

Inventory of innovative practices in education for sustainable development

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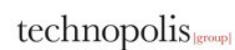
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Every effort has been made to ensure that the information given here is accurate however no legal responsibility is accepted for any errors or omissions in the information provided. The study does not necessarily represent the opinion of the European Commission.

1 EXECUTIVE SUMMARY

The European Strategy for Sustainable Development recognises the important role that education and training systems should play in order to achieve the objectives of sustainable development. Education and training should contribute to all three axes of sustainable development, namely the social, economic and environmental dimensions. Likewise, the Lisbon Agenda and the Education and Training 2010 work programme provide a coherent framework for Education for Sustainable development at European level. However, there is an information gap on how the concept of education for sustainable development has been translated into practices at Member States level. Furthermore, Member States could benefit from exchange of good and innovative ways of delivering education for sustainable development.

The aim of this study was to prepare an inventory of innovative good practices for the purpose of stimulating exchange of good and innovative practices in education for sustainable development. The study has been commissioned by the European Commission, DG Education and Culture, Unit A2Lifelong Learning: Creativity and Innovation. The inventory illustrates how the concept of Sustainable Development has been translated and implemented in educational and training programmes in formal, informal and non-formal contexts.

The methodological approach entailed the elaboration of an analytical framework for describing the thematic focuses underpinning the three dimensions of sustainable development, economic, social and environmental, which were used to identify and describe the innovative good practices.

A wide range of stakeholders have been contacted and were asked to nominate innovative good practices in education for sustainable development, in 33 European countries, namely the 27 EU member states, the three EEA countries (Iceland, Lichtenstein, Norway) and the three candidate countries (Croatia, Macedonia, Turkey). In total, 212 stakeholders were contacted and were given the opportunity to contribute to this study.

Information on the good practices recommended by stakeholders was collected through a questionnaire to be completed by project managers, desk research and in some cases telephone interviews. The practices received were analysed and rated against a set of criteria to assess, among other things, the level of innovation, the potential for transferability, and the achievements.

In the end, a total of 30 practices were chosen for the inventory. These practices present a wide range of examples of innovative ways to deliver formal, informal and non-formal education for sustainable development. They also represent a good geographical spread, covering 17 countries: AT, BE, CZ, DE, ES, FI, FR, GR, IT, MT, PL, RO, SL, SE, UK, CR and NO. The selected practices also represent different geographical levels of implementation, with examples ranging from local initiatives, through regional and national, to projects with a European or international dimension, involving umbrella organisations and actors from different countries. Likewise, the innovative elements of the selected practices cover several types of innovation:

Innovation in the content includes innovative topics being addressed which range from issues linked to globalisation, including human rights and north-south relations, to healthier lifestyles, including healthy eating, to efficient energy consumption and promotion of renewable energy;

Innovation in the delivery method includes innovative ways to forge multi-stakeholder approaches and to create a sense of ownership among pupils, families, teachers, decision-makers and experts, and innovative ways of delivering the educational process by promoting participatory and interactive learning approaches and the use of new technology such as the internet, websites, electronic communication platforms and blogs;

Innovation in forging new partnerships and networks for the purpose of sharing knowledge and experience, fostering communication and exchange of experiences;

Innovation at the institutional level with sustainable development being mainstreamed in the curriculum for education or with activities aimed at raising awareness on the necessity to implement education for sustainable development; and,

Innovation in addressing sustainable development with a focus on ensuring a strong interdisciplinary approach in addressing the interrelated social, economic and environmental dimensions of sustainable development.

2 INTRODUCTION: BACKGROUND AND OBJECTIVES OF THE STUDY

The European Strategy for Sustainable Development, adopted in 2006, recognised the important role education and training systems should play in order to achieve the objectives of sustainable development. According to the strategy:

Education is a prerequisite for promoting the behavioural changes and providing all citizens with the key competences needed to achieve sustainable development. Success in reversing unsustainable trends will, to a large extent, depend on high-quality education for sustainable development.

Education and training should contribute to all three axes of sustainable development, namely:

- The Social perspective – education and training strengthen social cohesion by investment in human capital;
- The Economic perspective – education and training contribute to building a knowledge society based on sustainable economic growth; and,
- The Environmental perspective – education and training are crucial for changes in citizens' behaviour on issues such as: consumption, transport, use of sustainable energies, etc.

Even though all education and training activities have the potential to reinforce sustainable development, it is acknowledged that in order to fully realise this potential, education activities, especially focused on sustainable development, are required. Therefore, the UN Economic Commission for Europe drew up a separate Education for Sustainable Development strategy in 2005, recognising that:

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

Simultaneously, the United Nations launched the decade of Education for Sustainable Development (2005-2014), which triggers an important number of activities in this field.

In line with European, but also with international, developments several countries have drawn their own national programmes or strategies for education for sustainable development. The Netherlands, for example, has launched an important funding programme entitled *Learning for Sustainable Development*, while England has developed a Sustainable Development Education Strategy for England called ‘*Learning to Last*’, followed by *The Sustainable Development Action Plan for Education*, which aimed to encourage wider participation in sustainable development in all education and skills sectors.

As outlined in the above considerations and confirmed by the 2007 progress report on European Sustainable Development Strategy, the Lisbon Agenda and the Education and Training 2010 work programme provide a coherent framework for Education for Sustainable development at the European level. At the same time, Member States are developing fruitful initiatives in this area. However, according to the 2007 progress report, it appears that further coordination and exchanges among countries is necessary in order to strengthen and make education programmes and activities for sustainable development more effective.

In the above framework, the objective of this study has been to undertake an inventory of innovative good practices which should stimulate further exchanges and initiatives in education for sustainable development. The inventory will illustrate how the concept of Sustainable Development has been translated and implemented in a sample of educational and training programmes. The findings of the study will also feed into the next Progress Report on the EU Sustainable Development Strategy of DG EAC.

3 ELABORATION OF WORKING CONCEPTS

This section presents the definition of key concepts underpinning the notion of sustainable development.

Sustainable development, as defined by the EU, stands for meeting the development needs of present generations without jeopardizing the ability of future generations to meet their own development needs. Sustainable development does not focus solely on environmental issues, but broadly captures the different dimensions of development. Traditionally, sustainable development is conceptually considered in terms of three main pillars:

- Environmental sustainability;
- Economic sustainability; and
- Social sustainability.

It must be emphasised that these are interdependent and mutually reinforcing elements of the same integrated process of sustainable development.

Environmental sustainability

Environmental sustainability is defined as the ability of the environment to continue to function properly indefinitely. The goal of environmental sustainability is to minimize environmental degradation and to stop and reverse the process that leads to environmental degradation.

The EU Sustainable Development Strategy (SDS) adopted in 2001¹ and renewed in 2006², and the “6th Environmental Action Programme (6th EAP)”³, set out the overall objectives and concrete actions for dealing with the challenges for the coming period. The review of these documents provided a good background to identify a selection of the main thematic issues that often refer to the environmental pillar of sustainable development. These are presented in box 3.1 below.

¹ Communication from the European Commission “A Sustainable Europe for a Better world: A European Union Strategy for Sustainable Development” COM (2001) 264

² Council of the European Union “Renewed EU sustainable development strategy” 26 June 2006 10917/06
<http://register.consilium.europa.eu/pdf/en/06/st10/st10917.en06.pdf>

³ The 6th Environmental Action Programme (6th EAP) is the key programme for setting out the framework for environmental policy-making in the European Union for the period 2002-2012 and outlining actions that need to be taken to achieve them.

Box 3.1 – Selected thematic issues relating to the environmental pillar of sustainable development:

- Climate change issues;
- Reduction of greenhouse gas emissions (i.e. understanding the impacts of human activity in particular the burning of fossil fuels on climate change);
- Biodiversity (i.e. stopping biodiversity loss by addressing the changes in natural habitats);
- Energy efficiency (i.e. actions to save energy and developing energy-saving technology);
- Development of clean technology;
- Conservation and management of natural resources;
- Waste management;
- Pollution (water, air, soil); and,
- Sustainable transport.

Economic sustainability

Economic sustainability is defined as the way to achieving economic growth whilst respecting environmental limits, finding ways to minimise damage to the natural world and making use of the earth's resources in a sustainable way.

The economic dimension of sustainable development was developed by Agenda 21⁴, the United Nations programme. Agenda 21 states that:

“Economic policies of individual countries and international economic relations both have great relevance to sustainable development⁵”.

Another relevant concept for the economic pillar is “sustainable business”. A business is sustainable if it has adapted its practices to the use of renewable resources and holds itself accountable for the environmental and social impacts of its activities. This includes a business that may want to operate in a socially responsible manner as well as to protect the environment.

The notion of sustainable business has been elaborated by the European Commission Communication “Implementing the partnership for growth and jobs: making Europe a pole of excellence on corporate social responsibility” in which Corporate Social Responsibility is defined as:

⁴ <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm>

⁵ Agenda 21 Chapter 2, Section 2.2.

“A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis⁶”.

A review of these documents provided a good background to identify a selection of the main thematic focuses that are often related to the economic pillar of sustainable development. These issues are presented in box 3.2 below.

Box 3.2 – Selection of thematic issues relating to the economic pillar of sustainable development:

- Sustainable consumption;
- Sustainable production;
- Corporate Social Responsibility (CSR) practices;
- Urban and local development;
- Sustainable tourism;
- Integration of environmental concerns in business decision-making (Green Business); and,
- Sustainable trade.

Social Sustainability

The social pillar of sustainable development is defined as a compilation of actions and efforts to promote development that does not deplete the stock of social and human resources but rather contributes to the enhancement of their potential. The social pillar also refers to the concept of “building sustainable and harmonious communities”.

The notion of social sustainability has been developed in the Lisbon Agenda in the European Employment Strategy⁷, and other several Communities initiatives for local and community development⁸.

⁶ Communication of the Commission ‘Implementing the partnership for growth and jobs: making Europe a pole of excellence on corporate social responsibility’, COM(2006) 136 Final, Brussels 2006

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0136:FIN:EN:PDF>

⁷ http://ec.europa.eu/employment_social/employment_strategy/index_en.htm

⁸ For example see the Local Employment Development Strategy:

http://ec.europa.eu/employment_social/local_employment/index_en.htm

The review of these documents provided a good background to identify a selection of the main thematic issues that are often related to the social pillar of sustainable development. These are presented in box 2.3 below.

Box 3.3 - Selection of thematic issues relating to the social pillar of sustainable development:

- Health;
- Community cohesion;
- Social equity;
- Demography;
- Management of migration and cultural diversity;
- Equal opportunities;
- Flexicurity⁹; and,
- Development of human capital and skills.

Table 3.4 below represents the analytical framework for the study, regrouping the three sets of thematic issues listed above under each pillar. This analytical framework has been used to identify and describe the innovative good practices. It is noted that the boundaries between the selected thematic issues under each pillar of sustainable development are not always clear-cut. However, such classification allows for clarity of presentation, selection and classification, as well as for illustrating the variety of the main issues at stake in sustainable development.

It should be stressed that the elaboration of working concepts and of the conceptual framework is just a tool to be used in the context of this study, and does not hold any claims to contribute 'new thinking' to the theoretical and academic debate on sustainable development.

⁹ Flexicurity is defined as 'a policy strategy to enhance, at the same time and in a deliberate way, the flexibility of labour markets, work organisations and labour relations on one hand, and security –employment security and income security – on the other'

http://ec.europa.eu/employment_social/employment_strategy/flex_meaning_en.htm

Table 3.4 - Analytical framework

Sustainable Development		
Environmental Pillar	Economic Pillar	Social Pillar
✓ Climate change	✓ Sustainable consumption	✓ Health and quality of life
✓ Reduction of gas emissions	✓ Sustainable production	✓ Community cohesion
✓ Biodiversity	✓ CSR practices	✓ Social equity
✓ Energy efficiency	✓ Urban and local development	✓ Demography
✓ Development of clean technology	✓ Sustainable tourism	✓ Management of migration and cultural diversity
✓ Conservation of natural resources	✓ Integration of environmental concerns in business decision-making (Green Business)	✓ Equal opportunities
✓ Waste management	✓ Sustainable trade	✓ Flexicurity
✓ Pollution (water, air, soil)		✓ Development of human capital and skills
✓ Sustainable transport		

4 METHODOLOGICAL APPROACH TO THE STUDY

This section sets out the scope, method and tools used for undertaking the study.

4.1 Scope and scale of the study

Geographical spread and implementing organisations

The study started with the identification of a high number of stakeholders to be contacted and asked to nominate innovative good practices in education for sustainable development, in 33 European countries, namely the 27 EU member states, three EEA countries (Iceland, Lichtenstein, Norway) and three candidate countries (Croatia, Macedonia, Turkey). A total of 212 stakeholders were contacted and were given the opportunity to contribute to this study.

The final selection of innovative good practices has a good geographical coverage. It represents national practices from the following 17 countries: AT, BE, CZ, DE, ES, FI, FR, GR, IT, MT, PL, RO, SL, SE, UK, CR and NO.

The selected practices range from local, regional and national initiatives to projects with a European and international dimension, involving NGOs, public institutions, such as schools, local governments and Ministries for Educations, as well as businesses and organisations representing the private sector.

Type of learning and context

The study has focused on sustainable education projects covering formal, non-formal and informal learning. The definitions of these three different types of learning are:

- **Formal learning:** learning that occurs within an organised and structured context (i.e. formal education institutions such as schools, colleges, vocational training institutes and universities), and follows a particular structured design. It typically leads to a formal recognition (diploma, certificate). In those cases, the issue of sustainable development tend to be inserted in the curriculum of the institution;
- **Non-formal learning:** learning which is embedded in planned activities that are not explicitly designated as formal learning, but which contain an important learning element, such as vocational skills acquired on the workplace;
- **Informal learning:** learning resulting from daily life activities related to work, leisure, free-time, etc. This type of learning is sometimes referred as experiential learning and can. Generally, it does not lead to certification.

The study has also taken into consideration the age groups that represented the target groups of the projects in order to have a balanced coverage of educational programmes aimed at children, pupils, students, and adults.

Sustainable development pillars covered

The study has outlined the analytical framework identifying the main dimensions of each of the three pillars of sustainable development to be used when describing and classifying the practices. The aim was to understand which specific pillar of sustainable development the project or programme aimed to address and to capture the wide variety of thematic issues under each pillar.

4.2 Approach to undertaking the study

The methodology of the study was developed through several steps.

Step 1: Desk review and stakeholders recommendations

This step aimed at mapping the sources of information and of stakeholders who were asked to nominate and identify examples of innovative good practices in ESD. In order to reach out to as many stakeholders as possible, three lists of stakeholders/sources of information were prepared to cover the international, European and national levels.

The list of stakeholders/sources of information at international level included:

- UNECE (United Nations Economic Commission for Europe) with the UN database on good practice in education for sustainable development;
- National websites of Ministries of Education, NGOs active in ESD and other relevant online sources;
- References found on educational practices on websites dedicated to sustainable development;
- DG EAC databases of the Leonardo, Comenius and Grundtvig programme;
- Information on practices provided by other DGs, in particular those suggested by the Steering Group.

The list of stakeholders/sources of information at European/International level included:

- EABIS (European Academy for Business Society);
- CSR Europe;
- European Trade Unions confederations (i.e. UNICE, European Trade Union of Teachers);
- European Business organisation (i.e. Business Europe);
- Lisbon Council;
- WBCSD (World Business Council for Sustainable Development).

