



*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from AgEcon Search may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

## Sustainable Development Policies in Europe

Pietro Caratti and Gabriella Lo Cascio

NOTA DI LAVORO 152.2006

**DECEMBER 2006**

**SIEV – Sustainability Indicators and Environmental  
Valuation**

Pietro Caratti, *Regione Lombardia and Fondazione Eni Enrico Mattei*  
Gabriella Lo Cascio, *Fondazione Eni Enrico Mattei*

This paper can be downloaded without charge at:

The Fondazione Eni Enrico Mattei Note di Lavoro Series Index:  
<http://www.feem.it/Feem/Pub/Publications/WPapers/default.htm>

Social Science Research Network Electronic Paper Collection:  
<http://ssrn.com/abstract=952936>

The opinions expressed in this paper do not necessarily reflect the position of  
Fondazione Eni Enrico Mattei

Corso Magenta, 63, 20123 Milano (I), web site: [www.feem.it](http://www.feem.it), e-mail: [working.papers@feem.it](mailto:working.papers@feem.it)

# Sustainable Development Policies in Europe

## Summary

The objective of this paper is to investigate the actual situation in the shift towards the implementation of Sustainable Development Policies in Europe. The aim is to highlight the key role of the European Union in bringing about sustainable development within Europe and also on the wider global stage. It will show how the European Commission performs its commitment in reaching a sustainable regulation by issuing some documents and declarations. The paper frames the EU action into an international framework of strategies, agreements and policies on SD and, at the same time, provides an overview on experiences of SD strategy implementations at the national level, according to the commission pressing on MS to produce their own SD strategy and implement it. Indicators systems, issues of interest and fields of actions are compared: the analysis of these elements aims to highlight common scenarios of SD strategies that reveal the trends towards a more sustainable growth in the European Union.

**Keywords:** Sustainable Development, Globalization, Environment Policy, Strategy for Sustainable Development, Good Governance, Participation

**JEL Classification:** Q01, Q5, Q56

*The content of this working paper originates in the “Flexible framework for indicators for sustainability in regions using systems dynamics modelling” project (INSURE), financed under the Sixth Framework Programme, Priority 1.1.6.3 Global Change and Ecosystems, of the European Union.*

*Address for correspondence:*

Pietro Caratti  
Fondazione Eni Enrico Mattei  
Corso Magenta 63  
20123 Milano  
Italy  
E-mail: pietro.caratti@feem.it

**Acronyms:**

AC: Accession Countries

EPR: Environment Policy Review

EUSSD: European Strategy for Sustainable Development

GDP: Gross Domestic Product

LDCs : Least Developed Countries

MS: Member States

NGO: Non Governative Organization

NSDS: National Sustainable Development Strategies

SD: Sustainable Development

WSSD: World Summit on Sustainable Development

WTO: World Trade Organization

## CONTENTS

1 Background .....	3
2 International Strategy for Sustainable Development .....	7
3 European Union Strategy for Sustainable Development .....	12
4 Nationals Sustainable Development policies in Europe .....	23
4.1 National Environmental Strategy for Sustainable Development .....	26
4.1.1 Italian National Environmental Strategy for Sustainable Development.....	26
4.1.2 National Environmental Strategy for Sustainable Development in Netherlands.....	27
4.1.3 National Environmental Strategy for Sustainable Development in Spain.....	28
4.1.4 National Environmental Strategy for Sustainable Development in the Czech Republic..	29
4.1.5 Comparing European National Environmental Strategy for Sustainable Development...	31
5 Common scenarios of sustainable growth in European Nations.....	33
5.1 Prioritarian issues shared and particularisms .....	34
5.2 Monitor the growth: which indicators.....	37
6 Conclusions .....	45
SITE-GRAPHY .....	47
OFFICIAL DOCUMENTS.....	47
REFERENCES.....	49

## 1 Background

Sustainable development is a global objective. There is a great deal of uncertainty as to what sustainable development actually means and how future development will differ from the situation in which we live today – which, in turn, generates fears and resistance in the sectors potentially affected. It still remains unclear how the sustainable development agenda fits into day-to-day policy and how to resolve the potential conflict between a rigorous sustainable development policy and, for example, world trade rules. About it the European Economic and Social Committee stated that:

