough to achieve sustainable consumption.

Actions by governments such as providing an appropriate policy framework supporting social and economic instruments – including eco-labelling schemes, tax and pricing incentives, appropriate energy and water supply infrastructure, policing infringements of environmental codes, and modelling sustainable consumption priorities in their own purchasing departments – are also needed.

Box 7.11: The Cycle of Cultural Change

1. Attitudes, values, aspirations, and sense of self-efficacy are developed from the world around people…

5. … which ultimately becomes part of attitudes, values and aspirations.

2. … which form behavioural intentions individuals hold in regard to specific decisions …

Family, friends and associates

Organisation, school, workplace

Cultural capital: attitudes, values, aspiration

Society

Behavioural intention

Behavioural norm

Community and neighbourhood

Enable

Encourage

Behavioural drivers

Engage

Behaviour

Exemplify

Behavioural path

3. … which influence actual behaviour along with other factors such as incentives, barriers and information …

4. … over time this behaviour passes into a behavioural or social norm …

Source: Knott et al. 2008, p. 40.

This requires a whole-systems approach to economic and social policy in which the micro-economic influences on households and businesses are integrated with the macro-influences of the structure of the economy in order to produce the desired level of sustainable consumption. As the report of the 1995 Oslo Roundtable on Sustainable Production and Consumption stated:

It is evident that many worrying environmental trends are to a large extent the result of millions of discrete lifestyle decisions. However, focusing on end-use consumption does not change the basic division of responsibilities among the various actors or place the burden of change primarily on households and individual consumers. Governments have to provide the overarching framework ... and leadership that will enable other actors to take up their responsibilities for their part of the chain from production to consumption and final disposal … To be successful, actions to change end-use consumption patterns require effective incentives, accurate and available information, accessible facilities, social support systems, adequate and sufficient resources and cultural norms that reward sustainable consumption practices.[136]

Third, the cycle of cultural change (Box 7.11) provides two broad levels of government action:

1. the level of cultural capital (Box 7.12)

2. the level of the drivers of behaviour. (Box 7.13).