The list of stakeholders/sources of information at national level included:

- Education ministries in Member States;
- Environmental ministries in Member States;
- Environmental organisations in Member States;
- NGOs and civic society organisations.

This “snow ball technique” and extensive desk research were used to identify additional sources of information/stakeholders within national and international organisations and NGOs involved in the field of ESD.

In total 212 stakeholders were contacted in the course of the study. The breakdown of types of stakeholders is as follows:

- 113 contacts from Education Ministries;
- 40 contacts from Environment Ministries;
- 23 contacts from NGOs and Universities;
- 8 contacts from the EAC databases; and,
- 29 contacts from INGOs.

Step 2: Request to stakeholders and stakeholder survey

An email was sent to all 212 stakeholders, together with an accreditation letter by DG EAC and a questionnaire to be completed by those responsible for an interesting programme, project or practice. While the accreditation letter aimed at explaining the importance of this study, the questionnaire offered stakeholders the option of either referring the study team to the project manager of a good practice, or circulating the questionnaire directly to the right stakeholders.

The questionnaire was structured to collect the following information:

- Basic information on the practice;
- Background of the approach;
- Innovative elements;
- Main features and strands of the approach;
- Organisational issues, including funding;
- Key outputs and added value of the approach;
- Success factors and issues and barriers to success;
- Evaluation arrangements; and,

- Transferability and lasting benefits.

A total of 37 completed questionnaires were returned to the research team. A further four practices were identified through desk research, thus totalling 41 projects from which 30 innovative good practices had to be selected.

Step 3: Elaboration of criteria for selecting the innovative good practices

Out of the 41 projects identified, 30 were selected as innovative good practices according to a set of selection criteria: innovation, dissemination and evaluation, plus three extra “award criteria”. The award criteria were used to give extra recognition to practices that included particularly interesting elements. The selection criteria and award criteria used are listed in box 4.1 below.

Box 4.1 – Innovative good practice selection criteria and award criteria**Good practice selection criteria (1 credit per positive response)****Set 1 - Innovation**

Did the project have clear elements of innovation?

Did the project innovate at thematic focus level?

Did the project innovate at institutional level?

Did the project innovate in delivering education and teaching?

Did the approach innovate other ways of addressing the issue of sustainable development?

Did the approach develop and implement innovative partnerships and networks?

Did the approach encourage innovative interactions, exchanges and synergies with others actors?

Set 2- Dissemination/transferability

Was the project well disseminated?

Was the project transferred to other contexts?

Is the project potentially transferable?

Was the practice cited as a good practice, e.g. in press releases, nominations for inclusion on innovative good practice databases, etc?

Set 3- Evaluation

Was the approach evaluated (this includes self-evaluation but independent evaluation will be considered preferable)?

Did the evaluation highlight the key elements of strength and success of the practice?

Award criteria (extra credits per positive response, up to 3 points)

Making a difference: 'hard' or 'soft' evidence of the practice outcomes and impacts.

Sustainability: the practice has been continued or there is evidence of new projects as a result.

Multidisciplinary approach.

Step 4: Selection meeting with the Steering Group

A selection meeting with the Steering Group was held to assess the 41 practices collected, in order to select the 30 innovative good practices to be included in the inventory. The selection aimed at ensuring a good spread of practices in terms of geography, sustainable development pillars covered and types of education addressed and level of implementation (international, national, regional and local).

Step 5: Elaboration and presentation of innovative practices

Once the selection of the short-listed 30 innovative good practices had taken place, the research team prepared a brief description of each of them. All examples are presented in a common template. The structure of the template reflects the main topic addressed by the questionnaire. The template requested research team members to fill in the following fields:

- Key characteristics (type of learning, age group, level of implementation, funding, time frame and leading organisation);
- The project (rationale, aims and summary description);
- Dimensions of sustainable development (which thematic focuses were addressed under each pillar);
- Approach (approach, multidisciplinary and partnership);
- Innovative elements (innovation in the content, the delivery method, at the institutional level, in addressing sustainable development and in forging new partnerships and networks);
- Key successes (outputs, outcomes, impacts, key successes and added value and evaluation);
- Transferability and sustainability;
- Special highlights (particularly innovative elements of the practice); and,
- Further information.

The use of such template ensured that similar information is provided for all 30 examples selected, enabling comparisons and identification of common strands and patterns emerging from approaches. The descriptions are short and concise, with a layout of approximately two pages, to enable the reader to have a quick overview of the approach.

5 OVERVIEW OF 30 GOOD PRACTICES

This section presents a brief overview of the 30 practices that were selected for the purpose of the inventory of innovative good practices in education for sustainable development (ESD).

Geographical spread, level of coverage and implementing organisations

The final selection of innovative good practices has a wide geographical coverage. It presents national practices from the following 17 countries¹⁰: AT (2), BE (2), CZ (2), DE (3), ES (1), FI (1), FR (1), GR (1), IT (2), MT (1), PL (1), RO (2), SL (1), SE (1), UK (2), CR (1) and NO (1).

The examples selected concerned practices at different implementation levels, ranging from local initiatives (9), through regional (10) and national actions (25), to projects with a European (5) or International (10) dimension, involving umbrella organisations and actors from different countries¹¹.

A wide variety of organisations, institutions, public and private bodies were involved in the implementation of the practices. A total of 10 international organisations, and 7 national organisations were amongst the leading organisations implementing the selected examples. Furthermore, 8 Ministries, mostly of education, and 8 regional bodies and Universities contributed to the development of the illustrated approaches. Finally, the selection also includes examples of innovative ways developed by businesses to get involved in education for sustainable development (namely the World Business Council for Sustainable Development, Toyota with the European Toyota Fund, the Tourism Board of Flanders in Belgium, the Chambre des Metiers et du Commerce du Vaucluse in France).

Type of learning

The selected innovative good practices cover all three types of education described in section 4 (formal, informal, and non-formal): formal learning (24) prevails over informal (13) and non-formal (4). Moreover, in two instances the innovative good practices also covered vocational training. It is important to note that some projects covered more than one type of education.

¹⁰ Four practices (1 International, 2 European and 1 Czech) were selected on the basis of desk research. One practice (Italy) was substantially integrated with desk research.

¹¹ More than one geographical level of implementation was possible for each practice.

Age group and level of education

The final selection of practices covers a wide range of age groups.

A total of 11 practices focused on pupils between the age of 12 and 18, five of which adopted formal learning processes, two a combination of formal and informal and only one was implemented as informal type of learning. This reflects the fact that most practices introduced sustainable development in the school curricula, which facilitates access to young pupils and presents the possibility to reach pupils' families indirectly as well.

There were considerably less practices focusing on the age group 18 to 25 (1) and 25 to 30 (3), and with the exception of one example using non-formal and informal teaching methods, the other three examples were delivered in the form of formal learning (one was combined with vocational training methods). Three practices focused on students and adults between the age of 18 and 30, with approaches concentrating on mainstreaming sustainable development into universities (either through the curriculum or by acting as a sustainable institution itself). In a few cases, the innovative examples were focusing on employees, without having an age target.

Overall, the great majority of selected practices were implemented in the context of schools and universities targeting pupils and students from the age of 12 to 30. A few examples (4) targeted communities as a whole and only two practices targeted companies or public bodies.

Finally, one practice also included children from the age of 6 to 12, introducing young pupils to sustainable development.

Sustainable development pillars covered

The selected good practices provide a good spread of activities focussing on all three pillars of sustainable development: environmental, economic and social. It is important to note that the thematic focuses are not mutually exclusive and that hence one innovative practice could cover several themes. Table 5.1 gives an overview of the number of practices covering each theme.

Table 5.1 Types of activities covered

Pillar	Thematic focus	No. of practices
Environmental pillar	Waste management	20
	Energy efficiency	19
	Pollution	18
	Conservation of natural resources	17
	Sustainable transport	14
	Climate change	13
	Biodiversity	10
	Development of clean technology	9
	Reduction of gas emissions	3
Economic pillar	Sustainable consumption	23
	Urban and local development	14
	Sustainable trade	10
	Sustainable production	9
	Sustainable tourism	9
	CSR practices	8
	Integration of environmental concerns in business decision-making	7
Social pillar	Development of human capital and skills	20
	Community cohesion	19
	Social equity	18
	Health and quality of life	15
	Equal opportunities	13
	Management of migration and cultural diversity	7
	Demography	4
	Flexicurity	4

The table shows that, with regard to the environment pillar, waste management (20), energy efficiency (19) and pollution (18) were the most common themes encountered in the selection. In relation to the economic pillar, sustainable consumption was by far the most popular thematic focus with 23 examples of how this has been incorporated into education. Urban and local development came second with 14 examples referring to it. Finally, development of human capital and skills (20), community cohesion (19) and social equity (18) were the most recurrent themes under the social pillar of sustainable development.

It is also important to note that at the opposite end of the scale, reduction of gas emissions was the least mainstreamed theme under the environmental pillar, being included in only three practices. Similarly, integration of environmental concerns in business decision-making seemed to be the least addressed issue (only seven examples) under the economic pillar. It is worth mentioning, however, that this may also be related to the smaller number of practices mainstreaming ESD at the company level. Finally, demography and flexicurity had only both been inserted into education in four practices under the social pillar.

In sum, sustainable consumption was the most popular thematic focus, being inserted into education by 23 practices, while reduction of gas emissions was the least addressed issue, being mainstreamed into education in only 3 examples.

Elements of innovation

In general, selected practices showed a good coverage of all elements of innovation. Innovation in the content was the most recurrent element (present in 25 practices), representing a wide and innovative range of topics from issues linked to globalisation (e.g. human rights, north-south relations etc.), to healthier lifestyles (e.g. healthy eating patterns) to the more pressing issue of energy consumption and the need for renewable energy. Overall there seems to be a growing concern for extending the concept of sustainable development from essentially environmental to also focusing on social issues.

Innovation in the delivery method came second, being addressed in 23 of the selected examples. It focused mainly on multi-stakeholder approaches to create a sense of ownership over the initiative amongst pupils, families, teachers, regional and national decision-makers, and experts. Emphasis was also put on ensuring that all approaches were participative and interactive. Finally, this section clearly highlighted the emergence of new technologies, as five practices were based on the use of internet websites or platforms for communication (i.e. VCSE, Manger-bouger, EnviWiki, Chat of the World, the Web Village) and all other examples used blogs and web-sites to communicate their project objectives and results.

Innovation in forging new partnerships and networks was also present in 23 practices. The majority of practices aimed at creating new partnerships between national, regional and local actors and communities in order to ensure more participative approaches. Sharing knowledge and experiences was also a main concern for most of the selected examples. This type of innovation facilitates the creation of networks between universities at national and international level, as well as fostering communication between students, teachers, business communities and experts on a wide variety of topics addressed by these projects.

Innovation at the institutional level featured in 17 of the innovative practices and was, for the majority, reflected through the mainstreaming of sustainable development in the national curriculum for education. In a number of cases Ministries were involved in the projects either through the granting of a national award or by providing financial and institutional support to the leading organisations. Finally, in the case of three initiatives part of the outcome focused on raising awareness for the necessity to implement education for sustainable development.

Innovation in addressing sustainable development was an element of innovation in 10 selected practices and essentially focused on ensuring an interdisciplinary approach

addressing all the pillars of sustainable development. Additionally, a number of practices emphasised the importance of participation and consultation in decision-making.

6 ISSUES FOR FURTHER DISCUSSION

The study presents a collection of innovative good practices in delivering ESD. The examples selected cannot be taken as representative of new trends and developments in delivering ESD, however practitioners and policy-makers could take this compendium as a basis to identify topics for further discussions on innovative ways to deliver ESD, including reflections on their utility, effectiveness and impact. The issues that could be investigated further are:

- The utility of adopting an integrated and interdisciplinary approach to sustainable development, understanding the three pillars: environmental, economic and social;
- The importance of adopting ESD curriculum in formal education and delivering interactive and participatory teaching modules;
- The necessity of training teachers and trainers on most effective ways of delivering ESD;
- The importance of developing wider networks of stakeholders working together, such as schools, students, parents, communities, business associations, local and national governments;
- The added value of the involvement of the business sector in developing ESD;
- The importance of developing technical training for future professionals in adopting sustainable ways of productions;
- The role of ESD in delivering sustainable models of consumption (i.e. from healthy eating to sustainable holidays); and,
- The role of informal and non-formal education in targeting adult education in sustainable development.

7 ANNEX A - INVENTORY OF INNOVATIVE GOOD PRACTICES IN EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)

Capacity Building in Business - Future Leaders Team (INTERNATIONAL LEVEL)

Key characteristics	
Type of learning	Non-formal, Informal
Age group	All
Level of implementation	International/National
Funding	Companies
Time frame	2000 – to date
Leading organisations	World Business Council for Sustainable Development (WBCSD) Over half of WBCSD member companies have participated in this program: Participants in 2008 include: Alcoa, Akzo Nobel, Borealis, Bosch, Caterpillar, Cemex, Chevron, Cimpor, ConocoPhillips, DNV, E.ON, Eskom, Evonik, Grupo Nueva, Henkel, Hitachi, Holcim, Infosys, Kimberly Clarke, Michelin, Petro Canada, Repsol, Shell, Telefonica.

The project

The Future Leaders Team (FLT) is a programme designed to provide a positive learning experience and networking opportunity for younger business managers as well as for the companies they represent.

A set of activities is planned each year focusing on a different theme. Teams are composed of around twenty/thirty young high-flyers employees interested in sustainable development.

In 2008, in its 7th year, the Future Leaders are focusing on Ecosystems, working to understand what ecosystems means to business and how ecosystems risks can be mitigated and opportunities harnessed. The first four months (March-June) have been spent on management issues utilising the methodology of the Ecosystems Services Review to identify business risks and opportunities arising from companies and impact on ecosystems. The second four months (July-October) are being spent preparing the business perspective in addressing ecosystems impacts at the World Conservation Forum in Barcelona in October by developing a short compelling video and a scenarios workshop for 2050.

Dimensions of sustainable development	
Environmental	Energy efficiency, Development of clean technology, Waste management.
Economic	Integration of environmental and social concerns in business decision-making.
Social	Demography, Migration, Flexicurity.

Approach

Future Leaders participating in the project are drawn from across a range of job functions in order to maximise synergies and to ensure a multidisciplinary approach to the interrelated issues of sustainable development.

The FLT outcomes and outputs have been presented at numerous conferences, seminars, workshops, business events and universities and connected to external stakeholders from all other the world.

Innovative elements

Innovation in forging new partnership and networks: the project has been successful in engaging the business community in ESD and in preparing the business leaders of tomorrow in taking a sustainable approach to their working practices. The creation of a network with the participation of young managers from different corporations has proven to foster innovative and creative thinking.

Key successes

The programme provides young professionals with new skills linked to sustainable development and is a tangible step forward in shaping the future of SD in a business environment. There is also the opportunity to communicate with a broader set of stakeholders and to subsequently enhance the network, creativity and commitment.

Transferability and sustainability

The programme is run every year with a different thematic focus.

Special Highlights

The project has the potential to make a real change in the business community. Young business managers become sustainable development ambassadors, spreading the message within their companies, at business schools, at youth forums and others types of events at all levels - local and international. The network of young business managers is a vibrant and vital learning laboratory, and has proven to be a successful formula.