*“Sustainable development is neither a luxury for "rich" societies, nor just one of several possible options. It is necessary to move away from patterns of production and consumption that have proven to be non-sustainable [...] Sustainable development is thus a sine qua non for meeting future challenges.”*

The European Union has a key role in bringing about sustainable development, within Europe and also on the wider global stage, where widespread international action is required. To meet this responsibility, the EU and other signatories of the 1992 United Nations’ “Rio declaration” committed themselves, at the 19th Special Session of the United Nations’ General Assembly in 1997, to draw up strategies for sustainable development in time for the 2002 World Summit on Sustainable Development.

To prepare the 2002 World Summit on Sustainable Development, Commission published its communication to the Council and European Parliament **“Ten years after Rio: Preparing for the World Summit on Sustainable Development in 2002”**.

This Communication aimed to set in motion a coordinated EU preparatory process for the 2002 Summit, by:

- analysing Key problems in implementing the Rio agenda;
- highlighting synergies with related processes, - notably the EU sustainable development strategy, the forthcoming Environment Action Programme, the Cardiff Integration process<sup>1</sup> and other related sectorial strategies– as a basis for a credible and decisive EU contribution to the Summit;
- indicating preparatory measures to take in the lead-up to the Summit;

---

<sup>1</sup> June 1998, Cardiff - the Cardiff European Council requested different Council formations to prepare strategies and programmes aimed at integrating environmental considerations into their respective policy areas (industry, internal market, development, fisheries, energy, transport, agriculture, general affairs, economic and financial affairs or information and lifelong learning).

- suggesting the EU strategic objectives and key issues for the Summit, which are respectively:
  - increased global equity and an effective partnership for sustainable development;
  - better integration and coherence at the international level;
  - adoption of environment and development targets to revitalise and sharpen the political commitment;
  - more effective action at national level, and international monitoring;
  - and,
  - Protecting the natural resource base of economic development;
  - Integrating environment and poverty eradication;
  - Making globalisation sustainable;
  - Enhancing good governance and participation.

The Communication identified some closely linked sets of issues as key problem areas for sustainable development where the world should have come to a view on solutions by 2002. Below are reported Commission advises in order of these problems.

*Protecting the natural resource base of economic development:* Emphasising ecoefficiency and the possibility of an eco-efficiency target, as well as a measurable target on reversing the decline in natural resources by 2015. Providing consumers with information that enables them to make informed choices concerning products and services that are environmentally preferable to competing products. Working in partnership with business to improve industry's environmental performance.

*Integrating environment and poverty eradication:* One of the aims of The Summit was the improving of the understanding of the linkages between poverty and environmental degradation and, furthermore, promoting better integration and coherence in the global development agenda and in the poverty eradication work of international financial institutions by better integrating the three pillars of sustainable development.

*Making globalisation sustainable:* As regards opportunities and challenges arising from economic globalisation, such as the increase in international trade and in investment flows needs, the commission proposed some measures: Promoting the participation and equitable integration of developing countries, including LDCs (Least Developed Countries), in the global economy, making

better market access and clarifying WTO (World Trade Organization) rules in particular concerning production methods and trade measures.

*Enhancing good governance and participation both at international and national level:* At the national level, the 2002 Summit should emphasise the importance of such principles as democracy, good governance, access to information, justice and participation.

The document particularly stressed the situation of financial resources in sustainable development. It analysed that official development aid, including debt relief, (ODA), declined to 0.22% by 1998.

At its meeting in Helsinki in December 1999 the European Council invited the European Commission to prepare a proposal for a long-term strategy dovetailing policies for economically, socially and ecologically sustainable development to be presented to the European Council in June 2001. The **Commission's consultation paper of March 2001** was designed to provide the analytical underpinnings for this strategy. It set out the initial views of the Commission services on the challenges and opportunities of sustainable development. It identified some important trends that pose a threat to sustainable development in the EU, and presented a policy toolkit for tackling these problems.

