



Professional Practice for Sustainable Development

Book 2: Developing cross-professional learning opportunities and tools

The second in a series of publications designed to encourage and support the integration of sustainable development principles into professional practice.

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Background to the booklet

This booklet is the second in a series aiming to encourage and support the integration of sustainable development principles into professional practice. The series has been developed by participants in the inter-professional project *Professional Practice for Sustainable Development (PP4SD)* which arose out of a seminar held by the Council for Environmental Education (CEE) and the Environment Agency in March 1999.

Now in its second year, the project is facilitated by CEE, the Environment Agency, the Institution of Environmental Sciences, The Natural Step™ and WWF-UK. The Department of the Environment, Transport and the Regions (DETR), Environmental Action Fund and WWF-UK are supporting the project financially, with further contributions in kind from the staff and members of the participating institutions and partners. Currently 14 professional institutions are involved in the project:

- Building Services and Research Information Association
- Chartered Institute of Building Services Engineers
- Chartered Institution of Water and Environmental Management
- Chartered Institute of Purchasing and Supply
- Institute of Energy
- Institute of Waste Management
- Institution of Chemical Engineers
- Institution of Civil Engineers
- Institution of Environmental Sciences
- Institution of Mechanical Engineers
- Royal Institute of British Architects
- Royal Institution of Chartered Surveyors
- Royal Society of Chemistry
- Royal Town Planning Institute.

Other institutions are encouraged to take part, and can do so by contacting:

***The Project Co-ordinator
Professional Practice for
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The booklets produced in the PP4SD series do not necessarily represent the views of the project participants, but they are all happy to be associated with them.

Who is it for?

This booklet, *Developing cross-professional learning opportunities and tools*, is aimed at those in professional institutions who are engaged in designing and delivering training for sustainable development. It has developed out of the Professional Practice for Sustainable Development project (see preceding page), which currently involves 14 professional institutions from the planning, engineering, construction and chemical sectors. However, we anticipate that the booklet will meet the needs of a wider audience, including independent consultants and facilitators.

What is it for?

The primary objective of this booklet is to help those developing training programmes translate ideas on sustainable development into practice. To this end, the booklet provides practical advice and support, and signposts to sources of information and materials.

Many professional institutions are already benefiting from putting sustainable development principles into practice. Others are considering how to become involved so that they might benefit. This booklet brings together information and advice for practitioners who are already offering training in sustainable development or who wish to become involved. It is structured around five themes:

1. Learning and development
2. Indicative course content and approaches to learning
3. Resources and how to access them
4. Examples of effective practice
5. Review and evaluation.

We hope that by following the guidance under each of these headings, practitioners will be able to build on their current position, whatever that might be.

Each theme can be approached at three levels of learning: planning and delivery, reflecting on what has been achieved and measuring the gains. The booklet contains essential information for all stages, from initial ideas through to implementation and further development:

- it provides useful background on getting started and sources of information

- it highlights workable ideas and notes possible developments
- it enables learning from examples of effective practice
- it promotes cross-professional interaction and learning.

The five themes will be explored further during the next phase of the project, when a foundation course and on-line materials will be developed.

Whilst there is widespread interest in sustainable development, it will only be achieved through a range of professionals working to integrate sustainable development into their daily professional activities. This project is based on the belief that inter-professional dialogue on learning and applying sustainable development principles will support this important objective.

Sustainability – learning and development

Learning is at the heart of sustainability because of our limited understanding of the concept and how to put it into practice. This should not surprise us because for nearly 30 years, academics, policy makers and civil society organisations have wrestled with the nature of sustainability and its implications for the economy and society. Atkinson (1998)¹ provides a useful summary of the issue:

“Sustainability is an ideal end-state. Like democracy, it is a lofty goal whose perfect realisation eludes us. For this reason, there will always be competing definitions of sustainability. We know these definitions will always include the well-being of people, nature, our economy and our social institutions, working together effectively over the long term. But as the process of attempting to achieve sustainability will continuously reveal new challenges and questions – pushing back the horizons, as it were – a definitive definition is impossible. Any indicator framework, therefore, needs to be flexible and adaptable to those changing definitions. It needs to grow as our understanding grows, while continuing to serve its purpose as a simplifier and guide to complexity. It needs to maintain a trail of continuity from year to year and decade to decade. Most important, it needs to speak to people in ways understandable both to the rational mind and to the intuition.”