Further information

Website of the project: <http://www.wbcds.org>

FEI - Fashioning an ethical industry (INTERNATIONAL LEVEL)

Key characteristics	
Type of learning	Formal
Age group	12-25
Level of implementation	International/National
Funding	UK Department for International Development (DFID) and Labour Behind the Label
Time frame	Started in June 2007 and has a duration of 36 months
Leading organisations	Südwind Agentur (lead NGO, Austria), Schone Kleren Kampagne (Netherlands), Labour Behind the Label (United Kingdom), Polish Humanitarian Organization (Poland)

The project

Little is known about the realities of garments workers' conditions in the fashion industry. Teaching SD does not only imply addressing human rights conditions in supplier countries, but it also ensures that future professionals understand how their industry is playing a role in the creation of these conditions by trading practices of garment retailers and brands. The project therefore aims at supporting university, college and high school tutors of fashion-related courses in incorporating sustainable development issues into their teaching, and to equip students with professional skills to contribute to more socially responsible policies and practices in the industry.

Dimensions of sustainable development	
Environmental	Conservation of natural resources, Pollution.
Economic	Sustainable consumption, Sustainable production, CSR practices, Sustainable trade.
Social	Health, Development of human capital skills, Flexicurity.

Approach

Four organisations from Austria, Netherlands, United Kingdom and Poland are working in partnership to develop the most appropriate approaches (workshops, discussions, videos, student manual, website, group activities, student placement, tutor training etc.) which would have the most significant impact on fashion industry stakeholders. To this end, they aim at incorporating supplier partners'

knowledge into decision making and promote exchanges of experiences and good practices. The project has already been implemented in 11 universities and colleges in the four partner countries. There are plans to build links with French and Spanish associates for the purpose of replicating all parts of the project.

Innovative elements

Innovation in the content: the project does not limit itself to raising awareness about humanitarian rights, but it focuses most importantly in mobilising support for more equitable North-South relations. To this end, it highlights the interdependence between European Union and developing countries by linking the effect of Northern retailers' and brands' trade practices on supplier countries. It makes full use of long established links with supplier partners to enable them to play an active part in the project.

Innovation at the institutional level: project partners work in close cooperation with tutors to incorporate sustainable development issues within existing modules and units via student projects or 'problem-solving'. Where appropriate partners work with course and curriculum development teams to design new study units and modules which explicitly include these areas of knowledge, skills and understanding. The project also works to meet the needs of tutors and students in relation to information and resources, activities and projects, access to stakeholders in supplier countries and other speakers, opportunities for exchange and networking.

Innovation in addressing sustainable development: there is continuous consultation of target groups in order to identify relevant courses and entry points. Furthermore, tutors and students are closely assisted, throughout the process and the courses, in the organisation of activities, projects and the creation of contacts and opportunities for exchange and networking. Finally, outreach events are not only used as a means to publicise the project but also to generate project ideas and mobilise students.

Innovation in forging new partnership and networks: a central objective of the project is developing links with companies in order to ensure that supplier countries' experience informs the promotion of sustainable development. There is also an investment in ownership of the project to ensure that motivation will last beyond the period of the project.

Key successes

Two fashion colleges in Austria (Hetzendorf in Vienna and Hallein in Salzburg) have integrated social responsibility issues in their existing study units on Marketing and Supply chain management and three colleges in the Netherlands (Hogeschool voor de Kunsten Utrecht (HKU), Amsterdam Fashion Institute (AMFI) and TMO, Doorn) have expressed a wish to use the student manual to incorporate CSR in their curriculum. In addition, the biggest and leading technical university in Poland (Technical University in Lodz) teaching garment industry related courses has started working on an ethical fashion academic project, and five universities and colleges in the UK (London College of Fashion, Birmingham City University, Westminster University, University of Huddersfield, New College Nottingham) have referred to this project to integrate sustainable development in their curriculum. It is also worth noting that there are plans to establish a Centre for Sustainable Fashion at London College of Fashion in the UK.

Transferability and sustainability

Project partners are now in the process of extending the project to Spain and France and plans have been made for further development of the project by the four leading countries. Materials and

information are available in Polish, German, Italian, French, Dutch and English for the purpose of facilitating plans for European dissemination, which include a conference in the third year of the project where 100 people are expected to participate.

Special Highlights

FEI tackles the issue of sustainable development in the garment industry by training future professionals to take into account the impact of Northern outsourcing and trading practices in the context of the fashion industry.

FEI creates a link between future professionals in the fashion industry and stakeholders in supplier countries in order to foster exchange of experiences and cultivate partnerships that could eventually lead to an improvement of working conditions in garment factories.

Further information

Website of the project: http://fashioninganethicalindustry.org/static/machine_rollover.html

Schools for Sustainable Development to promote local community environmental actions (EUROPEAN LEVEL)

Key characteristics	
Type of learning	Formal and Informal
Age group	12 and above
Level of implementation	European
Funding	Toyota Fund for Europe (TFfE)
Time frame	Started in 2003
Leading organisations	Toyota Fund for Europe (TFfE)

The project

As environmental concerns grow in our societies, consumers and business stakeholders are increasingly attentive to business practices and ethics. Having developed a strong presence throughout Europe since 1990, Toyota aims to develop responsible and sustainable relationships with all its stakeholders.

The initiative *Schools for Sustainable Development* promote partnership between local schools, community and business sector in order to implement practical small-scale projects for improving the environment of deprived urban and rural areas in the UK, Poland and the Czech Republic. The initiative is based on participative and practical social and environmental education.

Dimensions of sustainable development	
Environmental	Environment protection.
Economic	Sustainable urbanisation and rural development.
Social	Urban and local development, Community cohesion.

Approach

Schools for Sustainable Development operates as a partnership between NGOs in three European countries (*Groundwork* in the UK, the *Polish Environmental Partnerships Foundation*, and the *Czech Environmental Partnership Foundation*) to develop local practical actions. As part of the initiative,



schools and NGOs have developed a learning toolkit, and have created a website and media materials. The involvement of NGOs ensures that schools take a multidisciplinary approach in their educational strategies and that knowledge from different sectors of society is shared with pupils and teachers.

Innovative elements

Innovation in the content: The project focuses on linking environmental improvement with health, safety and socio- economic regeneration of run-down communities.

Innovation in the delivery method: The initiative is based on a multi-stakeholder-approach. Schools, NGOs and community groups work together on identifying high priority areas, project design and planning, and development and implementation of practical projects.

Innovation in forging new learning partnership/networks: The creation of partnerships between NGOs, schools, communities and business sector is a fundamental element of the project.

Key successes

The initiative has demonstrated that a multi-stakeholder approach is the most effective way to deal with the linkages between environmental improvement and socio-economic regeneration of run-down communities. *Schools for Sustainable Development* has provided a mechanism for private companies operating at European level, such as Toyota, to engage successfully with local communities, and has identified an innovative mechanism for transferring and sharing experience, skills and expertise between schools, NGOs and the business sector. The initiative has clearly helped to create a platform of business support for ESD in schools and at the grassroots level.

Transferability and sustainability

Schools for Sustainable Development already works in three different countries and its structure could be replicated in other countries of the European Union, reaching new partners and funders from the private sector. Pupils' participation to the project and the partnership created between different stakeholders has delivered long-term benefits, such as practical improvement to the local environment, and has fostered pupils and communities self-confidence and social cohesion.

Special Highlights

Schools for Sustainable Development acts as focal points for small-scale local area regeneration initiatives to promote an integrated and practical approach to sustainable development in run-down communities, by teaching pupils to take responsibility for the place they live in.

Further information

Website of the project: www.toyota-europe.com

VCSE - Virtual Campus for a Sustainable Europe (EUROPEAN LEVEL)

Key characteristics	
Type of learning	Formal
Age group	18-30
Level of implementation	International/National
Funding	eLearning Programme, European Commission
Time frame	Since February 2007
Leading organisations	University of Macedonia (UOM), Greece

The project

Given the need to develop effective strategies for mainstreaming sustainable development principles in public policy, universities have a responsibility to foster competences for sustainable development amongst students, staff and local communities. *Virtual Campus for a Sustainable Europe* project aims at building a sustainable Europe by developing an educational model in which the principles of SD are mainstreamed in multiple sectors.

Dimensions of sustainable development	
Environmental	Conservation and management of natural resources, Waste management, Pollution.
Economic	CSR practices, Urban and local development, Sustainable tourism, Integration of environmental concerns in business decision-making.
Social	Social equity, Management of migration and cultural diversity, Equal opportunities, Critical Approaches to Globalisation.

Approach

Five Universities from five countries (Austria, Czech Republic, Germany, Greece and the Netherlands) worked in partnership to engage relevant actors from academic, governmental and non-governmental sectors on finding solutions to most effectively implement sustainable development principles. In addition to e-learning courses for students, they have developed educational activities for local actors and decision-makers at national level. The VCSE courses facilitated interaction of participants across disciplines, sectors and cultures by providing and sharing high quality academic e-learning courses.



Innovative elements

Innovation in the content: A crucial aspect of the courses is their interdisciplinary character, which is indispensable for seeking solutions to complex problems of sustainable development.

Innovation in the delivery method: Problem-based research encourages students to seek solutions to pressing local and global problems by dialogue and engagement with a wide range of real world resources.

Innovation at the institutional level: All of the VCSE partner-universities are recognized at a local/regional/national level as a focal point for the transfer and wider dissemination of know-how and expertise on ESD.

Innovation in addressing sustainable development: Students' diverse disciplinary viewpoints (from all areas of sciences and humanities) are an asset in seeking solutions to complex problems, giving the students valuable opportunities to learn from each other.

Innovation in forging new partnerships and networks: The VCSE project has created two-folded synergies: (a) Among European Universities specialized on e-learning and sustainable development issues (The VCSE Academic Network); (b) Among local/regional actors and decision-makers at VCSE-partners' countries (The VCSE local/regional learning networks).

Key successes

The VCSE model has proven to be a successful best practice example for the setting up of a virtual campus on sustainability. Its innovative test-it-yourself approach invites any European university interested in sustainable development studies to test for themselves the proposed VCSE model through on-site demonstrations, educational workshops and free-trials, for all involved actors, technical and administrative personnel, academic staff and experts. The project has thus successfully overcome some resistance to e-learning and multidisciplinary teaching among traditional universities.

Transferability and sustainability

To ensure the transfer of the Virtual campus model, workshops were held locally to disseminate and discuss such model. The VCSE Network has welcomed eight new members as a result. Furthermore, new local/regional e-learning networks for sustainable development were created in all five partner countries in order to design e-courses or blended learning courses on sustainable development issues as demanded by local/regional actors and decision makers. VCSE e-learning case study is also included in the UNECE Strategy for education for SD.

Special Highlights

The VCSE-model based on a multi-dimensional approach involves both the academic community and local/regional actors. The educational model created by the project is flexible to meet the needs of national contexts while being a relevant model for universities across Europe.

Further information

Website of the project: <http://www.vcse.eu>

CSCT- Curriculum for Sustainable Development Competences Teachers Training (EUROPEAN LEVEL)

Key characteristics	
Type of learning	Formal
Age group	18-30
Level of implementation	European/National
Funding	Comenius programme
Time frame	2004 – 2007
Leading organisations	ENSI (international network for school and environment) and the Department of Teacher Education of the Katholieke Hogeschool Leuven, Belgium.

The project

Teaching SD is a challenge for teachers and training institutions. SD requires an integrated and multidisciplinary approach, which often requires a dramatic change in the way the curriculum is organised. The project aimed to define a curriculum for ESD and provide teachers with the necessary skills and education tools to deliver ESD in a multidisciplinary way.

Dimensions of sustainable development	
Environmental	Conservation of natural resources, Waste management and Sustainable transport.
Economic	Sustainable consumption and Sustainable trade.
Social	Community cohesion, Social equity, Cultural diversity and Development of human capital skills.

Approach

Fifteen educational institutions from nine different countries (Belgium, Austria, Denmark, Germany, Hungary, Norway, Spain, Switzerland, and United Kingdom) participated in the project CSCT. They worked in partnership to develop a common conceptual framework which set out the core competences that are necessary to teach sustainable development in a multidisciplinary way and to integrate scientific issues with ethical and cultural elements. The common framework has been used to implement SD curriculum in nine different educational institutions.

Innovative elements

Innovation in the context: Sustainable development is often associated with scientific subjects (for example biology and chemistry) resulting in the socio-economic dimensions not being integrated into the teaching. The CSCT project provides teachers with the educational tools needed to cover the different but interrelated dimensions of SD.

Innovation in the delivery methods: an innovative pedagogical methodology is set out, encouraging teachers to undertake 'action research' to identify sustainability issues that are pertinent to the local context in which they operate. The curriculum also promotes first-hand experience with sustainability issues, active participation of the learners, personal reflections and integrated understanding of the natural and socio-economic environment.

Innovation in forging new partnership and networks: educational institutions from different countries worked together to elaborate a common conceptual framework, exchanging their implementation methods and disseminating their achievements.

Key successes

The common framework was used by nine educational institutions to develop their own curriculum and approach to ESD in different contexts. A report was produced for each educational institution participating to the project, which outlined the main activities and achievements. The nine case studies and the common framework are available on-line.

Transferability and sustainability

The project has now finished but the information material (common conceptual framework, case studies from educational institutions, final report, etc.) is available on-line to encourage other educational institutions to implement a SD curriculum. The project has demonstrated that the common conceptual framework can easily be transferred to different educational contexts.

Special Highlights

CSCT designed a conceptual framework that covers all the dimensions of sustainable development in an integrated way, but at the same time is flexible enough to be tailored to the specific needs and contexts of different educational settings.

CSCT encourages interactive and participatory learning linking theoretical concepts with practical activities and personal experience.

Further information

Website of the project: http://www.ensi.org/Projects/Former_Projects/CSCT/

Programme Ecologisation of schools – Education for Sustainable Development (AUSTRIA)

Key characteristics	
Type of learning	Formal
Age group	6-25
Level of implementation	National, regional, local
Funding	Central support is provided by the Ministry of Education, Science and Culture and by the Forum Umweltbildung; Euro 100.000/year
Time frame	1996: starting of the pilot phase. School network started in 2001
Leading organisations	Austrian Federal Ministry for Education, the Arts and Culture, Subdept. V/11c, Environmental Education, Austria

The project

ÖKOLOG is the first and main Austrian programme for schools at the interface of Environmental Education (EE) and Education for Sustainable Development (EDS) and School development.

Schools define the ecological, technical and social conditions of their environment, and on the basis of these results, they define the objectives, targets and/or concrete activities and quality criteria, to be implemented and evaluated.

Students along with all the other stakeholders are actively involved and collaborate with authorities, business and other interested parties.

Dimensions of sustainable development	
Environmental	Climate change, Energy efficiency, Pollution, Waste management, Sustainable transport.
Economic	Sustainable consumption.
Social	Health, Community cohesion, Social equity, development of human capital skills.

Approach

Schools have to apply to become a member of the Ecologisation (ÖKOLOG) school network. Schools involved have to follow a set of steps: creating a school consensus, building and maintaining a school working team on SD, and becoming active in “hard topics” such as energy consumption and in “soft topics” (e.g. school climate).

Innovative elements

The project puts an emphasis on the passage from temporary individual initiatives to ecologically sustainable structures and to a combination of pedagogical, social and technical/economic initiatives. Ecologisation is seen as an important contribution to school development. This project aims at becoming an inherent feature of the system of education after its pilot phase. Similarly, the competencies created within a number of teachers and headmasters become an intrinsic professional feature of the teaching profession/school management.

Key successes

Over 270 schools with about 100,000 students are in the network while many others are reached by web-site teachers. Training seminars and newsletters for teachers are also available.