To move the sustainable development debate from the realm of abstract discussion of definitions and concepts into the area of everyday policy making, the Commission services identified six key themes where current trends threaten the sustainable development of the European Union:

- Climate change and clean energy;
- Public health;
- Management of natural resources;
- Poverty and social exclusion;
- Ageing and demography;
- Mobility, land use and territorial development.

The Commission services carried out an analysis that brought to scheduling them in forms with major concerns, driving forces and policy issues. They also identified some common roots of these problems, such as:

- market prices for goods and services do not incorporate the costs of pollution;
- individual policies generally concern specific sectors but are less concerned with how their policies affect other parts of society and the economy;

- as regard policy, inertia (difficulty in policy-making is to stop old practices) on the one hand, and short termism (incapacity of doing something when its costs are upfront and highly visible while the benefits are difficult to quantify and spread over several years) on the other.

In the light of this analysis, the Commission services proposed a “policy toolkit” which the Community and Member States could use to address the unsustainable trends described. This toolkit includes:

- to examine costs and effects of all policies more systematically;
- “Getting prices right” by applying user pays principle (those that benefit from the use of something should pay for it) and polluter pays principle (the polluter should pay for the costs his pollution imposes on others);
- to integrate environmental concerns into other sectoral policies.

Also stakeholders were involved in the process: they were asked to answer some questions such as “Does focussing on a limited number of the most pressing problems help to make the concept of Sustainable Development operational?” or “Do you share the analysis of the causes of these problems and their potential remedies identified here?”.

The results of this consultation constitute the document “Shaping the strategy for a sustainable European Union —Views from civil society and public authorities, **Joint public hearing organised by the European Commission and the Economic and Social Committee**” of April 2001.

The hearing provided an opportunity for stakeholders and public authorities to express their views on the Commission consultation paper and to contribute to shaping the Commission’s final proposal and the Gothenburg European Council conclusions on the strategy.

The hearing was also an opportunity for the Economic and Social Committee to reaffirm its consideration of Sustainable development as a question of responsibility for future generations and of solidarity.<sup>2</sup>

A lot of businesses, trade unions, NGOs, academia, etc. took part at the hearing such as: Friends of the Earth Europe, Eurolink Age, Bank of Italy, European Environment Bureau, Tetra Pak Group and so on. This consultation process answered the need of transparency and sharing beneath stakeholders that is one the characteristic aspects of the policies on SD.

---

<sup>2</sup> Mr Göke Frerichs, President of the Economic and Social Committee: “Sustainable development is one of the new values of which our society has been growing ever more aware over the past few decades. It is a question of responsibility — our responsibility for future generations and, in the final analysis, our responsibility for creation. Sustainable development is thus also a key dimension of solidarity, which is one of the core values of European integration.”, at the opening session of the hearing.

## 2 International Strategy for Sustainable Development

Several and quite unlike each other are the international experiences on Sustainable Development. As the national level has been involved, during the last years, in a politic and legislative movement of recognition and internalization of the problems and opportunities of Sustainable Development, so the international one has been too.

Some examples are noticeable in the United Nations activity and in the Organisation for Economic Co-operation and Development one. Below are shortly described these experiences also in the light of their linkage with the European one due to the fact that European states belong to both these international institutions.

The **Millennium Declaration**, adopted in 2000 by 147 heads of state and 189 states of the United Nations, mainstreams 8 mutually reinforcing development goals, the Millennium Development Goals, and 18 related targets into the global development agenda.

To monitor progress towards the goals and targets, the United Nations system, including the World Bank and the International Monetary Fund, as well as the Development Assistance Committee of the Organisation for Economic Co-operation and Development, came together under the Office of the Secretary-General and agreed on 48 quantitative indicators. The Secretary-General presented the goals, targets and indicators to the General Assembly in September 2001 in his report entitled “Road map towards the implementation of the United Nations Millennium Declaration”.