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¹ Atkinson, A (1998) *The compass of sustainability: Framework for a comprehensive information system*. Version I.

Any materials mined from the earth should not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects to humans and the environment.

The PP4SD Framework

Based on this approach the PP4SD project has developed a flexible framework for sustainability. Its main function is to ensure that the content of any learning materials developed within the project is consistent with the overall objectives of sustainability.

This framework² has been derived from a number of key sources, including: The Rio Declaration, World Business Council on Sustainable Development, DETR, The Natural Step, The International Institute for Sustainable Development, the World Commission on Environment and Development, Forum for the Future and Natural Capitalism.

The framework characterises/describes a sustainable society as one where:

1. Any materials mined from the earth should not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects to humans and the environment.
2. Synthetic substances in their manufacture and use should not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects to humans or the environment.
3. The biological diversity and productivity of ecosystems should not be endangered.
4. A healthy economy should be maintained, which accurately represents the value of natural, human, social and manufactured capital.
5. Individual human skills, knowledge and health should be developed and deployed to optimum effect.
6. Social progress and justice should recognise the needs of everyone.
7. There must be equity for future generations.
8. Structures and institutions should promote stewardship of natural resources and the development of people.

It will be obvious from this approach that the PP4SD project draws a clear distinction between **sustainability** and **sustainable development**. **Sustainability** is the capacity for continuance into the long-term future, whereas **sustainable development** is the process of moving towards this ideal end-state.

Indicative course content and approaches

Applying the framework

The framework can be used flexibly to identify and map the range and depth of material to include in a programme of learning on sustainable development. It illustrates the dilemma of how to develop and reach an acceptable quality of life using materials and energy for a growing population whilst being able to decrease society's harmful physical impact on nature. The framework is also set in a **future** perspective and therefore offers a useful tool to help describe the gap between our present situation and the standards required for sustainability.

Using the framework for learning

A simple way of using the framework is to create a two-way matrix, setting the eight principles of the framework against the professional context in which the principles might be applied. The examples, used in the table to the right, are based on two major contemporary issues, namely the use of fossil fuels (linked with climate change) and poverty.

The 14 professional institutions involved in this project have also developed an indicative list of themes, content and concepts which they believe are important for all professional bodies to know about, not necessarily in detail, but at a broad level (these are set out in the Appendix).

From such lists, it is possible to identify key learning outcomes, which again can be mapped against the PP4SD framework principles. For example:

Framework principle 5 Key learning outcomes

- Understands the historical context of sustainable development (eg World Conservation Strategy, 1980; Our Common Future, 1987; current progress, such as consumption patterns/living planet index).
- Develops sustainable development through key scientific and ethical concepts (eg laws of thermodynamics; Universal Declaration of Human Rights).
- Understands the behavioural changes required to implement sustainable practices (eg value judgements; basic human needs; leadership and change management).