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[136] Norwegian Ministry of the Environment (1995) Oslo Roundtable on Sustainable Production and Consumption Section 1.4. See www.iisd.ca/linkages/consume/inst-sd.html
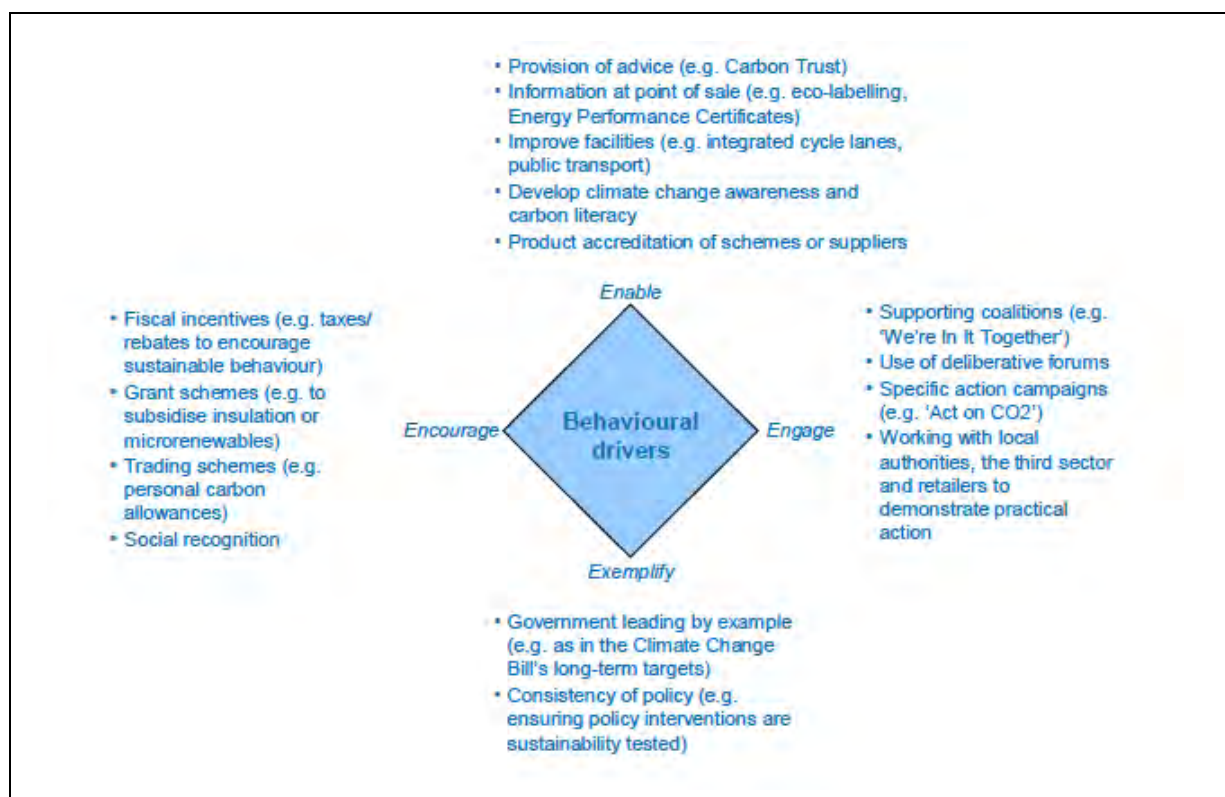
Box 7.12: Changing Cultural Capital
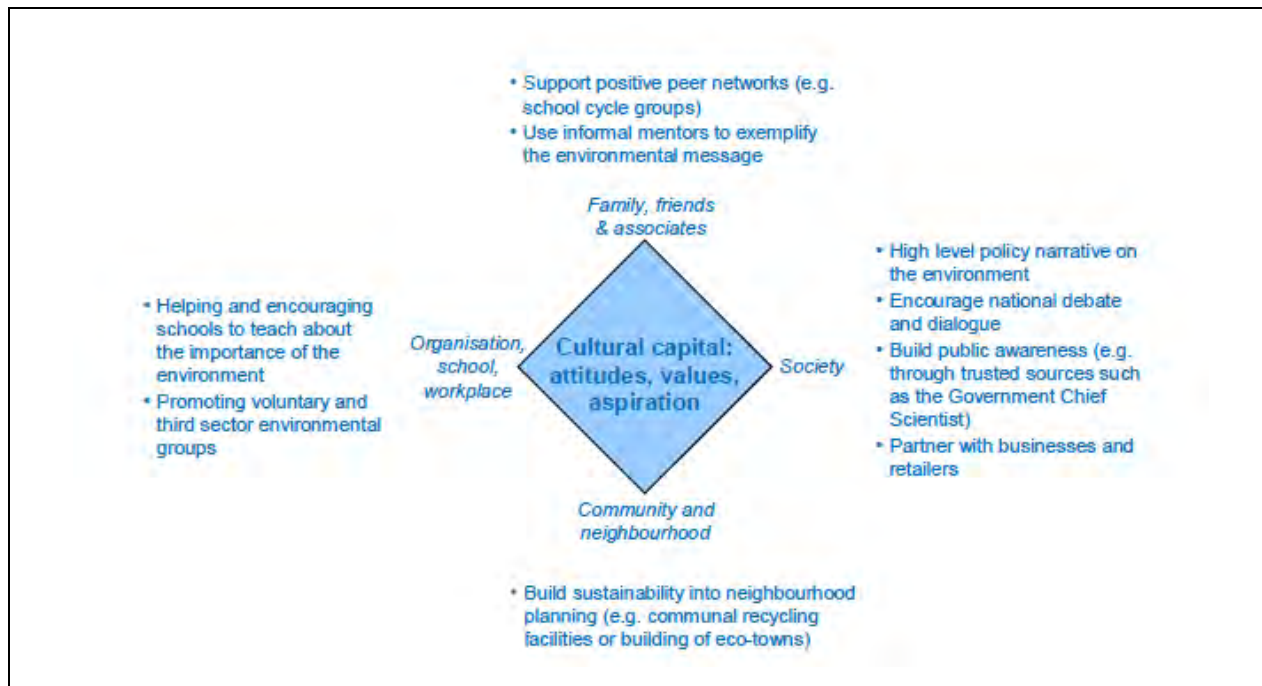
Source: Knott et al. 2008, p. 134.

Box 7.13: The 'Four Es'

Source: Knott et al. 2008, p. 134.

Box 7.12 also illustrates that, at the level of cultural capital, it is important for government to address the need for consistent policies at the four levels of:

1. friends and family

2. organisations and workplaces

3. neighbourhoods and communities

4. society at large.

At the level of behavioural drivers, Box 7.13 illustrates the 'four Es' strategy for community education recommended by the Sustainable Development Commission in *I Will If You Will*: Enable, Encourage, Engage, and Exemplify.

7.4.6 Accountability: effectiveness and efficiency

Accountability is a key requirement of good governance as it can help ensure that processes and institutions are appropriate to, and effective in, producing outcomes that meet the needs of society while making the best use of available resources. Accountability also ensures that there are clear lines of responsibility for implementation or, if this is not appropriate, avenues for communication, sharing of experiences and capacity-building across stakeholders.