The main criteria that guided the selection of indicators were:

- Provide relevant and robust measures of progress towards the targets of the Millennium Development Goals;
- Be clear and straightforward to interpret and provide a basis for international comparison;
- Be broadly consistent with other global lists and avoid imposing an unnecessary burden on country teams, Governments and other partners;
- Be based to the greatest extent possible on international standards, recommendations and best practices;
- Be constructed from well-established data sources, be quantifiable and be consistent to enable measurement every time.

Monitoring of the Millennium Development Goals is taking place globally, through annual reports of the United Nations Secretary-General to the General Assembly and through periodic country reporting. For global reporting, use is made of indicators compiled by international

organisations. For country reporting, use is generally made of indicators compiled from national sources, generally by the national statistical system. The meta-data sheets for the indicators reflect national and international standards.

Targets and goals of the Millennium Declaration and their respective indicators for monitoring the process are presented in the table below.

**Table 1:** targets and goals of the Millennium Declaration and their respective indicators for monitoring the process. Source: United Nations, 2003: 'Indicators for Monitoring the Millennium Development Goals Definitions Rationale Concepts and Sources': New York.

GOALS AND TARGETS FROM THE MILLENNIUM DECLARATION	INDICATORS FOR MONITORING PROGRESS
<b>GOAL 1: ERADICATE EXTREME POVERTY AND HUNGER</b> <p><b>TARGET 1:</b> Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day</p>	1. Proportion of population below \$1(PPP) per day <sup>a</sup> 1A. Poverty headcount ratio (percentage of population below the national poverty line) 2. Poverty gap ratio [incidence x depth of poverty] 3. Share of poorest quintile in national consumption 4. Prevalence of underweight children under 5 years of age 5. Proportion of population below minimum level of dietary energy consumption
<p><b>TARGET 2:</b> Halve, between 1990 and 2015, the proportion of people who suffer from hunger</p>	
<b>GOAL 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION</b> <p><b>TARGET 3:</b> Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling</p>	6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5 <sup>b</sup> 8. Literacy rate of 15–24 year-olds
<b>GOAL 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN</b> <p><b>TARGET 4:</b> Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015</p>	9. Ratio of girls to boys in primary, secondary and tertiary education 10. Ratio of literate women to men, 15–24 years old 11. Share of women in wage employment in the non-agricultural sector 12. Proportion of seats held by women in national parliament
<b>GOAL 4: REDUCE CHILD MORTALITY</b> <p><b>TARGET 5:</b> Reduce by two thirds, between 1990 and 2015, the under-five mortality rate</p>	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1 year-old children immunized against measles
<b>GOAL 5: IMPROVE MATERNAL HEALTH</b> <p><b>TARGET 6:</b> Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio</p>	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
<b>GOAL 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES</b> <p><b>TARGET 7:</b> Have halted by 2015 and begun to reverse the spread of HIV/AIDS</p>	18. HIV prevalence among pregnant women aged 15–24 years 19. Condom use rate of the contraceptive prevalence rate <sup>c</sup> 19A. Condom use at last high-risk sex 19B. Percentage of population aged 15–24 years with comprehensive correct knowledge of HIV/AIDS <sup>d</sup> 19C. Contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10–14 years
<p><b>TARGET 8:</b> Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases</p>	21. Prevalence and death rates associated with malaria 22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures <sup>e</sup> 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under DOTS
<b>GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY</b> <p><b>TARGET 9:</b> Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources</p> <p><b>TARGET 10:</b> Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation</p> <p><b>TARGET 11:</b> By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers</p>	25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent) per \$1 GDP (PPP) 28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons) 29. Proportion of population using solid fuels 30. Proportion of population with sustainable access to an improved water source, urban and rural 31. Proportion of population with access to improved sanitation, urban and rural 32. Proportion of households with access to secure tenure