Professional Practice	Framework Principle 1 Issue – Fossil Fuel Use	Framework Principle 6 Issue – Poverty
Political	International Instruments eg: Kyoto Protocol; global emissions targets; Joint Implementation and the Clean Development Mechanism (CDM); EU targets; White Paper on Renewable Energy . National Instruments eg: Marshall Task Force on Industrial Energy Use.	International Instruments eg: United Nations Development Programme – Human Development Report, 1998; Eliminating World Poverty, 1997; White Paper Principle 1: The Rio Declaration, 1992.
Economic	Economic instruments; emissions trading; energy tax; ecological tax reform; carbon management.	Poverty reduction programmes and national economic development strategies; trade reform; environmentally damaging subsidies; ecotourism.
Social	Climate change and basic human needs; famine; floods; water supply; health; education; travel; employment.	Meeting basic human needs; education and extension programme; primary health care; promote urban centres that improve employment, shelter, health and sanitation.
Technological and pollution control	Alternative energy use: biofuels, photovoltaics, etc. Energy efficiency: integrated transport; business and domestic energy use.	Technology exchange; forestry management/health programmes.
Legal	Emissions trading – regulation; Multilateral Environment Agreements; vehicle exhaust emissions; EU regulation on ozone depleting substances.	Enforcement of regulatory instruments – on forestry, emissions standards, pollution and biodiversity .
Environmental	Greenhouse gases: CO ₂ ; NO _x ; water vapour . Climate change – the scientific case.	Consumption patterns; living planet index; population growth and habitat shrinkage.

- Understands many sides of a complex issue, to resolve conflict and achieve consensus (eg risk analysis; complexity and systems thinking).
- Develops new ways of assessing future scenarios.

Developing sustainable professional practice

The process of integrating sustainability thinking into all aspects of a profession is a substantial and challenging task. It requires broad consultation with, and involvement of, members at all levels, as well as with other institutions and employers. The process is also one that needs to allow all members to get up to speed on what is a relatively new issue. That is why the PP4SD project has initially focused on developing and identifying resources for Continuing Professional Development (CPD).

A range of activities and approaches are available to meet these needs. They include:

- **Continuing Professional Development.** This includes Initial Professional Development (IPD). While younger members who have graduated in the past five years may have been exposed to sustainability thinking as part of their degree courses, the vast majority of professionals will have had no formal education on the subject.

PP4SD is developing a one-day foundation course explicitly designed for professionals, and a range of institutions are developing practice-specific CPD to complement this.

Sustainable development is about:

- ‘joined up’ and integrated thinking
- good management
- efficient use of resources
- good science
- social responsibility.

All of these themes need to permeate the three parallel strands of CPD, namely:

- generic or foundation programmes common to all professions
- cross-professional programmes that are sector or issue-based; and
- programmes that are specific to a profession.

- **Conferences and exhibitions** provide an obvious route to exchange ideas and information, as long as the content is sufficiently relevant and up-to-date to draw viable numbers of participants. Many institutions have developed and run several courses on the environment and are beginning to hold conferences and exhibitions on sustainability that aim to be both practical and visionary.

The process of integrating sustainability thinking into all aspects of a profession is a substantial and challenging task. It requires broad consultation with, and involvement of, members at all levels, as well as with other institutions and employers. The process is also one that needs to allow all members to get up to speed on what is a relatively new issue.

Committees and working groups provide a forum within an institution for discussion, debate, policy development and action planning. For example, the Engineering Council has established a Sustainability Working Group with wide-ranging terms of reference. Many institutions already have a committee that covers environmental issues. However, these groups are often under resourced.