The schools involved are highly committed to the project, with 20% of the ECO-schools being awarded the Austrian “National Environmental Performance Award for Schools and Educational Institutions” (*“Umweltzeichen für Schulen und Bildungseinrichtungen”*, see www.umweltzeichen.at/schulen)

Transferability and sustainability

ÖKOLOG is part of the international association of ECO-schools and/or ESD-schools with the purpose of school development as a basis to implement and develop ESD.

Special Highlights

Students along with all the other actors are actively involved and cooperate with authorities, businesses and other interested parties.

An Ecologisation (ÖKOLOG) network binds various schools on a national base and integrates the issue of sustainable development as a permanent feature of the education system.

Further information

Website of the project: <http://www.oekolog.at>

Sustainable Universities (AUSTRIA)

Key characteristics	
Type of learning	Formal
Age group	18-30
Level of implementation	National
Funding	FORUM Umweltbildung
Time frame	Started in 2007 and takes place on a 2 year basis
Leading organisations	FORUM Umweltbildung, Vienna, Austria

The project

The main objective of Sustainable Universities is to strengthen and to integrate the issue of SD into the daily life of higher education institutions in Austria. After the initial phase of networking and communication with the relevant stakeholders, the project aims at 1) raising the motivation for sustainable higher education, and 2) at supporting the pioneers in this field by organizing a nationwide “sustainability award” for higher education institutions.

Dimensions of sustainable development	
Environmental	Climate change, Biodiversity, Energy efficiency, Development of clean technology, Conservation and management of natural resources, Pollution, sustainable transport.
Economic	Sustainable consumption, Urban and local development, Sustainable tourism.
Social	Health, Community cohesion, Social equity, Development of human capital and skills.

Approach

The general aim is to launch a benchmarking and nationwide learning process among higher education institutions through a “sustainability award contest” held every two years.

Sustainable Universities focuses on continuous processes of “sustainable higher education” and not just on temporary projects, single persons or singular events. Additionally, participation and open learning are at the very heart of every learning process. The award is divided into 8 different action

fields (i.e. curricula, operations or students initiatives) and universities can submit their contributions to this contest according to their individual strengths to win the award in one particular action field.

Universities can use this experience to improve their performance in other fields and they have the opportunity to win more awards in other action fields.

Innovative elements

Innovation in the context: The innovation is the benchmarking and nationwide learning process amongst higher education institutions in the field of ESD.

Innovation at the institutional level: The Award supported universities to access their own sustainability performance and enhanced internal communications.

Innovation in forging new partnerships: Under the 'outreach' award category there have been several examples of regional co-operation projects between universities and other stakeholders (i.e. schools and business) which were linked by the common goal of sustainable development.

Key successes

Quality criteria were developed and accepted with the first ESD university contest being organised in 2007/2008 and the first awards being granted in spring 2008. A key element of success was the participation of the media and stakeholders in the field of SD. The added value of Sustainable Universities is the creation of a nationwide benchmarking and communication process.

The number of Award submissions was 43, of which 25 were defined as a success.

Transferability and sustainability

The inspiring principles of Sustainable Universities, especially the concept of continuous processes of sustainable higher education and the award system can be easily transferred to other contexts.

Special Highlights

The project aims at integrating higher education institutions into a general benchmarking and nationwide learning process.

The continuous processes of "sustainable higher education" are integrated into the daily functioning of Austrian universities, whilst a "sustainability award contest" is held every two years.

Further information

Website of leading organisation: <http://www.umweltbildung.at>

MangerBouger (BELGIUM)

Key characteristics	
Type of learning	Formal and Informal
Age group	12-30
Level of implementation	National
Funding	N/A
Time frame	Started in 2006
Leading organisations	Gouvernement de la Communauté française de Belgique

The project

In a society characterised by rising trends in obesity, increased sedentarity, and less time devoted to cooking, the Government of the French Community of Belgium has decided to implement a plan to promote healthy lifestyles in terms of eating and exercising, targeted at children and teenagers. MangerBouger aims at implementing a proactive policy for promoting healthy eating habits at school, as well as countering the pressure of marketing and media by developing critical attitudes among young people and helping them to make responsible choices. The objective is achieved by developing a culture of eating habits based on nutritional benchmarks as well as personal enjoyment.

Dimensions of sustainable development	
Environmental	Environment protection, Water.
Economic	Sustainable consumption.
Social	Education/learning, Health promotion, Citizenship.

Approach

A set of key actors have been involved and trained, such as school canteen staff, children's families and agencies in the nutritional sphere. On the pupils' side, the project encourages sports activities and develops critical attitudes to advertising and commercial messages. A quarterly magazine is distributed in all schools, dieticians are recruited, and an educational kit is made available to schools to provide reference material on eating and media education.

Innovative elements

Innovation in the content: The project intends to promote healthier eating habits and encourages the adoption of these patterns not only at school but also at home through the involvement of parents.

Innovation in the delivery: Schools are able to choose their own delivery methods and approaches.

Innovation at the institutional level: The government is involved in ensuring that the initiative is mainstreamed and extended to as many schools as possible.

Innovation in addressing sustainable development: The cultural, social, environmental and economic aspects are taken into account to forge an educational project that integrates these different, but interrelated, dimensions.

Innovation in forging new partnerships/networks: A wide range of people of all ages and professional backgrounds are involved in the initiative.

Key successes

The project relies on extensive cooperation between government departments, school management federations, teachers' representatives, various advisory bodies, doctors, nutritionists and dieticians. It has been successful in providing specific and coordinated responses to social and health issues by offering a positive approach to health and sport in a schooling environment. A key element in the project was the flexibility offered to schools to personalise their initiatives according to their own needs.

Transferability and sustainability

The project, which is in its early phase, is backed-up by a media campaign, a website and a magazine. The media campaign aims at strengthening awareness-raising via posters, post cards and children's games. The interactive website can appeal to various target groups and has proven to be the best way to reach a wide audience.

Special Highlights

A "healthy eating" label will be awarded to schools that develop an integrated and comprehensive project covering educational activities as well as the quality and variety of the food provided.

Further information

Website of the project: <http://www.mangerbouger.be/Saint-Quentin-une-ecole-pas-tout-a>

Sustainable Tourism: developing a sustainable development curriculum for bachelor degrees in tourism and recreation management (BELGIUM)

Key characteristics	
Type of learning	Formal, Vocational training
Age group	25-30
Level of implementation	Regional
Funding	The Tourism Board of Flanders founded the project
Time frame	February 2007-April 2008
Leading organisations	Tourism Board of Flanders (Belgium) and University College KHM Katholieke Hogeschool Mechelen

The project

The concept of sustainability is only addressed in a limited capacity by educational institutions training future managers and professionals to work in tourism and recreational sectors.

The objective of this project is to introduce the principles of sustainable development (SD) in a systematic, progressive and integrated way by developing a formal curriculum on sustainable tourism.

Dimensions of sustainable development	
Environmental	Climate change issues; reduction of greenhouse gas emissions, biodiversity, energy efficiency, development of clean technology; conservation and management of natural resources, waste management; pollution (water, air, soil); and sustainable transport.
Economic	Sustainable consumption, sustainable production, urban and local development, and sustainable tourism.
Social	Community cohesion, social equity, equal opportunities, and the development of human capital and skills.

Approach

A working group was set up between professors and the Tourism Board for Flanders. They have mapped the educational services in tourism and recreation provided by colleges. The curricula was also analysed to assess missing elements in terms of sustainability and how they could be integrated in existing courses.

Experiences from international universities were used as a basis for developing a set of core competences to integrate socio-economic and environmental aspects into the tourism industry. A supporting manual was also developed for engaging and guiding professors and teachers.

Innovative elements

Innovation in forging new partnership: Colleges have developed the core competencies for sustainable tourism in close cooperation with the Tourism Board for Flanders.

Innovation in the institutional level: The curriculum for sustainable tourism is fully integrated with other taught subjects and is developed across three year studies.

Key successes

The curriculum has been tested on over 162 students between 2007 and 2008.

An on-line questionnaire has been used to collect participants' views, with students and teachers rating the new curriculum on sustainable tourism very positively. Professors have in particular appreciated the manual as a valid pedagogical support, which has proven to be crucial for the successful delivery of the course.

A final workshop was also organised to present and disseminate the pilot-project achievements.

Transferability and sustainability

The curriculum for sustainable tourism will become an integral part of the education services provided by the college of the KHM Katholieke Hogeschool Mechelen from September 2008. Four other universities are also interested in adopting the same curriculum (HIEPSO Hogeschool West-Vlaanderen/Kortrijk; KHBO Katholiek Hogeschool Brugge-Oostende; EHB Erasmus Hogeschool Brussel, XIOS Hogeschool Limburg).

Special Highlights

Training and equipping future professionals in tourism and recreation with skills on sustainable development will enable these important economic sectors to adapt to changing market environments and guarantee long-term benefits.

Balkan Eco-Village Network – Sustainability in Practice (CROATIA)

Key characteristics	
Type of learning	Informal
Age group	12-18
Level of implementation	Regional
Funding	Swedish International Development Agency (SIDA) through SECTOR Program of Regional Environmental Centre for Central and Eastern Europe (REC)
Time frame	Started in July 2007 and will end in November 2008
Leading organisations	Green Network of Activists Group (GNAG)

The project

Communities and individuals seldom take the initiative to implement sustainable actions because they lack the practical knowledge to do so. The Ecovillage project focuses on three cities (Banja Luka, Velika Gorica and Cakovec) with significant water and waste problems and aims at working on the implementation of sustainable solutions in partnership with the local stakeholders and interested members of the community. These sustainable solutions will then be promoted and demonstrated throughout the region so to encourage reproduction of these solutions elsewhere.

Dimensions of sustainable development	
Environmental	Climate change, Energy efficiency, Development of clean technology, Waste management, Pollution.
Economic	Sustainable consumption, Sustainable production, Urban and local development.
Social	Health, Community cohesion, Equal opportunities.

Approach

GNAG will work in partnership with local stakeholders (i.e. relevant high schools and community associations in the three cities) to develop and disseminate innovative and easy-to-implement solutions that have the potential, in the long term, to reduce pressure on natural carrying capacity. While the main focus will be on waste management and energy, partners and stakeholders will be

able to explore other areas of SD through “permaculture” training (e.g. sustainable building, renewable energy sources, transport, organic gardening and food production, economy etc.) ensuring a multidisciplinary approach. The development of innovative solutions will be carried out through workshops with stakeholders and partners, while dissemination and education will be achieved through workshops, booklets and training.

Innovative elements

Innovation in the content: developing methods for the development of renewable energy sources and waste management are still unknown to most communities in the region. The multidisciplinary focus of the project combined with the participative aspect of the workshops allows for more involvement of local communities and as well as a better understanding of the issues at stake.

Innovation in the delivery methods: a participatory approach is ensured through the involvement of local partners and stakeholders in workshops involving not only experts in the field but beneficiaries as well. This interaction facilitates awareness raising and understanding that solutions and actions can be implemented at the local level by the community itself.

Innovation in addressing sustainable development: while the main focus remains on the areas of concern of the targeted communities (i.e. water and waste) the organisation of ‘permaculture’ training broadens the knowledge of the participants by cutting across various interrelated fields. It raises awareness on the interconnectedness of the different aspects of SD.

Innovation in forging new partnership and networks: a secondary aim of the project is to foster and improve cooperation and networking in the region. Workshop participation encourages different actors at different levels to interact and work on solutions together.

Key successes

The Ecovillage has created a system to produce energy from thermal waters and for turning organic waste into rich nutrient humus. Students and local citizens who participated in the workshops felt a sense of ownership and pride over solutions they had contributed in finding and implementing.

Transferability and sustainability

The Ecovillage will continue beyond the official closing date of the project. Information dissemination activities (through booklets, workshops and training) will ensure transferability and sustainability of the project on a larger scale.

Special Highlights

Ecovillage goes beyond awareness raising by providing participating communities with the opportunity to be part of the process of finding solutions to their own problems.

Ecovillage empowers local communities through training aimed at broadening their knowledge of SD and workshops enabling them to be part of the solution rather than the problem.

Further information

Website of the project: www.ekosela.org

Sustainable Offices (CZECH REPUBLIC)

Key characteristics	
Type of learning	Informal
Age group	12 to 30
Level of implementation	National
Funding	Czech Ministry of the Environment
Time frame	Started in 2003 and ended in 2005
Leading organisations	Czech Eco Counselling Network (STEP)

The project

Public institutions play a central role for the implementation of ESD within a country. Their visibility and high interaction with various stakeholders are crucial to raising awareness and reaching a significant number of target groups. Furthermore, they play a central role in increasing accessibility to sustainable products and services through the awarding of national labels for environmentally friendly products and encouraging fair trade. Sustainable Office was intended to start the process of mainstreaming ESD within public institutions' offices by providing their employees, visitors and clients with a sustainable environment.

Dimensions of sustainable development	
Environmental	Energy efficiency, Waste management.
Economic	Sustainable consumption, CSR practices.
Social	Health, Community cohesion, Policy, regulation and Governance.

Approach

National, regional and local authorities, in partnership with the Czech Eco-counselling Network (STEP) worked together to raise awareness on SD by starting at the level of public institutions (the Office of the Ombudsman). The project introduced the Green Public Procurement (GPP) approach in Czech public institutions' daily operations, ensuring that staff at all levels was involved and committed to more sustainable practices of consumption. To this end, it provided education and methodological support for both eco-counsellors and staff by way of a handbook (containing basic information on

GPP as well as examples of sustainable practices from the Czech Republic and abroad), workshops for eco-counsellors, a national survey on GPP with 35 institutions and a web page.

Innovative elements

Innovation in the delivery methods: an approach focused on implementing GPP in a public institution with high visibility such as the Office of the Ombudsman. The central aim of this was to involve employees as much as possible and facilitated awareness raising at national level.

Innovation at the institutional level: the project initially targeted a highly visible public institution to mainstream SD.

Innovation in addressing sustainable development: a wide range of topics were covered during the implementation of the project, from waste management to cleaning and from energy and water saving to procurement and education.

Innovation in forging new partnership and networks: the project fostered cooperation between national, regional and local authorities and the NGO STEP, ensuring a multi-stakeholder and multi-disciplinary approach.

Key successes

Measures taken in the Office of the Ombudsman were related to a wide range of different topics and played an important role in the pilot project: this motivated and encouraged the reproduction of similar approaches and activities in other public institutions. Furthermore, the majority of the measures taken had an organisational or operational nature and therefore incurred very little additional expenditure for the institutions, thus facilitating the mainstreaming of ESD at a very low cost.

Transferability and sustainability

There has been a significant interest in the project and it has already been replicated in other public institutions. The creation of the methodological handbook containing basic information and describing examples from both the Czech Republic and abroad gives interested authorities the opportunity to explore a wide range of options and select and adapt the most suitable one to their environment.

Special Highlights

'Sustainable offices' is based on the premise that part of the function of public institutions is setting the example of good practices for the country. It has therefore concentrated on a top-down approach encouraging SD to be implemented first at high level and allowing it to trickle down to small public institutions, businesses and citizens in general.

Further information

Website of the project: www.ekoporadna.cz

EnviWiki – Environmental Literacy for Teachers (CZECH REPUBLIC)

Key characteristics	
Type of learning	Formal and Informal
Age group	12-30
Level of implementation	National
Funding	Grants of the Czech Ministries of Education and of the Environment
Time frame	Started in 2005 and is ongoing
Leading organisations	Charles University Environment Centre

The project

SD is a constantly evolving concept, which definition broadens as concerns for sustainability grow. Textbooks on the subject need constant revision and update. EnviWiki aims at providing an alternative medium of ESD through the development of a flexible online source for information and course development from primary to university level. The MediaWiki software was selected to provide a user-friendly medium not only for information searches but also for its updating and amendment.