The issue of accountability is relevant not only to governmental institutions but also to the private sector and civil society organisations, as all need to be held accountable to the public and to their institutional stakeholders. Who is accountable to whom, of course, will vary depending on whether decisions or actions being taken are internal or external to an organisation or institution.

This is where evaluation, feedback and quality improvement processes are paramount. There seems to be a record of evaluating individual projects in each of the five jurisdictions but, as noted in the England case study, reports tend to be confidential or not easily available so that meaningful comments can be made.[137] Program evaluation was much more rare. Indeed, it does not exist in England and Ontario where there are no central EfSD programs, and is not yet undertaken in Germany or Victoria.

The evaluation of the LfSD program in the Netherlands is the only comprehensive evaluation of an EfSD program. These involve continuous monitoring throughout the course of the program as well as annual formal evaluations at three distinct levels – the LfSD program, the audience type (pillar), and project levels.

Program level: annual evaluation reports of the LfSD program are based upon four criteria: input, throughput (process), output (product) and outcome (effect). These accord with the international list of indicators of the UNECE EfSD strategy. Since 2009, LfSD evaluations have been closely connected to the evaluation of the NEEP.

Audience level: two special work groups (across the three pillars) have been appointed to review activities within each pillar. An 'Education Team' comprising representatives from relevant ESD networks and interprovincial groups focus on formal education (Pillar 1) while a 'Government Team' discusses and evaluates the progress of LfSD activities of Pillars 2 and 3 by special and regular meetings with all provinces and ministries.

Project level: templates are provided for project reports, which are uploaded onto provincial websites and on the LfSD website. Online tools are also provided to critique and improve projects. However, it is said that more attention needs to be given to follow-up on this to enable effective knowledge transfer and scaling-up from provincial and local pilots projects to national implementation.

It is notable that none of the EfSD programs in the five case studies seem to involve logic models and logical frameworks for program planning and evaluation and none, apart from the

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[137] The exception is Germany where several excellent evaluation reports are available.

Ontario Department of Education[138], refer to the indicators frameworks developed by the UNDESD and its three types of indicators:

1. **Status indicators**: the status of environmental education as implementation begins
2. **Facilitative indicators:** the supports that are available to facilitate implementation
3. **Effect indicators**: the results achieved at different stages of implementation.

However, there is no evidence that the framework has been used at a Department of Education level.[139]

7.5 Towards 'good governance' for EfSD

7.5.1 A synthesis of the case studies

The review of examples of 'good governance' for EfSD in five jurisdictions has revealed a number of exemplary practices that together provide guidance on the structures and processes that might comprise a comprehensive set of governance and policy arrangements for the promotion of EfSD, especially at the level of community change.

These governance arrangements and processes with a summary of leading case examples include:

Principles	Lead Examples
1. The integration of a government coordinating office for EfSD, both horizontally and vertically, within a nested set of departments and agencies that enable the integration of EfSD within the suite of legislative, economic and voluntary mechanisms for promoting sustainability and, as result, within a set of budgetary and reporting relationships that ensure that the contributions of EfSD can be maximised.	**Victoria:** The coordinating office for EfSD is based in SV as the state government's capacity building/ enabling arm for sustainability, whereas the DSE and the EPA are responsible for policy and regulation, respectively. **The Netherlands:** The LfSD program is based on a long-term partnership of at least six government departments with provincial and municipal bodies and water utilities.
2. The integration of an EfSD policy across and within a hierarchy of related policies and action plans so that each contributes to the agreed, higher order goals of a society. There should be a logical and continuous flow of references to EfSD in national and/or state/provincial visions for the future, strategies for sustainable development, departmental strategies, and an EfSD strategy and action plan.	In both **The Netherlands** and **Germany**, EfSD policy is derived from, and contributes to, national policies and strategies for sustainable development.

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[138] Ontario Ministry of Education (2010) Acting Today, Shaping Tomorrow. See www.edu.gov.on.ca/curriculumcouncil/action.html

[139] For a suitable guide with EE examples, see Department of Environment and Conservation NSW (2004) Does Your Project Make a Difference? A guide to evaluating environmental education projects and programs, Department of Environment and Conservation, Sydney. www.livingthing.net.au/rc/pubs/04110_projecteval.pdf