- **Reports and inquiries** allow new ground to be broken. For example, the Institution of Civil Engineers produced the *Sustainability and Acceptability in Infrastructure Development*³ report in response to the then Secretary of State for the Environment's challenge to all those with a part to play in the provision of infrastructure – to make it more sustainable and socially acceptable. The Royal Society of Chemistry has issued a series of technical notes on *Sustainable Development and the Professional Chemist* which can be accessed at the society's www.rsc.org website. Another example is *The Engineer of the 21st Century Inquiry*⁴.
- **Books and guides** are useful once best practice has been defined. Examples include The Institute of Energy's *Good Energy Manager's Guide*⁵, and **signposting** guides such as BSRIA's *Sustainable Construction – A Resource Guide*.⁶
- **Learning networks** can help develop competency in sustainable development. For example, the Association for Management Education and Development (AMED) is a professional network for people involved in individual and organisational development. AMED has several special interest groups including a Sustainable Development Network (SDN). Visit their web site at www.amed.management.org.uk. The Royal Society of Chemistry has established a Green Chemistry Network based within the Department of Chemistry at the University of York. It aims to promote awareness of sustainable development in industry, academia and schools.
- **Open learning** allows members to maintain their understanding, by studying out of work hours. For example, The Institute of Energy has a detailed *Energy and the Environment* module in its *Training in Energy Management by Open Learning* (TEMOL) programme.
- **Committees and working groups** provide a forum within an institution for discussion, debate, policy development and action planning. For example, the Engineering Council has established a Sustainability Working Group with wide-ranging terms of reference. Many institutions already have a committee that covers environmental issues. However, these groups are often under resourced. A few of these committees are starting to address sustainable development, and the strategic nature of the topic means that these groups must achieve the right level of influence.
- **Recognition of achievement** can be a powerful driver for change. For example, The Institution of Civil Engineers awards the Edmund Hambly Medal for the creative design of an engineering project that makes a substantial contribution to sustainable development. A more integrated approach is adopted by the Royal Institute of Town Planning, who take sustainable development objectives into account when assessing their annual Awards for Planning Achievement.
- **Key Performance Indicators** can be used to ensure a defined level of sustainability performance for both individuals and projects.
- **Policies, codes of conduct and professional standards** can be adapted to include appropriate requirements for sustainability performance.
- **Journals and magazines** allow for a drip feeding of ideas and examples on what best practice in sustainability means for each profession. A *sustainability in practice* column could be introduced.
- **Inter-professional activities** are where there is often the most need for co-ordination on environmental and social issues. Sectors such as construction involve many different professions and solutions will only arise if these groups can work together. In 1999, The Royal Institution of Chartered Surveyors produced a report called *Property Professionals and Sustainable Development*, which outlined a need for institutions to clarify to members their position on sustainable development. The survey also concluded that many professionals, despite already tackling sustainable development issues, do not feel they have the skills or information to do justice to these new tasks and would welcome assistance from their professional bodies.

Course specification

The learning materials which are being designed for use by inter-professional groups, have been based on a range of general criteria drawn up by the professional institutions as part of the PP4SD project. Examples of these criteria are set out below (in no particular order of priority).

6 ³ *Sustainability and Acceptability in Infrastructure Development. A response to the Secretary of State's Challenge* (1996) Institute of Civil Engineers.
⁴ *The Engineer of the 21st Century Inquiry. Engineers for Sustainability* (July 2000) Forum for the Future.
⁵ Boutall, T(1995) *Good Energy Manager's Guide* Management Charter Initiative.
⁶ *Comer, S et al (1999) Sustainable Construction – A Resource Guide to Potential Resources on the Building Services Industry*

Learning materials should:

- have clear aims, objectives and outcomes
- add value for the institution, member and employer
- be compatible with different CPD formats and requirements
- be realistic and 'do-able'
- be relevant to the professions
- be accessible in terms of content, time, money and location
- achieve cost recovery where necessary
- be desirable or marketable to individuals, employers and institutions
- provide a balance between generic and specific
- be credible
- be able to be integrated or stand-alone
- be regularly reviewed
- use a 'development' or 'learning' approach – not just 'training'.

The professional institutions also emphasised the following approaches when developing *other* learning materials, specific to individual professions.

Learning materials should:

- place an emphasis on practical guidance for individuals
- use clear and jargon-free language
- include best practice guidance, tools and case studies
- tackle some topics in a multi-disciplinary context, by involving people from different professions
- be based on a generic foundation course, with supporting information for on-going learning.

The professional institutions support the idea of creating an inter-professional focus to enable more co-operation in the development of sustainability learning materials, the sharing of good practice and inter-professional working on key issues. There is also interest in the development of an inter-professional web site to share learning and developments and remain connected – because we are all part of the same system.