Dimensions of sustainable development	
Environmental	Climate change, Biodiversity, Energy efficiency, Development of clean technology, Conservation of natural resources, Waste management, Pollution, Sustainable transport.
Economic	Sustainable consumption, Sustainable production, CSR practices, Urban and local development, Sustainable tourism, Integration of environmental concerns in business decision-making, Sustainable trade, Economy.
Social	Health, Community cohesion, Social equity, Demography, Management of migration and Cultural diversity, Equal opportunities, Development of human capital skills, Globalisation.

Approach

The Charles University Environment Centre, in partnership with five other universities in Prague that are engaged in the “Prague University Co-operation Agreement to Introduce and Conduct Sustainable Development”, developed an educational toolkit facilitating networks of knowledge and interrelationships. EnviWiki is not only a flexible source of information on SD but also a platform for communication, via its forums, between experts, teachers and students from any relevant field,

enabling the resolution of practical problems through access to required information and existing databases that are linked to the texts. Additionally, Charles University is also sharing expertise with five other countries (Romania, Poland, Czech Republic, France and Belgium) to develop PASDEL courses (PrActising Sustainable Development through E-Learning). These will offer the opportunity to contribute to and expand the knowledge base by learning how to work with the environmental encyclopedia (Enviwiki).

Innovative elements

Innovation in the context: EnviWiki is the only publicly accessible, user-friendly Czech language resource which provides a comprehensive overview of environmental issues, their contexts and how they are interlinked.

Innovation in the delivery methods: the chosen structure and software for the website allow the texts to be the subject of professional discussion and is continuously updated by students, teachers and experts alike. By the end of 2008, classes strictly focusing on EnviWiki will be implemented where students will be able to develop their own work and publish it on the website, after approval by the course tutor on the quality and accuracy of the article.

Innovation at the institutional level: EnviWiki project is supported by the Ministries of Education and the Environment of the Czech Republic.

Innovation in addressing sustainable development: an innovative teaching online textbook that stresses the interdisciplinary character of SD issues by using hyperlinks.

Innovation in forging new partnership and networks: five universities in Prague have already inserted EnviWiki in their teaching methods, allowing for constantly growing interactions between students, teachers and experts who may not otherwise be able to communicate so simply.

Key successes

Between December 2007 and June 2008 the total number of access to all pages of EnviWiki reached 33,397. Students in the universities said that they were happy to have an opportunity to use EnviWiki and most importantly they also felt that by contributing to its updating they become more involved in the process. E-learning projects connected to the website have so far proved very dynamic and inter-personal.

Transferability and sustainability

EnviWiki is designed to be used by a wide audience. The tool is transferable to any sector and allows for the creation of links to translated pages. It has been used as an e-learning environment in the Virtual Campus for Sustainable Europe (VCSE) project. Additionally, dissemination of EnviWiki is ensured through activities of the National Network University Teachers Forum for Environmental Education.

Special Highlights

EnviWiki sets out a concept of knowledge sharing which allows students, teachers and experts alike to contribute and communicate. Students have the possibility to feel more involved by being offered

the chance to publish their own pieces of research and therefore being given the opportunity to make a difference.

EnviWiki is also a modern online 'textbook' adapted for the ever changing nature of SD. It allows for constant updating and knowledge creation.

Further information

Website of the project: <http://www.enviwiki.cz/>

A partnership approach to implementing the UN Decade of ESD (GERMANY)

Key characteristics	
Type of learning	Formal, Non-formal, Informal
Age group	All
Level of implementation	National/Regional/Local
Funding	Funds provided by the Federal Ministry of Education and Research
Time frame	Since 2004 (still on-going)
Leading organisations	German Commission for UNESCO (Germany)

The project

The successful implementation of the UN Decade for ESD and its promotion as a core education model requires the involvement of all stakeholders and the commitment of all partners.

The project defines the overarching scope and objectives of Education for Sustainable Development (ESD) through an Action Plan and created an organisational structure to link several hundred organisations.

Dimensions of sustainable development	
Environmental	Climate change, Reduction of gas emissions, Biodiversity, Energy efficiency, Development of clean technology, Conservation of natural resources, Waste management, Pollution (water, air, soil), Sustainable transport.
Economic	Sustainable consumption, Sustainable production, CSR practices, Urban and local development, Sustainable tourism, Integration of environmental concerns in business decision-making, Sustainable trade.
Social	Health and quality of life, Community cohesion, Social equity, Demography, Management of migration and cultural diversity, Equal opportunities, Flexicurity, Development of human capital and skills.

Approach

The project has a clear partnership approach in which education providers, academics, NGOs, national and regional governments meet to exchange expertise and information, and cooperate in the development of engaging and innovative educational projects.

All types of educational institutions have been targeted, including schools, universities and vocational training providers, as well as non-formal adult education and informal learning.

Innovative elements

Innovation in the context and delivering methods: an ESD internet portal has been set up to facilitate the networking of stakeholders and to create synergies and new partnerships. The portal also provides English-language content to make the participation of international stakeholders possible.

Key successes

The project's key success is its mechanism to facilitate the networking of stakeholders and to maximise cooperation. The partnership approach involves both policy makers and civil society and is seen to be the most effective method to organise and implement large-scale initiatives like the UN Decade for EDS. The implementation of ESD needs political support from both ends of the hierarchy – top and bottom - through consultation and multiple alliances.

The project has attracted lot of attention with extensive press coverage and has been identified at international level as good practice. The level of interest among educational institutions and the number of initiatives have been remarkably high, with applications being received continuously.

Transferability and sustainability

A similar organisational structure and multi-partnership approach could potentially be adopted in other contexts.

Special Highlights

A system for awarding educational projects with the title of 'Official German Project for UN Decade for ESD' has been created. This helps in raising the visibility of successful ESD initiatives, fostering innovation, facilitating mutual learning, as well as providing recognition to practitioners in the field.

Further information

Website of the project: www.bne-portal.de

Transfer-21 (GERMANY)

Key characteristics	
Type of learning	Formal
Age group	12 to 18
Level of implementation	National, regional and local
Funding	N/A
Time frame	July 2004 to July 2008
Leading organisations	Freie Universität Berlin/ Institut für Erziehungswissenschaftliche Zukunftsforschung

The project

Pupils are the citizens of tomorrow. They will have to take important decisions and respond to the challenges of globalisation, climate change, social tensions and poverty around the world. In Germany, programmes for helping pupils to grasp the complexity of sustainable development have been tested in the educational system since 1999 in an effort to increase the quality of educational system across the board. Transfer 21 is both a follow-up of initiatives previously tested and an element of the German national action plan to implement the UN Decade of sustainable development.

Dimensions of sustainable development	
Environmental	Climate change, Energy efficiency, Conservation of natural resources, Waste management, Pollution, Sustainable transport, Global water crisis, Virtual water, Land use, Renewable raw materials, Use of biosphere reserves, Earth carter ?, Sustainable forest management, Genetic engineering.
Economic	Sustainable consumption, CSR practices, Urban and local development, Sustainable tourism, Sustainable trade and Sustainable student companies.
Social	Health, Community cohesion, Social equity, Equal opportunity, Development of human capital skills, Social justice, Human rights, Discrimination, Fair trade, Agenda21, Children`s rights, Sustainable lifestyle, North-south divide, Racism.

Approach

Transfer-21 is based on the pedagogical concept of “Gestaltungskompetenz” (shaping competence), which aims not only to provide learners with theoretical knowledge but also with the appropriate skills to deal with the challenges of SD, to find creative solutions and to take actions that will lead to changes. To this end, the programme is focused on interdisciplinary learning supported by external stakeholders’ involvements (i.e. NGOs) and students’ active participation in the local community.

A set of specific teaching material has also been developed to assist pupils, such as handbooks and brochures, as well as special training programmes and workshops for teachers.

Innovative elements

Innovation in the content: The programme integrates theoretical concepts with practical activities and real-life stories in order to enable pupils to respond to the challenges in a positive and creative way and elaborate new strategies for anticipating problems.

Innovation in the delivery methods: Interdisciplinary learning with active participation in the local community and engagement with NGOs is part of the core strategy of Transfer-21. Connections are also made with a wide variety of subjects in the curricula (e.g. geography, biology, politics, physics, etc.).

Innovation at the institutional level: The approach of Transfer-21 became an important part of the recommendation for EDS adopted by the Kultusministerkonferenz (interregional organ for education).

Innovation in forging new partnership and networks: Transfer-21 fosters networking between stakeholders from different fields and disciplines, bringing a wide range of expertise into the school environment. New working partnerships have been established at local, national and international level, and transnational cooperation was created with Switzerland, Austria and the Netherlands.

Key successes

Transfer-21 is now successfully integrated in compulsory schools and ‘all day schools’ (Ganztagsschulen) as well as in programmes for teachers’ training. To date, more than 100 teachers have been qualified in ESD as part of Transfer-21 programme. The concepts developed under this programme have also become part of the recommendations of the Kultusministerkonferenz (interregional organ on education) concerning ESD. Finally, Transfer-21 has also served to develop quality standards for the education system and has triggered for cooperation with actors outside the education system.

Transferability and sustainability

Transfer 21 has been identified as a good practice nationally and internationally. The sustainability of the project will be ensured through the creation of administrative structures, sustainable networks, further education structures, school networks, and the continuation of the work in similar projects in the regions.

Special Highlights



“Gestaltungskompetenz” is a long term education process. At the heart of this concept is the idea of empowering pupils to think creatively to find solutions to complex problems and adopt pro-active behaviours. To this end, Transfer-21 provides material to equip pupils with both theoretical and practical competences.

Further information

Website of the project: <http://www.transfer-21.de>

Chat of the Worlds (GERMANY)

Key characteristics	
Type of learning	Formal
Age group	12-25
Level of implementation	International, National, Regional, Local
Funding	Federal Ministry for Economic Cooperation and Development (BMZ); with additional funds from Landers
Time frame	
Leading organisations	InWEnt – Capacity Building International, Germany

The project

Chat of the Worlds promotes Education for Sustainable Development (ESD) in a global perspective. It aims to strengthen the problem-solving skills of students and to challenge their long-term attitudes and behaviour towards sustainable development. The project enables students to have first-hand experience on global issues through live chats with representatives and specialists from developing countries.

Dimensions of sustainable development	
Environmental	Climate change, Biodiversity, Energy efficiency, Development of clean technology, Conservation and management of natural resources, Pollution and Sustainable transport.
Economic	Sustainable consumption, Sustainable production, CSR practices, Urban and local development, Sustainable tourism, Integration of environmental concerns in business decision-making and sustainable trade.
Social	Health, Community cohesion, Social equity, Equal opportunities and the Development of human capital and skills.

Approach

Interactive learning is a fundamental aspect of Chat of the Worlds and e-platforms are extensively used by teachers and students for individual and group learning. Internet platforms are also used to foster dialogue through live chats (E-Cooperation platform) between students, experts and different

stakeholders, thus enabling authentic and multi-perspective approaches. Practical activities in school were also organised and topics were integrated in everyday learning.

Innovative elements

Innovation in the context: This project has integrated sustainable development in students' understanding of global issues, by integrating international development and international cooperation into a framework that can be easily understood by students.

Innovation in the delivery methods: The fact that German students could carry out live chats with international experts and representatives from developing countries is very innovative in a learning context.

Innovation in forging new partnership and networks: The project fostered cooperation at different levels: between BMZ and federal state ministries of education, between governmental and non-governmental actors, and between international experts on international development and students.

Key successes

Chat of the Worlds allowed participants to understand complex issues of sustainable development from an international perspective. The personal contact element with experts and different stakeholders made the learning process more engaging and multi-disciplinary, and students were trained to use new communication skills as part of their learning process.

Special Highlights

"Chat der Welten" (Chat of the Worlds) integrates pupils' learning within the framework of international development issues. By using e-learning, German pupils interacted with experts and representatives from developing countries. E-Cooperation enables an authentic dialogue between the various actors.

Transferability and sustainability

The underlining methodology of the project, such as providing teaching with information materials on internet platforms and enabling a direct contact between pupils and stakeholders from developing countries, can be transferred to other countries.

The project is still ongoing and it is expected that it will be replicated.

Further information

Website: <http://www.gc21.de/ibt/de/site/cdw/ibt/xhtml/index.sxhtml>

The Web Village (FINLAND)

Key characteristics	
Type of learning	Vocational
Age group	All ranges
Level of implementation	International/National/Regional/Local
Funding	Ministry of Education
Time frame	Started in 2007
Leading organisations	Finnish National Board of Education

The project

The Committee on agricultural education and training in Finland created a development strategy in 2006 which aimed at securing high-quality educational services for the rapid development of agricultural sector. This was done by examining the educational needs of basic production and other forms of entrepreneurship in farming and nature. Another objective was to ensure existing resources in education, information services and research work together more effectively to meet the needs of changing agricultural production. Simultaneously, a new strategy for sustainable development was developed for the whole education sector, with one of the most important objectives being to ensure that all 34 agricultural vocational education and training institutes (also referred to as 'school farms') receive an external acknowledgement or certificate for their sustainable development activity by 2010.

Dimensions of sustainable development	
Environmental	Biodiversity, Energy efficiency, Conservation and Management of clean resources, Waste Management, Pollution.
Economic	Sustainable consumption, Sustainable production.
Social	Community cohesion, Social equity, Equal opportunities, Development of human capital skills.

Approach

All the agricultural institutes are joined together in a virtual network called the 'Web Village', an open-access web portal developed in cooperation with other organisations, which provides information and learning material about the natural resources sector in a variety of forms such as photos, video clips, puzzles, demonstrations and study trips.



The school farms are intended to be a model of sustainable development for local farmers - the production methods (inputs and outputs) of each of the Finnish school farms, gardens and stables are described on the web, demonstrating how the consumption of nutrients, fertilizers, energy and water can be reduced in everyday activity. The sharing of this information allows users to learn from each other and to promote sustainable development in their farming activities.

Innovative elements

Innovation in the context: the open availability of data on consumption of water, energy, nutrients and fertilizers on the website allows users to have a better understanding of which school farms produce milk, meat and other products with the lowest level of inputs. The model also encourages school farms to showcase their individual strengths and performance using a number of different, innovative tools of their choice, such as simulations and photo materials.

Innovation in the delivery methods: Web Village is based on a model of 'blended learning', a unique concept which uses 'blended' virtual and physical resources and where learning environments are developed both on the web and in real life at the local level. Teachers and students are able to update their institutes' websites in an easy manner.

Innovation in forging new partnership and networks: the model is unique in bringing out the best practices and skills of students and teachers in each agricultural institution. There is also the possibility of other countries joining the Web Village network.

Key successes

Web Village allows expertise to be formed in a 'compact network', and is particularly valuable because its easy-to-use web tools allow openness in sharing and disseminating knowledge. Learning materials and demonstrations are significantly increasing over time, and teachers are encouraged to commit to contributing to the Web Village as much as possible on a continuous basis.

Transferability and sustainability

The project is ongoing, and the information material available on-line can help to inspire other agricultural institutions and school farms across Europe to join the Web Village and share their best practices, many of which are likely to be transferable.

Special Highlights

Web Village is a unique initiative that brings together all the school farms and agricultural institutions in Finland together in an interactive manner, encouraging the dissemination of best practices in farming, which can be easily transferable to other users, namely local farmers.