3. Such structural and policy integration will indicate the degree to which the coordinating office for EfSD in a jurisdiction is to be responsible for: • strategic planning and evidence-based guidance, advice and professional development for other stakeholders, and/or • the delivery of EfSD programs to a wide range of audiences.	**England**: Minimal central coordination; effective policy research and guidance on evidence-based practice. **The Netherlands**: Central planning, program development and evaluation roles for the LfSD office but delivery left to provincial and municipal levels and other stakeholders. **Germany**: A central office for the UNDESD working in partnership with states, municipalities and other stakeholders for program and project delivery.
4. The planning and delivery of EfSD needs to be coordinated, if not integrated, both horizontally and vertically, across all stakeholders and partners in EfSD, including the coordinating office for EfSD, EfSD officers in other government departments at all levels of government, as well as with corporate, professional and community sectors.	**Ontario**: Little central coordination. **Victoria**: Full program delivery for multiple audiences plus coordination across government departments and local authorities through informal means with regular Open Space forums for consultation on program and project directions.
5. The planning and delivery of EfSD needs to involve all relevant stakeholders and seek meaningful consultation and consensus to enable wide ownership of a coordinated EfSD program that is responsive to the socio-economic and cultural contexts of all audiences.	**Ontario:** Provincial ESDWGs provide input to local and national activities.
6. EfSD programs must have a conceptual coherency based upon a comprehensive model of change involving individual, social and cultural learning.	**Germany, the Netherlands and England** provide examples of conceptual models for individual, social and cultural learning, respectively.
7. EfSD programs are subject to ongoing monitoring and regular formal evaluations as part of a cycle of continuous quality improvement. The use of logic models for program and project planning and evaluation will enable the evaluation of short- and medium-term outcomes as well as long-term impacts.	Little evidence of effective regular evaluation but lessons may be learnt from: **Canada:** Use of UNDESD indicator framework **The Netherlands:** Provision for annual program evaluation and use of a project template.

7.5.2 Summary of answers to the research questions

This summary/synthesis of the case study findings provides a base from which to answer the original research questions. Two factors make this set of answers less comprehensive than desirable:

• the great variety of structures and approaches to EfSD governance across the case studies
• the lack of effective program planning and evaluation in EfSD across the jurisdictions.

This means that specific answers to some questions need to be sought through the individual case study reports:

1. **What are the governance structures and division of responsibilities across (i) levels of government, and (ii) government ministries or departments at different levels of government, including the roles of key stakeholders within the governance structure?**

    - high level recognition of the resource implications off the complex challenge of coordination brought about by the existence of multiple relevant national and/or state/provincial level government departments (depending on the division of constitutional responsibilities between national and provincial/state levels of government), as well as industry, community, NGOs, professional associations and education stakeholders

    - formation of a high level interdepartmental committee/s to ensure coordination across all government stakeholders

    - designation of one government department/agency to be the focal point for long-term strategic directions and planning, operational coordination and evaluation of EfSD

    - formation of an external advisory committee for EfSD, comprising all relevant non-government stakeholders, to provide (i) coordinating links down to local government agencies and the professional EfSD community, and (ii) mechanisms for non-government stakeholders to contribute to policy, planning and implementation of EfSD

    - establish local/regional ESDWGs, comprised of all relevant stakeholders, to provide local/regional coordination and support

    - support cross-regional networking and advisory services to facilitate local/regional implementation and cross-learning

    - establish strong central research services to provide all stakeholders with the best advice on theory, practice and evaluation of EfSD.

2. What are the underlying assumptions and models of learning and social transition that underpin policy and program approaches?

There is no clear answer to this question. The case studies included jurisdictions that have a clear and (largely) mandated approach as well as others where no approach is mandated and, by default, there is a lack of clarity and purpose in their EfSD policy and actions. Four models of learning and social transition were identified across the jurisdictions:

- Behaviour change (Victoria) – where the key assumptions are that:

    (i)   'Leaders' know the solution to problems, and

    (ii)   have to communicate them in ways that will change the attitudes of individual persons, households, communities, organisations and businesses and,

    (iii)   thus, encourage them to change inappropriate environmental behaviours.

- Social learning (the Netherlands) – where the key assumptions are that:

    (i)   Incomplete mental models of people–environment relationships are the root cause of environmental (and other sustainability) problems;

    (ii)   thus solutions are to be found not through top-down communication of answers but through the facilitation of cross-community dialogue that produces a deeper understanding, which

    (iii)   can produce more comprehensive mental models upon which

    (iv)   further dialogue can bring about changes in both behaviours and the socio-economic structures that frame individual action.

- Action or design competence (Germany – but only for school EfSD) – where the key assumptions are that:

    (i)   The root causes of environmental (and other sustainability) problems are both individual and societal.

    (ii)   People will act on these if they have the opportunity to be guided in the analysis of a problem, arrive at their own solution, and practice putting the solution into effect, evaluating the impacts, and then reflecting on what has been learnt.

- Cultural capital and cultural change (England – but for community EfSD only, and not mandated) – where the key assumptions are that:

    (i)   The root causes of the root cause of environmental (and other sustainability) problems are cultural.

    (ii)   Governments have a responsibility to intervene in national and local culture to change those aspects that are non-conducive to environment and wider sustainability goals.