Approaches to teaching and learning

As far as possible any approach to sustainable development needs to encourage individuals to internalise the general principles set out in the PP4SD framework, and to work out for themselves the implications and applications, as they relate directly to their own professional activities.

Action orientated workshops which apply the principles to specific projects (eg construction projects, or products and services), help to create understanding and ownership of the solutions.

It is important to stress the systems perspective of sustainability. Systems theory and systems thinking are vast fields of study.⁷ Systems thinking is “*a discipline for seeing wholes, recognising patterns and interrelationships, and learning how to structure those interrelationships in more effective and efficient ways*”⁸. This way of approaching sustainability is being used to develop the foundation course for inter-professional groups. Such an approach encourages us:

- to look at the earth as a system and our part in it
- to look at the organisations and resource flows of which we are a part, as systems
- to understand how a system is made up, its structure, and how we can influence and predict events.

Resources and how to access them

It is not the intention of this booklet to provide a definitive list, merely to signpost a range of relevant resources for the professions.

The following sources have been looked at by members of the participating institutions and are recommended (NB: all web site addresses correct at time of going to print):

Applying Sustainable Development

(www.applysd.co.uk) is a non-commercial web site with the central theme of social and cultural change, which is essential for achieving sustainable development. The focus is to help individuals learn, groups to work effectively and organisations to re-examine their values, strategies and culture. New material and modifications can be found on the web site, which is updated regularly. The subjects included are:

Taking initiatives

- Agenda for change
- Practical examples
- Skilled people who can help

Making change happen

- Models for change
- Leadership
- Ethical investments

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⁷ The main characteristics of systems thinking emerged in several disciplines during the first half of the century. Systems thinking was pioneered by biologists, who emphasised the view of living organisms as integrated wholes. It was then further enriched by the new sciences of ecology and quantum physics.

⁸ Senge, P(1990) *The Fifth Discipline: The Art and Practice of the Learning Organisation*, Century, London.

Finding information

- Books, publications, journals and reports
- Organisations working for sustainable development
- A to Z of sustainable development.

The web site provides over 300 links to other sites and cross-referencing between pages on the site.

The Environment Council

(www.the-environment-council.org.uk) is an independent charity promoting effective dialogue and collaborative approaches to find sustainable solutions to environmental issues. They run training events on the skills involved in mediation and provide experienced mediators who can work with clients to find solutions.

Global Action Plan

(www.globalactionplan.org.uk) started with *Action at Home*, a six month programme to help individuals change their lifestyles in terms of waste, energy, water, transport and shopping. Several organisations provide their employees with these action packs at reduced rates. More recently *Action at Work* has been developed to focus on how organisations can make changes such as waste reduction, energy use, transport policies, water consumption and purchasing. A third programme, *Action at School*, involves children and is intended both as an educational tool and a practical resource, helping the school to become more sustainable. A fourth programme, *Small Changes*, is for use in poor communities and is designed with their special needs – to improve quality of life and save money – in mind.

The Natural Step (www.naturalstep.org.uk) was first established in Sweden by Karl-Henrik Robert, a cancer researcher. The approach has spread to seven countries including the USA and the UK. In the UK it is managed by the charity Forum for the Future, under the Chairmanship of Jonathon Porritt, as a distinct component of their solutions-based approach to sustainability. The Natural Step framework is based on four essential conditions which must be met if we are to achieve sustainability. In the UK, The Natural Step works with a network of organisations who want to go beyond the basics of sustainable development.

New Academy of Business

(www.new-academy.ac.uk) has been established at the University of Bath with an office in Bristol and is supported by Anita Roddick of the Body Shop. Among other things it runs an MSc course in Responsibility and Business. The course addresses the challenges that face

managers who seek to integrate successful business practice with concern for social, environmental and ethical issues.