The web aspect of the initiative allows information to be updated quickly and easily, and for helps promote sustainable development by providing data on production inputs and outputs of all the school farms. This allows users to make comparisons between farms and to understand which methods are most effective in reducing resource consumption and achieving sustainable agriculture practices.

Further information

Website of the project: <http://www.virtuaali.info/>

ORIENTEDD (FRANCE)

Key characteristics	
Type of learning	Non-formal and Informal
Age group	25-30
Level of implementation	European
Funding	Leonardo da Vinci Programme
Time frame	Started in June 2006
Leading organisations	Chambre de Métiers et de l'Artisanat de Vaucluse

The project

ORIENTEDD aimed at guiding SMEs towards a better understanding of the three pillars of sustainable development: economics, social and environment. The objective of the project was to raise awareness of small enterprises on the importance of SD in their sectors and to develop SD skills for both their managers and their employees. A quality label "sustainable enterprise" was created to improve enterprises' image.

Dimensions of sustainable development	
Environmental	Energy efficiency, Development of clean technology, Conservation and management of natural resources, Waste management, Pollution.
Economic	Sustainable production, CSR practices, Integration of environmental concerns in business decision-making, Sustainable trade.
Social	Health, Community cohesion, Social equity, Equal opportunities, Development of human capital and skills.

Approach

The project started by elaborating a training-support manual of sustainable development for SMEs. During the training sessions, different approaches were used: traditional teaching in groups, group problem solving, videos, and peer-learning. The training sessions were followed by individual sessions in each trained company, and the elaboration of a system for diagnosing problems and solutions. Various initiatives were implemented for promoting and disseminating the project, such as the creation of a website, the set up of a "Local Executive Committees", the production of CD ROMs, and the organisation of a conference at European level.

Innovative elements

Innovation in the content: ORIENTEDD is organised around concepts which are close to the company's daily functioning. Its content is structured around the life cycle process of the enterprise: it takes into account the input side, the internal process of production and the output side. On each level the issues of sustainable development are addressed.

Innovation in the delivery method: The educational targets are enterprises, and the training package is well-tailored to a business environment, providing for business-friendly flexible tools based on a new training-support manual and an innovative methodology. Particular attention is given to follow-up activities to make sure that the learning experience is translated into real actions.

Innovation in addressing sustainable development: Enterprises are shown how to take a comprehensive approach to SD, in which the three dimensions of social, economical and environmental development are fully integrated.

Innovation in forging new partnerships and networks: During the whole project each partner had contacts with other actors/organisations in its territory which was interested in the project and/or was working in the field. Moreover the partnership exchanged experience with another similar pilot project financed by Leonardo da Vinci programme, called PASDEL.

Key successes

ORIENTEDD has been tested in 15 SMEs in France and in other countries (Germany, Hungary, Italy, Sweden and Switzerland) with a total of 61 SMEs involved. It has contributed to fostering changes in small enterprises regarding SD development in the daily functioning of the companies.

In France, the project has been recognised by the local and regional authorities dealing with sustainable development.

A virtual community platform was also created through the project website. So far, 32 SMEs from France, Germany, Hungary, Italy, Sweden and Switzerland are part of this network. In addition, a European Conference will be organised in September 2008 to highlight the project's achievements and disseminate results. The conference will also represent the opportunity to attract more companies to the initiative.

Transferability and sustainability

Each partner committed itself to ensuring continuation once the project ended. In France for instance, the Chambers of handicraft of Vaucluse and Rhône will integrate the training-support into the craftsmen training programme proposed by the French Chambers of Handicraft. Thus, this new training-support will be regularly proposed to craftsmen in these two regions. Moreover, this experience could be presented to the sustainable development working group of the SMEs federation, in order to share it with the other French Chambers of Handicraft. Finally, the website created by partnership in the Leonardo Virtual Community Platform is now used by numerous projects all over Europe. This will ensure the dissemination of the project in the long term.

Special Highlights

The key element of ORIENTEDD is to provide support adapted to SMEs' needs: short training and direct support within the company. The training has been implemented at European level and tested

in some countries at national regional and local level.

Further information

Website of the project: <http://orientedd.euproject.org/>

MEdIES – Mediterranean Education Initiative for Environment and Sustainability (GREECE)

Key characteristics	
Type of learning	Formal and Informal
Age group	12-30
Level of implementation	International/National/Regional/Local
Funding	Greek Government, Italian Government, MIO-ESDE Core Funding, Global Water Partnership-Mediterranean, Anna Linch Foundation and private funding
Time frame	Started in 2002 and is ongoing
Leading organisations	Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE)

The project

While SD is becoming a main concern throughout Europe, efforts to mainstream it into education have often been at national level with networking being assigned a secondary role. However, multi-stakeholder approaches are often fundamental to ensuring multi-disciplinary and innovative approaches, encouraging interaction between different countries and methods. The project aims at creating cooperation between actors in different countries to raise awareness on ESD (initially focused on water, waste and cultural and biological diversity) and to promote its integration into formal and non-formal education.

Dimensions of sustainable development	
Environmental	Biodiversity, Conservation of natural resources, Waste management, Pollution.
Economic	Sustainable consumption, Sustainable production.
Social	Health, Development of human capital skills.

Approach

MEdIES serves as a 'cooperation' platform (through the use of the interactive webpage as a communication tool), enhancing multi-stakeholder cooperation across Mediterranean countries, facilitating international networking on ESD and creating the conditions for the development of a methodological framework for ESD networks to be adopted in the region. All activities follow participatory processes, involving all interested partners (students, youth, schools, teachers, local authorities and institutions) as well as interdisciplinary approaches stemming from the interaction of

partners from various related fields (education sector, environment sector, cultural and social sector etc). These activities include primarily the development of Education and Training material, training seminars and conferences and youth residential workshops.

Innovative elements

Innovation in the content: MEdIES works with all topics of sustainable development with a particular focus on key priority issues in the Mediterranean region (i.e. water and waste) and the links between biodiversity and cultural diversity. The latter is particularly innovative as the vehicle for approaching the theme is food (very diverse in the region and playing an important role in defining cultures) and all related dimensions are integrated in the approach: environmental, economical, social and cultural.

Innovation in the delivery methods: participants' increase in self-efficacy is stimulated by engaging in the 'think/feel – reflect – (inter)act' triangle, which also includes drama and role-playing activities, in order to encourage participants to explore their own values and actions. Experience and knowledge sharing are promoted through the use of the interactive webpage which contains ESD documents, educational materials and up-to-date information on ESD topics.

Innovation at the institutional level: All MEdIES materials and publications have been officially approved by the Ministry of Education of Greece and other participating countries.

Innovation in addressing sustainable development: the Network functions on a three-axis communication strategy among the Secretariat, the focal-point groups (in each country) and the individual members of the Network. Additionally, the implementation of all activities is preceded by participatory processes including all relevant stakeholders from the related fields of science.

Innovation in forging new partnership and networks: cooperation and networking among educators, schools, institutions, NGOs and all relevant stakeholders involves all partners throughout the Mediterranean region, North and South, East and West Europe.

Key successes

MEdIES currently accounts for 1800 educators and 39 member organisations throughout the Mediterranean region, which provided support to approximately 700 students realising ESD projects based on MEdIES materials in cooperation with the respective MEdIES national/local partner. This was recognised by all participants as an excellent tool for raising awareness and engaging in the process. Furthermore, interviews with educators revealed that the material developed by MEdIES for their purpose is extremely flexible which facilitates its successful implementation in different countries and cultures.

Transferability and sustainability

The 'pilot' implementation period of MEdIES ended in 2007. The active participation of local and national authorities in all activities is now ensuring that the project is fully operational and is sustainable. Furthermore, a significant number of organisations and Ministries (e.g. Spanish Ministry for the Environment) have integrated this material in their educational programmes and suggest them as background bibliography. In terms of transferability, a methodological framework for the facilitation of ESD networking is now under development in order to be adapted in other regions; so far, also countries beyond the Mediterranean have implemented some of the MEdIES projects (e.g. Caribbean, USA and Canada).

Special Highlights

MEdIES sets out a methodological framework that encourages networking throughout the Mediterranean region to foster interaction and knowledge sharing on ESD among educators, schools, institutions, NGOs and all relevant stakeholders.

MEdIES also provides a communication platform to allow all interested stakeholders easy access to flexible Educational and Training materials which can be adapted and applied to their local context.

Further information

Website of the project: www.medies.net

Sustainable Holidays (ITALY)

Key characteristics	
Type of learning	Informal
Age group	12-35
Level of implementation	National/local
Funding	Participants fees
Time frame	Over 10 years
Leading organisations	Legambiente (Environmental NGO)

The project

Tourism is a very important element of socio-economic development and a fundamental part of citizens' lifestyle. However sustainable holidays are still a niche market. Legambiente aims at promoting sustainable tourism, making people aware of the environmental impact of tourist activities, and increasing the number of people opting for sustainable holidays. The project consists of different but interrelated parts:

Organisation of Sustainable Summer Holidays (for young people under 18 years old). These activities are organised in partnership with Legambiente Education Centres and aim to encourage participants to adopt sustainable behaviour. Sustainable holidays tend to focus around a number of common themes: waste recycling, healthy and organic eating, sustainable consumption, knowledge and respect of local environment and communities.

Organisation of Summer Study and Summer Camps. Participants undertake practical work for the preservation of natural environment (i.e. managing an eco-beach, participating in activities of environmental re-qualification) and at the same time they learn how to conduct a sustainable lifestyle.

Creation of a network of sustainable tourism undertakings. Legambiente awards an 'eco-label' to those hotels, B&Bs, camping, hostels and guest houses that have taken real steps for reducing energy and water consumption, as well as waste production, and promote local food consumption and public transport amongst the tourists.

Dimensions of sustainable development	
Environmental	Climate change, Energy efficiency, Conservation and Management of natural resources, Waste management.
Economic	Sustainable tourism, Sustainable trade, Sustainable consumption.
Social	Community cohesion, Diversity, Social equity.

Approach

Legambiente works in partnership with local municipalities, tourism organisations and boards, and natural parks to maximise synergy and integrate environmental issue in socio-economic development. For Summer Camps and Summer Holidays the association can also extensively rely on the contribution and cooperation of its own regional centres for environmental education.

Innovative elements

Innovation in the context: a two-week full-immersion experience in a rural/mountain/seaside environment, where participants interact with the local community and natural assets and learn to adopt a sustainable lifestyle and behaviour. Participants are also introduced to local food production and consumption (i.e. by visiting local organic farms).

Innovation in the delivery methods: activities are organised in cooperation with local associations and local governments. In the case of Summer Camps, participants make a real contribution by helping in the preservation and conservation of the natural environment.

Innovation in delivering methods: the main principle is 'learning by doing' in an interactive and participatory way. The learning process takes place in an informal and relaxed environment, activities and laboratories are presented as fun and entertaining in order to mainstream the socio-economic and environmental aspects of sustainability in daily life. Participants are encouraged to meet and interact with the local community and to come up with creative solutions to practical problems.

Key successes

There are nearly 250 Summer Camps and Summer Holidays initiatives running every summer with over 4,000 participants in 2007.

Young people and young adults learn that each individual can make a significant contribution to sustainable development by introducing small changes in their daily life.

Transferability and sustainability

Work camps and Summer Holidays have been successfully run for over 12 years.

Special Highlights

It has been estimated that the installation of 'water saving tools' in sustainable tourism undertaking awarded the Legambiente eco-label has resulted in a reduction of over 363,000m³ of water, equal to the daily water consumption of a city of 1.5 million habitants.

Likewise, the installation of energy efficiency light bulbs has led to a saving of 278,415 Kwh equal to the daily consumption of 90,000 people.

Further information

Project website: <http://www.legambienteturismo.it>

ICAM- Development of a tool for assessing students of sustainable development (ITALY)

Key characteristics	
Type of learning	Formal
Age group	12-18
Level of implementation	National
Funding	National
Time frame	2000-2002
Leading organisations	INVALSI (National Institute for Evaluation of Education System)

The project

The project aims at providing teachers with a comprehensive and standardised tool for assessing students of sustainable development. The tool tests an individual's learning development and achievements, as well as a cross-comparison between different classes and schools.

Dimensions of sustainable development	
Environmental	Climate change, Reduction of gas emissions, Biodiversity, Energy efficiency, Conservation of natural resources, Waste management, Pollution (water, air, soil), Sustainable transport.
Economic	Sustainable consumption, urban and local development, sustainable tourism, sustainable trade.
Social	Community cohesion, social equity, management of migration and cultural diversity, development of human capital and skills.

Approach

The evaluation tool was developed by a pool of teachers that worked together for three months. It consists of a theoretical framework for teachers' reference and in a standardised evaluation test for students.

The tool was initially tested on 650 pupils and then revised on the basis of teachers and students' feedback. It was then piloted at a national level on 20,000 pupils.

Innovative elements

Innovation in the context and delivering methods: in Italy the project is unique in providing a tool for the assessment of sustainable development competences. The tool not only assesses students' factual knowledge, but also students' critical thinking and changes in behaviours (for example, a behaviour questionnaire has been developed).

Innovation at the institutional level: the evaluation tool presents the benefit of defining the key interlinking dimensions of sustainable development in an integrated way. Teachers are particularly stimulated to promote changes in students' behaviours.

Key successes

The results of the projects have been presented and discussed at numerous occasions to provide teachers, educators and trainers in sustainable development with practical support for assessing students in an integrated and comprehensive way.

The evaluation tool has been implemented by a national evaluation institute and was rolled out alongside national evaluation tests for literature, mathematics and science.

Transferability and sustainability

The evaluation tool could be easily adopted by other Member States. Adjustments might be necessary to take into consideration the local context, educational needs and characteristics of sustainable development curricula.

Special Highlights

The evaluation tool was inspired by international tests such as those used by the OECD PISA (open-ended questions, statistical sample, etc.), who have the clear advantage of producing standardised results of students learning process and providing comparable data across different educational institutions.

Further information

Website of the project: <http://www.invalsi.it/invalsi/index.php>

EkoSkola (MALTA)

Key characteristics	
Type of learning	Formal
Age group	12-30
Level of implementation	International/National
Funding	Ministry of Education and Culture; Ministry Rural Affairs; WasteServ Malta Ltd (Government-related waste management agency); HSBC (schools obtain their own funding for the activities they run)
Time frame	Started in 2002
Leading organisations	Nature Trust (Malta), Ministry of Education & Culture, Ministry for Rural Affairs

The project

EkoSkola is part of an international programme called 'Eco-Schools' run by the Foundation for Environmental Education (FEE), which involves approximately 5.5 million pupils and students from 44 different countries. It aims at mobilising the participating schools to empower their students to adopt an active role in environmental decision-making and to take action in their school and community, thus helping to implement Local Agenda 21 principles in their surrounding environments.

The programme seeks to develop environmental responsibility by adopting a 'whole school approach' in the design, implementation and monitoring of a School Environmental policy that is integrated in the School's Development Plan. This should ultimately lead to an infusion of sustainable lifestyles in the school's day-to-day functioning so that environmental ethics eventually become an integral part of the school's ethos. Schools which have provided evidence of achieving this objective are awarded the 'Green Flag' – a prestigious eco-label which reflecting the school's commitment.

Dimensions of sustainable development	
Environmental	Climate change, biodiversity, energy efficiency, development of clean technology, Conservation and management of natural resources, Waste management, Sustainable transport, Pollution.
Economic	Sustainable consumption, urban and local development.
Social	Health, Community cohesion, Social equity, Equal opportunities.