    (iii)   Such interventions (programs) need to be based on the best possible evidence of public attitudes and the selection of the most effective strategies of cultural change that current research suggests.

A fifth strategy is beginning to be discussed in Victoria but is yet to become widespread. This approach is based on what is known as 'social practice theory'. It focuses on social practices (washing, heating, commuting, etc.) not on individual attitudes and behaviour or the mental models or wider culture that frame them. Social practices are framed, in part, by individual lifestyle choices but these are not seen as personal decisions per se, but rather as actions that people in a society undertake because of the way economic, legislative, cultural and technological conditions interact to make certain ways of doing things (i.e. social practices of washing, heating, commuting, etc.) appear 'normal'. Thus, changes to social practices require simultaneous and mutually reinforcing changes in the economic, legislative, cultural and technological conditions that frame them.

This is an educational and capacity building task and requires complementary EfSD programs for government, industry, media and community decision-makers, using a wide range of strategies including social learning and cultural change.

3. What policy documents and/or strategic frameworks are there to support EfSD?

There is enormous variety in documents at different levels in all five jurisdictions studied. Some do not have EfSD policy documents (e.g. Victoria), while others have them for the school sector only (England, Canada, Germany).

Examples include:

- two phases of the National Learning for Sustainable Development program in the Netherlands, with associated key policy statements: *From Margin to Mainstream* (2004–07) and *From Strategy to General Practice* (2008–2011)

- England's long-term strategy for EfSD, which was updated in 2005 as *Learning for the Future*, in harmony with the national sustainable development strategy, *Securing the Future*

- policy development driven by NGOs and networks in Ontario, where LfS has been most strongly advocated by civil society, and the network EEON produced a 'public strategic plan' titled *Greening the Way Ontario Learns* in 2003.

- Germany's implementation of EfSD which is strongly allied to the UNDESD and programs include the scheme of endorsing 'Projects of the Decade', and yearly 'themes' which bring focus to EfSD activities

Victorian implementation via its 10-year strategy *Learning to Live Sustainably*, with Victoria's Sustainability Fund providing approximately 30 per cent of its total funding to sustainability education and behaviour change projects.

The lack of clear governance structures for EfSd in a jurisdiction means that there is often a difference between producing policy documents and/or strategic frameworks and coordinating their implementation. This problem seems to be exacerbated when there is a lack of clarity about exactly what levels of government and what department or departments they pertain to; which aspects of the environment/sustainability are within their remit; which levels of education and which community and industry groups their policy or strategy is for (unless it was K–12 education); and which strategies are the most effective to recommend.

None of the documents examined is as comprehensive as *Learning for Sustainability 2007–10*, the NSW EE plan, although the documentation and related structural and operational processes in the Netherland's 'LfSD program is a worthy model to examine.

4. Are EfSD strategies integrated with other measures, such as mass communication, endorsement and enforcement mechanisms, etc. (if any)?

EfSD strategies are rarely integrated with other measures, such as mass communication, endorsement and enforcement mechanisms. EfSD is still primarily seen as a function of schooling.

Exceptions include:

- Victoria where SV has/had a coordinated enabling and capacity building role that is intended to complement DSE (policy) and EPA (regulation and enforcement)

- the Netherlands where the social learning philosophy is part of a wider democratic process across all areas of policy.

5. **What are the drivers and context of existing governance structures, policy frameworks and models?**

The drivers and the context of the existing governance structures, policy frameworks and models are detailed for each case study. Each shows the context specific nature of governance frameworks, and in particular how the social, political and historical context is integral to the framework itself, and its acceptability and effectiveness. Drivers that were common across cases included public support for sustainable development and action on climate change, and advocacy by professional and community groups committed to EfSD.

Advocacy by professional and community groups committed to EfSD is also a highly potent force for prompting support and increased organisation and resourcing of EfSD. Two contrasting approaches to this are evident in Canada and the Netherlands. There has been a long-term 'hands-off' approach to EE and EfSD in Canada at both national and provincial levels. This prompted extensive local, regional and provincial action and the formation of groups that went as far as writing policies and strategic plans to present to government, with government then following. Conversely, in the Netherlands, where there is a rich university/research culture in EE and EfSD, governments have lent heavily on this expertise to develop policies and programs such as the 'LfSD program.

6. **What evidence is there (if any) about the reach and impact of existing models and frameworks/ levels of participation and engagement?**

Evidence of monitoring and evaluation is quite minimal around the world in the absence of coordinated governance structures and policies for EfSD, and comprehensive programs of monitoring and evaluation.

The multi-level processes and templates for reporting in the Netherland's LfSD program are a worthy model to examine. They are similar to the evaluation process developed by the Office of the Commissioner for Environmental Sustainability in Victoria, but upon which little action has been taken.