Rocky Mountain Institute (RMI)

(www.rmi.org) is the organisation founded by Amory and Hunter Lovins in Colorado, USA. They are co-authors of *Factor Four* with Ernst von Weizsacker, and co-authors of *Natural Capitalism* with Paul Hawken. RMI provide services that relate directly to the principles described in both books, focusing on substantial improvements in resource efficiency.

SustainAbility

(www.sustainability.co.uk), John Elkington's consultancy, invented the idea of the 'Triple Bottom Line'. This is in response to the challenge that companies face to 'enhance economic prosperity, ensure environmental protection and promote social justice'. More information is provided in the SustainAbility publication *The CEO Agenda*. In a recent article John Elkington states that the important priority for organisations is culture change and that this would be a central thrust for the work of SustainAbility in future.

The World Business Council for Sustainable Development (WBCSD)

advocates 'balancing the 3Es'. They say, 'sustainability is about balancing three elements of a triangle, environment, economy and everyone'. They go on to describe two ways of doing this: the compromise position, in the middle of the three elements, which they dismiss as 'inherently unstable', preferring instead three points of balance, one at each corner. Many large companies now accept this idea in their Corporate Environmental Reports and some in their Annual Reports. More information can be found in the March/April 1999 issue of *Tomorrow* magazine, each issue of which contains a WBCSD Supplement.

The Wuppertal Institute for Climate, Environment and Energy

is based in the North Rhine/Westphalian Science Centre, Germany. Ernst von Weizsacker, the Institute's President, is co-author of *Factor Four* with Amory and Hunter Lovins and recently became a member of the Bundestag (federal assembly) of Germany. The Wuppertal Institute provides services that include the principles of resource efficiency described in *Factor Four*. This book has been widely acclaimed because it sets out so clearly how resource productivity can be improved fourfold and demonstrates that the technology for this is already available.

The New Academy of Business runs an MSc course in Responsibility and Business. The course addresses the challenges that face managers who seek to integrate successful business practice with concern for social, environmental and ethical issues.

To the Heart of Sustainability is a management development programme for sustainable development, run jointly by WWF-UK (astark@wwfnet.org) and the Centre for Human Ecology (hos_info@clan.com). Taking a unique approach, the programme exposes company managers to leading edge thinking on sustainable development and then encourages them to make the links to their own business situation. Programme facilitators support participants to develop an agreed plan for action, and signpost participants to other programmes and resources where required.

These are some of the practical ways in which large and small companies, as well as public sector organisations, can seek help to face the challenge of sustainability. The professional organisations listed above each have a distinct approach. To cover the full spectrum of sustainable development – a large and complex subject – will require a systemic approach using resources drawn from various places.

Other sources of information

- *A better quality of life: A strategy for sustainable development for the United Kingdom*. Cm 4345, ISBN: 0 10143 529, £11.80 or full text is at: www.environment.detr.gov.uk/sustainable/quality/life/index.htm
- Hawken, P, Lovins, A B, Lovins, L H (1999) *Natural Capitalism. The next industrial revolution* Earthscan. In book form, or summary article can be found at: www.rmi.org/store/p385pid2105.asp
- A sustainable development principles database can be found at: <http://iisd.ca/sd/principle.asp>
- Arnold, M B and May, R M (1998), *The Next Bottom Line – Making Sustainable Development Tangible* World Resources Institute, Washington DC. A useful range of frameworks, tools and success stories for the business audience
- Lyons, K (2000) *Buying for the Future* Pluto Press (in association with WWF). This addresses the practical issue of sustainability and the supply chain
- de Wit, R H Hekman, J F *et al.*, (Editors) *Creating Tomorrow's Business – research into the management of sustainability*. ISBN: 9 07494 905 3 “le manageur” Rotterdam
- Porritt, J (2000) *Playing Safe: Science and the Environment* Thames and Hudson. A discussion of some contemporary issues, including climate change and genetically modified organisms (GMOs). It has two chapters on risk assessment and the science of sustainability
- The Institute of Chemical Engineers has an international web conference underway at: www.sustainability2000.org
- A huge array of general sustainable development education information is available at: www.starfish.org
- The World Business Council for Sustainable Development Sustainable Business Challenge Exam can be found at: www.foundation.no/
- Electrolux have an online course called Eco Know How. Visit: www.electrolux.com (in the *Environment section*)
- An organisation that specialises in sustainable development training for mid-career professionals is Leadership for Environment and Development. It can be found at: www.lead.org
- Sustainable Development: Education for Engineers & Others is a web-based course at: www.sustainability.com/orcad/sdeng/intro.htm
- The HE21 project has developed curriculum specifications for sustainability in relation to business, engineering and design at undergraduate level. Find it at: www.he21.org.uk