Approach

The central approach of this programme is to ensure active student participation in learning and decision making. Although progress and achievement of objectives is school-specific, there are seven elements of the EkoSkola programme which are common to all participating schools:

- Establishing an EkoSkola Committee: this is core to the process and is responsible for organising and directing activities. It consists of stakeholders of the school environment, as well as the involvement of students, which is considered essential;
- Conducting an environmental review: work begins with an environmental audit of the school and the identification of issues which require action by the students;
- Compiling an action plan: information from the review is used to identify priorities and to create an action plan, which sets realistic targets to improve environmental performance;
- Monitoring and Evaluation: Students ensure progress towards targets and any necessary changes to the action plan are made;
- Curriculum work: students undertake a classroom study on SD;
- Informing and involving: schools interact with local authorities, businesses and the wider community when preparing action plans, and classroom displays, school assemblies and press coverage help to inform the stakeholders about progress; and,
- Eco-Code: each school produces its own code, which sets out what the students are striving to achieve.

Innovative elements

Innovation in the content: Although sustainable development is explicitly included in the school curricula, the strength of the programme is in ensuring that sustainable development principles and issues are internalised in the students' lifestyles.

Innovation in the delivery methods: the encouragement of students to contribute towards their school's Environmental Policy has resulted in a significant change in the way students learn and they are more likely to take increased ownership of their learning and have become more open to other forms of learning.

Innovation at the institutional level: EkoSkola has helped educational authorities to formally acknowledge the need to address sustainable development issues in formal education. If the current standpoint is maintained, it is likely that Education for Sustainable Development will be formally included in the national curriculum.

Innovation in forging new partnership and networks: Schools liaise with local businesses and community groups to carry out their activities. The EkoSkola Parliament Session is an annual event which brings together 'young policy makers' participating in the programme, face-to-face with the national policy makers in a positive parliamentary debate, which focuses on ways of improving the quality of life in schools, as well as nationally.

Key successes

A significant change in the attitude of students towards sustainable development has been observed as a result of the initiative. Furthermore, schools appear to have integrated student participation into decision making fore concerning the development of schools, and local councils have gradually developed a more positive attitude towards Local Agenda 21 issues in recent years.

Transferability and sustainability

EkoSkola is likely to be sustainable particularly because it is sensitive to the specific needs and realities of the individual schools, adapting to the various priorities and specificities of the school, such as schools' emphasis on examination results, which has implications for the time available for extra-curricular activities.

Special Highlights

The number of schools participating in the initiative is increasing every year, with the current total being 75. Four schools have been awarded the Green Flag label. The programme has also received acclaim from various sources, including the press, local television, local councils and Government ministries.

Further information

<http://www.ekoskolamalta.com/>

CO2nnect – CO2 on the way to school (NORWAY)

Key characteristics	
Type of learning	Formal/Informal
Age group	12-18 (adults are secondary target group as decision-makers)
Level of implementation	International/European/National/Local
Funding	Comenius programme (Comenius Lifelong Learning network project)
Time frame	To run in schools between March-October 2009; pilot was undertaken in 2007
Leading organisations	Norwegian Directorate of Education; Norwegian University of Life Sciences; University of Bergen

The project

The CO2nnect climate campaign is part of the SUPPORT Comenius Lifelong Learning network, and is a school-based action which also includes wider learning arenas in the community and collaboration with research. The main aim of the campaign is to stimulate pupils (mainly at secondary school level) to play an active role as citizens, on issues related to global warming and climate change. The initiative gives pupils and schools the opportunity to understand and investigate climate issues through cooperation with researchers and local decision-makers, and to contribute information useful to society through a common effort and database.

Dimensions of sustainable development	
Environmental	Climate change, Energy efficiency, Pollution, Sustainable transport
Economic	Sustainable consumption, Urban and local development
Social	Demography, Development of human capital skills

Approach

The pedagogical concept of campaigns such as CO2nnect is that pupils cooperate with researchers and local decision-makers on sustainability issues. Pupils will register their own CO2 emissions on the way to school and using an ICT tool to analyse, compare and discuss the results and then work with local decision-makers to find solutions that can reduce the CO2 emissions. Participating schools are part of a large ICT-facilitated network including thousands of other pupils and schools, research organisations and national partners with vast experience in ESD.

The SUPPORT project (of which CO2nnect is a part), is particularly focused on the following approaches for introducing high-quality Education for Sustainable Development (ESD) in schools:

- Schools collaborate with other schools;
- Schools collaborate with their local communities;
- Schools collaborate with research institutions; and,
- Innovative collaborations are facilitated by ICT tools.

Innovative elements

Innovation in the content: The initiative asks pupils and schools to work with all aspects of the climate and transport issue, and to ‘anchor’ their work in their own activities and communities. Reflecting about the causes and consequences and searching for viable solutions or improvements ensures that economic and social aspects are fully integrated with natural science aspects and are given equal weight.

Innovation in the delivery methods: particularly innovative is the fact that pupils collect data on their own climate emissions, transport behaviour and attitudes. Pupils enter the information into a shared international database which can be used by researchers. Learning outcomes are likely to be quite different to traditional ones, because pupils and schools are participating and contributing to solutions through their own research and being part of a larger, collaborative network.

Innovation in forging new partnership and networks: the campaign is founded on a network of collaboration among schools, between schools and researchers, and between schools and local decision-makers. ICT is used to facilitate these interactions, which are at the heart of activities.

Key successes

Research shows that these types of initiatives are particularly effective ways of learning, helping pupils to feel ‘empowered’ to do something about sustainable development as citizens and ‘mini-researchers’. There is also an increasing awareness amongst pupils of the complexity of sustainability issues and what they can do as individuals to change the societal systems in which they are a part of.

In the pilot CO2nnect campaign in 2007, meetings took place between schools and local authorities to discuss the local transportation system and to make suggestions for improvements to increase sustainability, which in themselves are considered a significant step in the direction of sustainable development.

Transferability and sustainability

The core principles of ICT-facilitated school-research collaboration, pupil contribution to a common database and action research on local sustainability issues, are all highly transferable and adaptable to other contexts. It may be possible to gradually introduce this type of interaction between local authorities and schools in areas where it has not previously been undertaken, such as parts of Eastern Europe.

Special Highlights

The school-research collaboration campaigns have been well-received in Norway, and are often a part of the National Research Council 'Research Days', as well as the national broadcast company's annual thematic campaigns. The approach has also been present and positively reached in a number of international fora for ESD, and has spawned a project proposal using a similar approach, in the Baltic 21 programme.

Educational Competition: “Second Life of Waste of Electric and Electronic Equipment” (POLAND)

Key characteristics	
Type of learning	Formal
Age group	12-18
Level of implementation	National
Funding	University of Warsaw and private business funds
Time frame	February - December 2008
Leading organisations	University of Warsaw Centre for Environmental Studies; European Recycling Platform Poland

The project

This project aims to increase pupils' awareness about the proper management of waste of electronic and electric equipment (WEEE) and to help fulfil the obligations resulting from the European Directive 2002/96/WE. Pupils are encouraged to undertake team research activities, practical actions around WEEE, as well as to cooperate with local authorities for the collection of WEEE (collection places, mapping).

Dimensions of sustainable development	
Environmental	Waste management.
Economic	Sustainable consumption, Integration of environmental concerns in business decision-making.
Social	Development of human capital and skills.

Development and dynamic of the project

Most practical activities are done in teams. Pupils have to design strategies, plan activities and build institutional partnerships with local stakeholders and the local authority. Their achievements are recorded on various support materials (photos, videos, PowerPoint presentations).

Innovative elements

Innovation in the context: This project is targeted at both pupils and the wider community, in order to promote the proper management of WEEE and increase citizens' awareness.

Innovation in the delivery methods: pupils are encouraged to come up with creative solutions. They also have to cooperate with local stakeholders and local authorities and the success of the project depends on their communication and negotiations skills. The results are reported in electronic reports so as to improve pupils' IT skills.

Innovation in forging new partnership and networks: the business sector, the educational sector, local stakeholders and the local authorities worked together in partnership.

Key successes

Overall 129 schools teams (10 students per team) registered and took part in the project. A campaign has been conducted to promote a better management of WEEE at local level and the collection of WEEE in partnership with the local authorities and an electronic map of all collection points for WEEE in Poland has been created.

Transferability and sustainability

It is expected that the partnerships created between schools, local stakeholders and local authorities will continue to be active.

Special Highlights

The project aims to increase the awareness about WEEE disposal and its environmental impacts by targeting pupils and the wider community in general. The subject is clearly multidisciplinary and combines the three aspects of sustainable development (environmental, economical and social).

Second Chance Programme (ROMANIA)

Key characteristics	
Type of learning	Formal and non-formal
Age group	12-30
Level of implementation	National
Funding	N/A
Time frame	2 years for primary education and 4 years for the lower secondary education.
Leading organisations	The Ministry of Education, Research and Youth – Pre-university Education Management Department, Bucharest, Romania.

The project

SD is often understood in its environmental sense, but in order to ensure that future generations will be able to meet their own needs, the economic and social dimensions of the term are also fundamental. An example of this is the need to ensure that young people living in disadvantaged communities are given the opportunity to progress in an equitable society. “Second chance” aims to help young people who have dropped out of compulsory education to complete the curriculum and receive individually tailored professional training. The ultimate goal is to facilitate their social and professional integration.

Dimensions of sustainable development	
Economic	Sustainable production.
Social	Social equity, Equal opportunities, Development of human capital and skills.

Approach

Local authorities, the Office for Education, the County Office for the Labour force, NGOs and professional associations worked in partnership to create a compulsory curriculum and provide individually tailored professional training that meets the target group’s expectations and addresses the socio-economic needs of the communities that they are living in. To this end, they have developed and implemented methodologies adapted to the style of primary and lower-secondary education within the framework of the programme. Training sessions have been organised for school inspectors, school unit’s managers and trainers to ensure the appropriate use of the teaching material as well as

the adequate evaluation of the classes participating in the programme. Finally, information campaigns were organised so to reach as wide an audience as possible.

Innovative elements

Innovation in the content: The programme consists of an individually-tailored training course and the recognition of skills previously gained (be they by formal or non-formal ways). This training is linked to the standards required in the curriculum for primary education and the standards of professional training.

Innovation in the delivery methods: The courses were organised in flexible modules, so that pupils could integrate new skills into their own experience. Topics were approached in a functional and practical way (e.g. resolution and investigation procedures). The programme combined the teaching of both generic and specific skills common to most subjects in basic education. The diversity of students (i.e. cultural etc.) is considered a resource in the learning process.

Innovation at the institutional level: The project organises the programme in a very flexible way, whilst providing basic education (which corresponds to compulsory education) in parallel with the provision of professional training leading to a professional qualification equivalent of level 1. Skills previously gained (be it in the formal and non-formal education system) are also recognised, including the recognition of professional skills gained in the workplace or through professional training/programmes for adults.

Innovation in addressing sustainable development: The project focuses on the social and economic dimensions of sustainable development by providing disadvantaged young people, through specific curriculum and individually tailored training, with the opportunity to be reintegrated in the labour market.

Innovation in forging new partnership and networks: The programme encourages the development of social partnerships between schools, economic agents, local authorities, the County Agency for Employment/Labour Force, NGOs and professional associations.

Key successes

The local community was very interested in the programme, considering the high number of applicants stemming from disadvantaged groups. School pupils were satisfied with the methods and teaching materials, and were given a chance to gain a professional qualification. Furthermore, monitoring and assessment tools have been elaborated, such as questionnaires, interviews, and round tables bringing together students, teaching staff, school managers and partners to ensure that the programme evolves with the needs and expectations of the community and pupils.

Transferability and sustainability

The educational approach could be transferred to the mainstream educational system. Curricula based on modules and skills/competency building as well as the assessment of skills previously gained could benefit more pupils.

Special Highlights

“Second chance” addresses the social and economic dimension of sustainable development by focusing on providing disadvantaged pupils who dropped out of school with the alternative opportunity to gain skills and competencies which are formally recognised.

A new curriculum revolving around core skills and based on new teaching materials and methods has been designed with a view to reconcile formal and non-formal education to respond to a need identified within disadvantaged groups.

Further information

Website of the project: <http://www.edu.ro/index.php/articles/c492>

Education for Democratic Citizenship (ROMANIA)

Key characteristics	
Type of learning	Formal and informal
Age group	12-18
Level of implementation	National
Funding	UNICEF Romania
Time frame	Pilot project from 2002 to 2004. Since 2005 it has been running continuously
Leading organisations	Ministry of Education, Research and Youth – Pre-university Education Management Department, Bucharest, Romania

The project

Education for Democratic Citizenship aimed at developing democratic and social competencies and attitudes (tolerance, human rights, democratic values) amongst the youth, by increasing their involvement into the process of decision-making and solving social community problems. The teachers are also a target of the initiative.

Dimensions of sustainable development	
Social	Community cohesion, social equity, equal opportunities, management of migration and cultural diversity. Development of human capital and skills.

Approach

The programme is based on a cross-curricular approach that determines a new education strategy making full use of modern, non-conventional teaching methods and IT equipment. The main activities consist in:

- The elaboration of a new curriculum
- The creation of schools-books for students and methodological guidelines for teachers
- The organisation of extra-curriculum activities complementary to formal teaching
- The organisation of training session for teachers.

Innovative elements

Innovation in the context: The project addresses the issue of children and human rights and links these to other themes such as intercultural education, conflict management, violence, trafficking, democracy, globalisation, entrepreneurship, education etc. These themes are approached in a practical way, through students' critical analyses and debates.

Innovation in the delivery methods: Answers and questions are fostered within a "learning activity", whilst the teacher acts as facilitator. The most common used teaching methods are: cooperative learning, role game/play, problem solving, case study, dilemma game, experiential learning.

Innovation in forging new partnership and networks: The programme exerts a considerable impact on i) the stimulation of the idea and exchange visits among teachers, ii) an increased number of partnership projects with various governmental and non-governmental organizations at local level.

Key successes

A new learning strategy has been developed whilst the school management style has been progressively changed. Teachers are given the opportunity to make full use of their creativity in organising both the learning activities and the extracurricular activities, and schools are able to develop cooperation with the partners outside the school. To date, almost 800 teachers have been trained in EDS.

Partnerships in all phases of the programme have been paramount whilst the involvement of beneficiaries in the process of assessing and improving the programme was crucial.

Transferability and sustainability

The programme has been adopted at national level (i.e. implementation in each of the 42 counties of Romania) and it has inspired the development of many other projects in other schools. It has also encouraged students and teachers to participate in other European projects.

Special Highlights

The programme successfully creates strong links between the formal and non-formal areas of education and contributes to the achievement of a new approach to the educational process. It creates a new teaching system through enhanced relationship between teachers and students and introduces a democratic bottom-up approach to education that can be disseminated at multiple social levels outside the school.

Hidden Treasure (SLOVENIA)

Key characteristics	
Type of learning	Formal
Age group	12-18
Level of implementation	All
Funding	Council for Innovative and Developmental Projects in Education (PCID)
Time frame	2007-2008
Leading organisations	The National Education Institute

The project

Hidden treasure aimed at promoting EDS by facilitating pupils' understanding of the interdependent and interrelated socio-economic and environmental aspects of sustainable development. Pupils are also encouraged to seek innovative and critical thinking in order to have responsible life-styles toward the natural and social environment, as well as toward themselves, other people and future generations.