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Acronyms

ACF	Australian Conservation Foundation
ACT	Australian Capital Territory
AG iL	Informal Learning
ANU	Australian National University
BIBB	Federal Institute for Vocational Training (Bundesinstitut für Berufsbildung)
BIN	Bürger Initiieren Nachhaltigkeit
BINK	Educational Institutions and Sustainable Consumption (Bildungsinstitutionen und Nachhaltiger Konsum)
BLK	Commission for Educational Planning and Research Promotion (Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung)
BMBF	Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung)
BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit)
BMZ	Federal Ministry for Economic Cooperation and Development (Bundesministerium für Wirtschafltiche Zusammenarbeit und Entwicklung)
BNE	Education for Sustainable Development (Bildung für Nachhaltige Entwicklung
BUND	Friends of the Earth, Germany (Bund für Umwelt und Naturschutz Deutschland)
CALD	culturally and linguistically diverse
CBS	Central Bureau of Statistics
CES	Commissioner for Environmental Sustainability (Victoria)
CESD	Commissioner of the Environment and Sustainable Development (Canada)
CEO	Chief Executive Officer
CMEC	Council of Ministers of Education of Canada
CRC	Cooperative Research Centre
DBU	Federal Foundation for the Environment (Deutsche Bundesstiftung Umwelt)
DEECD	Department of Education and Early Childhood Development (Victoria)
DEFRA	Department of Environment, Food and Rural Affairs
DET	Department of Education and Training (former name of DEECD)
DfE	Department for Education
DfES	Department for Education and Skills
DFID	Department for International Development
DHS	Department of Human Services
DNR	German Nature Preservation Circle (Deutscher Naturschutzring)
DOT	Department of Transport
DPC	Department of Premier and Cabinet (Victoria)
DPI	Department of Primary Industries

DSE	Department of Sustainability and Environment
DTF	Department of Treasury and Finance (Victoria)
DUK	German Commission to UNESCO (Deutsche UNESCO Kommission)
DVC	Department for Victorian Communities
E&SE	Strategic Plan for Environmental and Sustainability Education
EASO	Education Alliance for a Sustainable Ontario
EE	Environmental Education
EEON	Environmental Education Ontario
EfSD	Education for Sustainable Development
EMS	Environmental Management Systems
EPA	Environment Protection Authority Victoria
ESD	Education for Sustainable Development
ESDWG	Education for Sustainable Development Working Group
EU	European Union
EV	Environment Victoria
FONA	Forschungsprogramm Nachhaltigkeit (Research for Sustainability)
GIZ	German Association for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH). Established 1 January 2011, as an amalgamation of three organisations: the DED (German Development Service - Deutscher Entwicklungsdienst), the GTZ (German Technical Cooperation - Deutsche Gesellschaft für Technische Zusammenarbeit) and Inwent – Capacity Building International, Germany.
GST	goods and services tax
HEI	Higher Education Institution
IEEP	UNESCO-UNEP International Environmental Education Programme
IUCN	International Union for Conservation of Nature
KADO	Dutch National Sustainable Development Strategy
KMK	Standing Conference of the Ministers of Education and Cultural Affairs (Kultusministerkonferenz)
LfS	Learning for Sustainability
LfSD	Learning for Sustainable Development
LSF	Learning for a Sustainable Future
NABU	Nature and Biodiversity Conservation Union (Naturschutzbund Deutschland e.V.)
NEEP	National Environmental Education Program
NGO	non-government organisation
NPA	National Plan of Action for the Decade
NRM	natural resource management
NSSD	National Strategy for Sustainable Development
NSW	New South Wales
NTREE	National Round Table on Environment and Economy (Canada)

NUN	North German Alliance in Support of the UN-Decade of EfSD
OECD	Organisation for Economic Cooperation and Development
Ofsted	Office for Standards in Education
PAS	Provincial Ambition Statement
PISA	Programme for International Student Assessment
PPP	People, Planet, Profit
RCE	Regional Centres of Expertise
RNE	German Council for Sustainable Development (Rat für Nachhaltige Entwicklung)
RUZ	Regional Environmental Education Centres (Regionale Umweltbildungszentren)
SD	Sustainable development
SDC	Sustainable Development Commission
SDEP	Sustainable Development Education Panel
SEAV	Sustainable Energy Authority Victoria
SME	small to medium enterprises
SPD	Social Democratic Party (German)
SV	Sustainability Victoria
UBA	Federal Environment Agency (Umweltbundesamt)
UK	United Kindgom
UN	United Nations
UNDESD	United Nations Decade of Education for Sustainable Development
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for the Asia Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAGO	Victorian Auditor General's Office
VEEC	Victorian Environmental Education Council
VENRO	Association of German Non-Governmental Development Organisations (Verband Entwicklungspolitik deutscher Nichtregierungsorganisationen)
VET	Vocational Education and Training
VLSA	Victorian Local Sustainability Accord
WA	Western Australia
WCED	World Commission on Environment and Development
WGBU	Scientific Council of the Federal Government Global Environmental Change (Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen)
WSSD	World Summit on Sustainable Development

Appendix

This excerpt from *Greening the Way Ontario Learns* provides detailed guidance for planning EfSD for the general public audience, under the theme of 'Consumers'.