Examples of effective practice

The transition from strategic aspiration to implementation of sustainable development requires a huge shift in values and beliefs within any organisation. For this to be accomplished requires a range of factors, including enlightened leadership willing to promote and support learning through the organisation. In only a very few cases have organisations begun to address the professional development of their staff, focusing on learning, their personal values, as well as a review of business practice, purpose, vision and values.

Examples include:

- Interface Europe Ltd
(www.interfaceinc.com)
- The Co-operative Bank
(www.cooperativebank.co.uk)
- Shell (www.shell.com)
- Carillion (www.carillion.co.uk)

The training approaches adopted by such organisations have been varied and generally have not yet been fully evaluated. Some of these approaches have already been covered in previous sections. Some of the more advanced training materials and approaches are listed below:

Sustainability Training Pack – for Local Authority Officers (1999)
WWF-UK/LGMB. ISBN 1 85850 109 1

Framework for Sustainability – Training Manual
(2000) The Natural Step, UK

Framework for Sustainability – Introductory Course
(1999) The Natural Step, Australia

Implementing Sustainability – Advanced Course
(1999) The Natural Step, Australia

Sustainability Training Pack – for Elected Members (1996)
WWF-UK/LGMB. ISBN 0 74889 714 3

Dialogue on the Environment
(1996) Volvo Car Corporation

Review and Evaluation

Performance review and evaluation systems have grown over the past decade, although not always helpfully in the context of sustainable development. The focus has tended to be on measuring performance and value for money, whereas process indicators and achievement of goals have tended to be neglected. In order for the goals of sustainability to be achieved, it is important that monitoring and evaluation are at the centre of any planning strategy. Learning about the progress being made is then embedded in the principle arteries of sustainable development. Judgements can then be formed about the value of any achievements, and the direction and cohesion of the learning process sharpened.

The approaches in this booklet should attempt to incorporate reflection upon the purposes and conditions of evaluation. Sustainability should then build in new forms of progression in learning or innovative approaches to inter-professional planning. During the next phase of PP4SD, the programme management group will address the question of how review and evaluation can be built into course planning and implementation.

Key questions include:

1. **Reflection on progress:**
What did we achieve?
2. **Comparison:**
How does it compare with our targets?
3. **Evaluation:**
How well are we doing?
Why have we achieved/failed?
4. **Judgements:**
What more should we do?

In only a very few cases have organisations begun to address the professional development of their staff, focusing on learning, their personal values, as well as a review of business practice, purpose, vision and values.