Dimensions of sustainable development	
Environmental	Biodiversity, Energy efficiency, Waste management, Pollution.
Economic	Sustainable consumption, Urban and local development.
Social	Health, Community cohesion, Social equity, Management of migration and cultural diversity, Equal opportunities, Development of human capital and skills.

Approach

Hidden Treasure makes sure that schools are contributing to the development of ESD at national and European level. This is achieved through the promotion of cross curricular cooperation especially between natural and social science subjects, as well as between culture and arts in addressing sustainable development issues.

The project sets out a specific learning and teaching model based on several activities such as reflecting, gathering information, experiencing, transforming, acquiring theoretical knowledge, testing

new theories, and implementing. This brings added value to the educational process and enables the professional development of teachers.

Innovative elements

Innovation in the content: Schools are able to develop their own specific projects in autonomy as a way to maximise creativity and innovation.

Innovation in the delivery methods: 'thinking groups' have been created to exchange ideas and experiences, and to facilitate the dissemination of innovative approaches into other contexts.

Innovation at the institutional level: Hidden Treasure at the National Education Institute Slovenia is considered one of the most innovative forms for improving the curriculum.

Key successes

The initiative has contributed to improve current educational practices through the creation of quality criteria for schools for developing courses in sustainable development and disseminating the project results in the framework of curricular reform and modernisation of educational activities. The analysis of the past three years shows an increased interest in ESD from kindergartens, primary school and secondary schools.

Transferability and sustainability

The project results have been disseminated through a number of events and there is now an increased interest for this type of curriculum development in Slovenia. Network activities have also been carried out in the framework of the recognised national and international organizations (for instance UNESCO).

Special Highlights

The project supported educational institutions in search of the most practically applicable teaching methods, which enabled the integration of knowledge and action in different areas.

Energy plants for schools (SPAIN)

Key characteristics	
Type of learning	Formal
Age group	12-18
Level of implementation	Regional
Funding	SOUSTENERGY, Fundación Centro de Recursos Ambientales de Navarra (CRANA), Education Department of Navarra
Time frame	Started in 2004 and is ongoing
Leading organisations	Fundación Centro de Recursos Ambientales de Navarra

The project

Mainstreaming SD in education is essential for raising awareness and for promoting participation and creative thinking. Through these processes, students are given an opportunity to become stakeholders in the process of implementing SD and have ownership over the changes and improvements in their school environment. Energy Plants for Schools aims at saving energy and water in schools by involving students in the daily monitoring of energy consumption and encouraging them to find solutions for improving the situation.

Dimensions of sustainable development	
Environmental	Climate change, Energy efficiency, Sustainable transport.

Approach

Four schools have participated in the project and agreed to involve students, teachers and school administration officials in working together to create more environmentally sustainable schools. Not only is SD inserted in the curriculum of the schools, but students are also involved in maintaining a register where the levels of water and energy consumption of their schools are recorded. This allows them to comprehend how much energy was being wasted before and appreciate the extent to which infrastructure changes have contributed to reducing those levels. Interaction within the schools is fostered through 'energy corners' providing a space for news and information on energy saving. Workshops, specific events and the creation of a blog ensure that all stakeholders from participating schools can communicate and exchange good practices.

Innovative elements

Innovation in the content: the inclusion of a register on schools' energy consumption updated by students is an active way to bring the focus on energy waste. As new more sustainable infrastructures are being installed in the schools, the register becomes a tool to appreciate the energy savings being made.

Innovation in the delivery methods: the achievements of the project are discussed during workshops involving students, families, teachers and other school staff. The whole teaching approach is based on participation and encourages involvement from all stakeholders (i.e. families) to create a better learning environment for addressing sustainability.

Innovation at the institutional level: the project is the result of joint efforts between the Department for Education and CRANA which is part of the Department of rural development and the environment.

Innovation in forging new partnership and networks: educational institutions participating in the project meet once a year to exchange good practices. Constant communication however, is ensured by the creation of a blog which provides a platform for information and knowledge exchange for all actors.

Key successes

Through the establishment of a register of energy consumption, students have been directly sensitised to the importance of using energy saving appliances and saving water and energy in their daily activities. Students' families have noted behavioural changes in their children and have, consequently, started changing their own behavioural patterns as a response. Moreover, by installing energy saving infrastructures, schools have equally reduced the amount of energy they were wasting.

Transferability and sustainability

The methodology used to reduce energy consumption in schools is very flexible and leaves other schools willing to join the initiative the freedom to implement it according to their own means and facilities. Resulting behavioural changes are expected to last as students are more exposed to sustainable education environments and encourage their families to take a more sustainable approach at home.

Special Highlights

Energy Plants for Schools created an innovative and participative way to involve all staff and students of participating schools in the process to save energy.

The set up of a register showing the amount of energy being spent by the education institution is a very visible way to demonstrate the importance of saving energy and how much can be achieved by introducing changes in the infrastructures.

Lessons for Sustainable Development (SWEDEN)

Key characteristics	
Type of learning	Formal/informal
Age group	12-18
Level of implementation	International/National
Funding	Forum Syd (primary funding)
Time frame	Started in 2006 for school year; second school year nearing completion
Leading organisations	Global Action Plan (GAP) International, Sweden, and Ukrainian NGO Teachers for Democracy & Partnership

The project

The initiative builds upon GAP's vast experience of Education for Sustainable Development (ESD) in several EU countries, notably Poland, UK, Ireland and Norway, with the aim to develop a school curriculum called 'Lessons for Sustainable Development' for a full school year, which incorporates all three pillars of sustainable development (social, economic and environmental). The other main objective of the project is to have the curriculum introduced in educational authorities in Ukraine.

'Lessons for Sustainable Development' combine 'formal' teaching (i.e. classroom work, teacher training institutes) with 'informal' teaching (i.e. elective programme, summer camp activities).

Dimensions of sustainable development	
Environmental	Energy efficiency, Conservation of natural resources, Waste management, Pollution from households, Sustainable transport.
Economic	Sustainable consumption, urban and local development.
Social	Health, Community cohesion, Equal opportunities and cultural diversity, Development of human capital skills.

Approach

The main activities of the initiative are to develop and adapt a basic curriculum, to further develop the pedagogy for ESD, recruit schools and train teachers, coach teachers, collect and analyse results,



conduct a learning laboratory to extract and synthesise learning, and to report to UNESCO to discuss ways forward. Pupils were to conduct a 'household sustainability audit'; examine their and their families' potential to reduce resource use and reduce their environmental footprint (in waste, energy (travel), water, consumption habits); develop personal and group action plans and implement and evaluate them; explore the possibilities for additional group actions in the school or neighbourhood.

Innovative elements

Innovation in the delivery methods: The pedagogy is unique and developed specifically for ESD, and is successful in producing long-term, sustainable behavioural changes.

Innovation in forging new partnership and networks: The initiative pioneers new avenues for cooperation between NGOs and the state and municipal/local education authorities, in several countries. 'Partnership' was the focus of the learning laboratory conducted in September 2007.

Innovation at the institutional level: The programme has been approved by the Ukrainian Ministry of Education as an optional subject, and in the next two years, may be approved as an obligatory subject.

Key successes

The initiative has led to several successful outcomes. Several schools in Sweden are going to adopt the educational materials and approach experimented in "Lesson for Sustainable Development". Furthermore, the expression 'sustainable development', which was formerly unknown in Ukraine, is increasingly being used especially in educational circles, as a direct result of the programme. Approximately 2,000 schools in Ukraine have been planned for teachers' training in ESD.

It has also been observed the pupils and their families have been able to reach a significant reduction in waste (garbage), energy and water use.

Transferability and sustainability

The initiative is highly transferable. Sustainability and long-term thinking has been integrated into every aspect of the programme, through means such as the involvement of teacher training institutes, systematic work to analyse and outlining success factors, and international networking throughout the process.

Special Highlights

The Dutch government has granted funding for a parallel project in Belarus to start in August 2008.

Further information

<http://www.globalactionplan.com/node/114>

Educating Engineers for Sustainable Development (UK)

Key characteristics	
Type of learning	Formal
Age group	18-25
Level of implementation	National
Funding	Royal Academy of Engineering
Time frame	Started in 2006
Leading organisations	University of Manchester, Royal Academy of Engineering

The project

The project involved the design and implementation of a faculty-wide course/curriculum on sustainable development, initially on a pilot scheme. The curriculum and methodology were based on an understanding of the skills and abilities that students would need to develop for their professional lives in order to initiate and manage change on behalf of society. The (introductory) pilot course unit was developed for 48 students from four participating disciplines: Civil Engineering, Electrical and Electronic Engineering, Mechanical Engineering and Earth, Atmospheric and Environmental Sciences.

Dimensions of sustainable development	
Environmental	Conservation of natural resources, Waste management, Sustainable transport.
Economic	Sustainable consumption, Sustainable trade.
Social	Community cohesion, Social equity, Cultural diversity, Development of human capital skills.

Approach

The organisation of the pilot included a Steering Group, chaired by the Associate Dean for Teaching and Learning, and four advisory groups, who reviewed and advised on the project's working definition of Education for Sustainable Development in science and engineering; the abilities and skills which would need to be developed for the management of activities; appropriate and supportive approaches

for formative and summative assessment of the students' progress and achievement and the design of monitoring the implementation of the pilot course unit.

The educational design was based on the principles of problem based learning (PBL) within a curriculum structured to foster active, contextual, cumulative, integrated, collaborative and reflective learning. The aims of the course unit were to assist in the development of related abilities and skills, as well as enabling knowledge and understanding. Formative and summative assessments were based on the modified essay question (MEQ), group reports, observation of group behaviour and peer appraisal. The sequence of five tasks, each spread over three weeks, was designed to help the students to explore a range of relevant aspects of Sustainable Development and to begin to develop a number of related abilities and skills within the time constraints of the pilot course unit.

Innovative elements

Innovation in the content: the project focused on involving students in solving 'live problems' through case study exercises, which was the core part of the learning process of the course unit. This encouraged them to find solutions at different levels: to identify the mechanisms for driving and implementing change; to learn to predict the short-term and long-term consequences of change, taking into account all stakeholders and; to identify the barriers to change that must be overcome, including social, environmental, technical and financial pressures and restrictions.

Innovation in the delivery methods: although the course was intended to be 2 hours a week over 12 weeks, it was also part of the requirement that the students meet a certain amount of times a week outside school hours. A 'code of conduct' was devised in order to encourage students to behave as 'professionals'. This was to ensure that they would be more prepared to face problems in the early years of their career once they had graduated. The following elements were important in the case studies: wickedness (i.e. 'wicked' problems have no definitive formulation with no well-described set of potential solutions), context, management of change, sustainable development principles, development of professional skills, cumulative learning, topicality and interdisciplinary collaboration.

Innovation in addressing sustainable development: It was important that students absorbed sustainable development principles through the exercises. Elements of these were included in all the exercises:

- Balancing environmental, social and economic consequences;
- Considering impacts of change on different stakeholders;
- Corporate Social Responsibility;
- Life Cycle approach;
- Benchmarking/Assessing sustainability; and,
- Cost/Benefit Analysis.

Furthermore, the tasks were designed to span disciplinary boundaries, so that no students would be unfairly advantaged or disadvantaged because of their discipline. The cohort included environmental scientists who had spent three years learning about environmental issues and management, so it was important that the material was challenging to them whilst also being appropriate to the engineers. It was also important that the course unit did not focus on engineering design or mathematical modelling.

Key successes

The pilot course unit has been monitored and evaluated in a number of ways. Both students and facilitators found the programme very rewarding and there has been evidence of a change in student approaches to learning, as well as in their attitudes to and knowledge of, sustainable development. The approach also has scope for extension in a number of ways: to other universities, a wider range of disciplines within the university and; to a greater range of levels within engineering and science programmes, both as a short unit at postgraduate level and also as a strand running through undergraduate courses.

Transferability and sustainability

The future viability of the course unit is likely to be the most problematic element of the evaluation. In financial terms, it is difficult to separate out the costs of design and evaluation from those of running the course unit. Although other members of the project team have contributed extensively to the design, organisation and assessment of the course unit, this level of support is unlikely to be accorded in the future. Furthermore the approach will need constant review to ensure the relevance of the exercises.

Special Highlights

Ideas from the initiative are not solely confined to education for sustainable development. The core approaches and ideas could prove to be a useful starting point in the redesign of undergraduate programmes in engineering and other subjects. It is also hoped that plans will be developed for a Centre for the Advancement of Education in Engineering in close collaboration with faculties at other Universities, with the initial contribution being innovations that have been successfully tested in the present pilot course unit.

Further information

Website of the project: <http://www.engsc.ac.uk/downloads/scholarart/delphi-consultation.pdf>

Employable Graduates for Responsible Employers (UK)

Key characteristics	
Type of learning	Formal
Age group	25-30
Level of implementation	National
Funding	Higher Education Academy
Time frame	1 May 2006 – 31 July 2007
Leading organisations	StudentForce for Sustainability, Higher Education Academy

The project

The initiative involves researching the links between sustainability and employability in the graduate job market, in relation to higher education teaching and learning. The research primarily focused on gathering evidence for how the career choices of graduates and the recruitment of employers is being influenced by sustainable development and the Corporate Social Responsibility (CSR) agenda of employers.

The potential supply of graduate employees committed to careers with environmentally and socially responsible employers was firstly researched, by identifying the needs and expectations of students and recent graduates. Secondly, the needs and expectations of employers committed to environmental and social responsibility was identified by researching graduate recruitment demands.

Dimensions of sustainable development	
Environmental	All the dimensions
Economic	All the dimensions
Social	All the dimensions

Approach

Information was gathered from three types of stakeholders (students or graduates, university careers staff and employers), via online questionnaires, structured interviews, focus groups and workshops.

Innovative elements

Innovation in the content: The content of the research is of particular interest to Higher Education Institutions (HEIs) who would like to know more about evidence for demand for sustainability literacy before a strategy is undertaken to redesign a curriculum. Project research has gathered evidence on whether there is any emerging demand from employers for environmentally-responsible graduate employee, whether the ethical stance of an employer is of significant consideration to students and graduates when choosing potential employers, and the extent to which the employability agenda in universities is influenced by the sustainable development agenda of employers.

Innovation at the institutional level: the research undertaken in the initiative is attracting attention in the growing debate about the links between employability and sustainability.

Key successes

The research has found that the graduate employability agenda is now more closely linked to the employer sustainability agenda. Mounting evidence has shown that students are more likely to want to work for 'ethical employers' who are environmentally and socially responsible. Students also believe that sustainable development and CSR should be taught more at universities, and expect more of their future employers and their universities than of themselves in terms of social and environmental responsibility.

Employers also feel universities should do more to prepare students for working with employers who are socially and environmentally responsible, and want more interdisciplinarity in universities as a way of teaching about social and environmental responsibility.

Findings have led to a wide range of recommendations in various areas: teaching (e.g. raise awareness amongst academic staff about sustainable development and CSR); advising students; teaching competencies (e.g. promote values education); comparing students; developing curricula; changing university culture and enabling commitments.

Transferability and sustainability

The Higher Education Academy's ESD project is funding projects to take the work of this initiative further. The research project is also cited in ESP in Higher Education arenas when evidence of demand is raised.

Special Highlights

The research project has led to the offering of mini-grants by the Higher Education Academy to explore the links between employability and sustainability in the curriculum and the potential for innovation and development in this area, and is linking sustainability with careers advice and student volunteering.

Further information

Website of the project:

<http://www.heacademy.ac.uk/assets/York/documents/ourwork/tla/sustainability/EmployableGraduates2008.pdf>