Environmental Education Ontario
Greening the Way Ontario Learns

Consumers

This section is for individuals or organizations seeking to educate consumers to produce a shift towards more environmentally sustainable purchasing and consumption patterns.

Outcomes

Consumers will:

1. Recognize the environmental benefits of purchasing local products whenever possible

Sample Indicators:
- They favour bioregional producers and community-based retailers.
- They request information on products' country or province of origin (so that environmental costs can be evaluated)
- They factor in transportation costs (fossil fuel use, production of greenhouse gases) as a major environmental cost of goods

2. Gain access to information that helps them choose products, equipment, and services which minimize waste, energy, resources, and water consumption

Sample Indicators:
- They choose products manufactured with processes or equipment that reduce the amount of resources, energy, and water used in production.
- They buy in bulk, and prefer products with minimal or environmentally friendly packaging.
- They choose durable, reusable, and repairable products.
- They employ energy saving products and practices in their homes and at work.

NEW

33

- They use environmentally friendly transport such as walking, bicycling, and public transit.
- They support reusing, recycling, bartering, and trading centres or practices.
- They actively support the development of solar, wind, and other eco-friendly energy sources, and seek green energy alternatives for daily life.

3. Ask questions, request more environmentally sound products and green marketing, and challenge the status quo

Sample indicators:
- They call upon the media, government, and business to promote and provide information on environmentally sustainable products and practices.
- They request disclosure of environmental costs of products (e.g., energy consumed, materials used, waste produced, pesticides applied, genetically modified content) and they consider environmental costs when choosing products (e.g., shipping produce long-distance by refrigerated truck versus transportation from local fields).
- They actively seek information on products, transportation modes, and energy sources developed using environmentally sustainable practices.
- They are informed about food production practices.
- They actively promote product labelling with environmental information.
- They take courses, read books, join groups, or attend events to increase their awareness of environmental issues, and environmentally friendly alternatives and practices.

4. Recognize the benefits of environmentally certified products, and be informed on the environmental questions in the debate over genetically modified organisms (GMO)

Sample Indicators:
- They seek out and favour products that are environmentally certified and labelled with environmental information (e.g., organic, Eco-Logo, non-toxic).
- Their food choices are informed by current information on the benefits and risks of genetic engineering.

5. Reward companies that apply **ecosystem thinking**

Sample indicators:
- They support companies that respond to green consumer demands by including environmental information related to ingredients, production, processing, and recycling on websites, on packaging, and in advertising.
- They "vote" for environmentally responsible companies and products with their shopping dollars.

34   CONSUMERS

- They invest in corporations that they rate on measures of environmental performance.
- They favour corporations and companies that encourage lateral thinking on the part of their employees (e.g., management and employees receive incentives for innovations that result in more environmentally responsible production methods).
- Sales of more environmentally responsible products and services increase, and prices become competitive.

Needs

Consumers need:

- Education to help them understand the links between consumption, available choices, and human and environmental health
- Critical thinking related to environmentally sound consumption
- Improved understanding of the product life cycle and the environmental history of products or services
- Improved knowledge about the consequences of their actions and behaviours that encourage industrial malpractice
- An understanding of media that promotes conspicuous, unsustainable consumption
- Support from governments in moving towards more regular use of sustainable products and services
- Access to information on:
    - available sustainable choices for basic products and services
    - the environmental costs of the production, transportation, use, and disposal of products
    - the meaning, pros, and cons of various certification schemes
    - the energy and water consumption requirements of appliances
    - the place of origin of products and distances products travel
    - sources of reports on corporate and institutional environmental and ethical practices
    - corporate and institutional environmental policies that are comprehensive but easy to read
    - groups, courses, materials, and programs that can help them to be more environmentally friendly
- Access to courses, websites, books, and other sources of environmental information that will broaden their ecological knowledge
- Information on and access to local produce and products
- Access to environmentally certified products and those with Eco-Logos
- A solid, convincing case for the economic viability of "going green"
- Access to environmentally friendly modes of transportation
- Appreciation of economic costing for environmentally sound products or production processes
- Understanding of long-term social and ecological costs and benefits of products and services
- Access to organizations, service groups, or individuals who can help consumers evaluate their consumption practices and develop strategies for improvement (e.g., Ontario Power Generation/Hydro One energy conservation programs)