Appendix

Indicative content

This is a list of the topic areas that the 14 institutions working on PP4SD think are important for all professionals to know about, not necessarily in detail, but at a broad level:

Science

Systems thinking
Thermodynamics
Man's niche in the eco- and techno-system
Interaction of industry and nature
Complexity of interactions
Air, water, land and space
Regional variation, bioregions, the North-South divide
Population trends
Limits to growth

History of sustainability: progress to date

Politics
Business; current state of play in various business sectors
State of environment – living planet index
Social issues
Threats to future progress of sustainable development
UK Sustainable Development Strategy

Culture and emotion

Cynicism, guilt, fear, denial
Joy, 'it's not hopeless'
Creativity
Attitudes to and perceptions of sustainable development
Image, style
Ethics – personal, professional and corporate
Value judgements

Vision

Social, environmental and economic aspects – achieving a balance: 10, 20 and 50 year scenarios

Definitions

Quality of life
Value
Sustainable economy
Human needs

Assessment and benchmarking

Environmental assessment – project, strategic, impact
Social audit, indicators, footprinting
Scenario planning, including Shell, World Business Council for Sustainable Development
Biodiversity plans
Life cycle analysis
Risk assessment

Action tools

Economic instruments
Avoiding, remedying and mitigating environmental effects
Public education and awareness, both at home and at work
Sectoral strategies for sustainable development, eg transport, energy, waste, etc
An achievable plan for you as an individual (personal, spiritual and professional)
An achievable path or plan for your organisation
Partnership
Environmental management systems
Legislation – current and future trends, eg polluter pays
Innovation
Industrial ecology
The Natural Step – framework for sustainability
Ecoefficiency
BSI, CEN and ISO Standards eg 14000 series
Planning/'town planning'
LA21
Carbon management
Ethical and fair trading
Stakeholder dialogue
Waste minimisation
Supply chain management
Factor 4 and Factor 10
Equal opportunities
Leadership and change management
Social and environmental reporting
Dealing with trade-offs
Technology transfer

Business case for sustainability

Examples of emerging business opportunities: renewables, fuel cell, bioplastic
Natural capital, social/human capital, financial, intellectual capital
Links-between health and safety, risk, accountability, stakeholders, shareholders
License to operate
Good management is efficient and profitable and good for the environment
Working with clients
Consensus across industrial sectors

The role of the professions

General role
Diversity of roles and responsibilities
Helping professions become more sustainable
Accessible information and public understanding
Inter-professional working

About the partners

The Council for Environmental Education (CEE) provides a national focus for environmental education and education for sustainable development. CEE represents and works with over 80 national organisations which constitute its membership. Its mission is to ensure that the principles of sustainable development are at the heart of education policy and practice.

The Environment Agency is the statutory body charged with responsibility for developing a comprehensive approach to protecting the air, land and water environments of England and Wales. Its principal aim is to further sustainable development and it is, therefore, keen to promote sustainable business practice.

The Institution of Environmental Sciences is the professional body for environmental scientists. Its membership comprises professionals from higher education institutions, voluntary organisations and the public and private sectors. It promotes the environmental sciences and provides balanced, scientific information on the environment to members and public alike. It is a registered charity.

The Natural Step (TNS)TM is operated under licence by Forum for the Future, a UK charity established by leading UK environmentalists, and takes a positive solutions-oriented approach to the challenge of sustainable development. The aim of TNS UK is to deepen the commitment to genuinely sustainable development through the use of its framework for sustainability and other educational and training approaches.

The WWF-UK Business Education Unit works with business innovators to create an understanding of sustainability and to develop ground breaking and effective tools to put the theory into practice.

Producer statement

This booklet has been developed in accordance with the principles set out in *Supporting sustainable development through educational resources: a voluntary code of practice*⁹.

Target audience and intended usage

Aimed at senior staff of professional institutions to encourage the integration of the principles of sustainable development into professional practice.

Identification of need

The booklet was identified by the participating professional institutions as an essential step to gain support for sustainable development within professional institutions.

Materials/processes used in production

Drafts have been circulated by email to reduce printing and postage costs. 500 copies have been printed for circulation within professional institutions. The booklet has been printed by Repro Workshop, Alton on Cyclus 100% recycled paper. It will also be published on the project web site.

Promotion and distribution

Available from the Project Office at the Institution of Environmental Sciences, PO Box 16, Bourne PE10 9FB.

Publication details

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