CONSUMERS

35

Strategies

Programs, Projects, and Policies

A. **Consumer Education for the Marketplace**

1. Use opinion polling and consumer research to identify what motivates Ontario consumers in terms of personal and family health; saving money; saving time; simplicity of solutions; and interest.
2. Identify and report on priorities for implementation, including gaps that need to be addressed.
3. Establish a working group for environmental consumer education in Ontario; develop new projects and partnerships.
4. Develop—with identified partners in green consumption (producers, retailers, organizations, government)—key messages about green consumption; shift environmentally conscious consumption from a precautionary measure to a positive force.
5. Identify and use innovative marketing and communication tools to promote green consumption: social marketing, youth movements (e.g., GNN-TV, rock videos), and environmental information and awareness campaigns (e.g., Suzuki Nature Challenge).
6. Educate Ontario consumers through web resources, libraries, community centres, health facilities, groups, and schools to create a significant demand for environmentally sound products and services (a "common green awareness" campaign).
7. Coordinate community forums to provide environmental consumer information and give the public an opportunity to voice their concerns.
8. Promote programs already available through government, industry, or educational institutions to help consumers measure aspects of their environmental performance and identify areas for improvement.
9. Initiate and support efforts that promote green consumption, including labelling that streamlines environmental choices for shoppers, public campaigns to get both people and business to think and act environmentally, measures of comparative environmental performance and quality for different choices (**ecological footprinting**), green consumption programs and community group efforts, and recognition or reward systems for responsible businesses and products.
10. Establish or enable existing, environmentally active community groups to assist consumers in making environmentally responsible choices.
11. Provide educational material to consumers, explaining the importance of environmental **sustainability**, promoting the values of durability and **sustainability**, and encouraging the purchase of products that reduce resource use and environmental effects.
12. Provide a central resource of highly-rated environmental products and services, and encourage their regular purchase and use.

36   CONSUMERS

B. Consumer Education for Environmentally Responsible Government and Business

1. Establish independent watchdog organizations to monitor the environmental performance of various Ontario businesses, industries and government agencies.
2. Set up a pollution watch website, which reports on air, water, and waste releases from large companies.
3. Design campaigns that focus on specific environmental issues of business.
4. Call upon government, business, and industry to disclose to consumers the true environmental costs of products to allow for more informed choice.
5. Work towards regulatory accountability for environmental impacts through initiatives such as additional taxes on products that require proper hazardous waste disposal; net metering legislation to make renewable energy sources competitive, volume-based waste disposal tax; polluter pays principle; road tolls for transport trucks; and fuel taxes based on harmful emissions.
6. Increase the level of environmental reporting required from businesses on emissions and waste data; regulate mandatory annual environmental reports with proposed action plans; and provide instruction to the public on how to interpret this data.
7. Establish cross-industry, standardized environmental practices and programs to eliminate the competitive advantage that one company may gain over another by not adhering to the same level of environmental responsibility.
8. Create a grading system to evaluate environmental benefits and costs of products.
9. Create a public expectation of more government and private sector investment into research and development in the areas of environmental **sustainability**.
10. Establish a standard environmental labelling system per product, per industry sector that will help busy consumers make environmentally friendly choices quickly.
11. Develop product and service user fee programs to reflect true environmental costs.
12. Make industries aware of competitors' improvements.

Resources

1. Source and publicize available information materials on
   a) lead organizations for consumer education;
   b) methods that help consumers evaluate their environmental performance. (e.g., a pollution index by sector for shareholders; and "environmental footprint" analysis software or websites);
   c) how companies, services, and products are assessed, tested, and rated for their "green" qualities;
   d) how to evaluate personal cost savings and other benefits associated with environmentally oriented changes in shopping, transportation, and other everyday choices;
   e) lists of relevant agencies, services, and regulatory bodies; and
   f) mailing lists of political representatives, private sector, and non-governmental contacts.

CONSUMERS

37

2. Establish environmental consumer education working groups.
3. Provide dedicated, well-signed space in local libraries or community centres where consumers can find relevant environmental product and service information.
4. Establish "sustainability centres" that are central, visible, at street-level, and community-based, and that gather and provide consumer information on environmentally responsible programs, products, services, technologies, advisors, suppliers, and investments.

Support

1. Identify, with municipal and provincial governments, tax reduction incentives and recognition for environmentally responsible practices and products.
2. Increase consumer education through support from municipal environmental agencies.
3. Encourage the development of environmental product policies and economic initiatives.
4. Establish a reward system and recognition programs for "green" businesses and industries.
5. Establish environmental achievement awards.

Please see Appendix 1 for a list of useful websites.

38

NEW CONSUMERS