<b>GOAL 8: DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT</b>		<i>Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked countries and small island developing States.</i>
<b>TARGET 12:</b> Develop further an open, rule-based, predictable, non-discriminatory trading and financial system		<b>Official development assistance</b>
<i>Includes a commitment to good governance, development and poverty reduction – both nationally and internationally</i>		33. Net ODA, total and to the least developed countries, as a percentage of OECD/DAC donors' gross national income
<b>TARGET 13:</b> Address the special needs of the least developed countries		34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)
<i>Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction</i>		35. Proportion of bilateral official development assistance of OECD/DAC donors that is untied
<b>TARGET 14:</b> Address the special needs of landlocked countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)		36. ODA received in landlocked countries as a proportion of their gross national incomes
<b>TARGET 15:</b> Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term		37. ODA received in small island developing States as proportion of their gross national incomes
<b>TARGET 16:</b> In cooperation with developing countries, develop and implement strategies for decent and productive work for youth		<b>Market access</b>
<b>TARGET 17:</b> In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries		38. Proportion of total developed country imports (by value and excluding arms) from developing countries and from the least developed countries, admitted free of duty
<b>TARGET 18:</b> In cooperation with the private sector, make available the benefits of new technologies, especially information and communications		39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries
		40. Agricultural support estimate for OECD countries as a percentage of their gross domestic product
		41. Proportion of ODA provided to help build trade capacity
		<b>Debt sustainability</b>
		42. Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative)
		43. Debt relief committed under HIPC Initiative
		44. Debt service as a percentage of exports of goods and services
		45. Unemployment rate of young people aged 15-24 years, each sex and total <sup>f</sup>
		46. Proportion of population with access to affordable essential drugs on a sustainable basis
		47. Telephone lines and cellular subscribers per 100 population
		48A. Personal computers in use per 100 population and Internet users per 100 population
		48B. Internet users per 100 population

At the international level another relevant programme is the **Environmental strategy of the Organisation for Economic Co-operation and Development** (OECD). Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the OECD shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in member as well as non member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non discriminatory basis in accordance with international obligations.

The OECD Environmental Strategy for the First Decade of the 21st Century was adopted by OECD Environment Ministers on 16 May 2001, and endorsed by the OECD Meeting of Council at

Ministerial level on 17 May 2001. Its purpose is to provide clear directions for environmentally sustainable policies in OECD countries, and to guide the future work of the OECD in the field of environment. The Strategy identifies five inter-linked objectives for enhancing cost-effective and operational environmental policies in the context of sustainable development:

- Objective 1: Maintaining the integrity of ecosystems through the efficient management of natural resources (with a special focus on climate, freshwater, and biodiversity).
- Objective 2: De-coupling environmental pressures from economic growth with main challenges in the agriculture sector, the transport sector and the energy sector.
- Objective 3: Improving information for decision making: use indicators to measure progress and to support national policies.
- Objective 4: The social and environmental interface: Enhancing the quality of life facing the challenge of address the various links between environmental and social conditions.
- Objective 5: Global environmental interdependence: Improving governance and co-operation.

The OECD Environmental Strategy is intended to cover the first decade of the 21st Century, and as such should be implemented by 2010. An initial review of implementation was prepared in 2004. It highlighted the need of analysing barriers to market penetration by environmentally friendly technologies and of considering policy implications of urban environmental problems and urban sprawl.

### 3 European Union Strategy for Sustainable Development

After some preparatory documents, the Commission in May 2001 came out with the “Communication from the Commission, A Sustainable Europe for a Better World: **A European Union Strategy for Sustainable Development**”, the first European Union Strategy for Sustainable Development. In this document the Commission individuated the actions to put into practice in several fields of the communitarian influence.

A brief overview on the actions for fields proposed in the 2001 EUSSD, is reported in the following paragraphs.

*“Improve policy coherence”*

- All policies should have sustainable development as their core concern.
- The Common Agricultural Policy should reward quality rather than quantity by, for example, encouraging the organic sector and other environmentally-friendly farming methods and a further shift of resources from market support to rural development.
- The Common Fisheries Policy should promote the sustainable management of fish stocks in the EU and internationally, while securing the long-term viability of the EU fishing industry and protecting marine ecosystems.
- The Common Transport Policy should tackle rising levels of congestion and pollution and encourage use of more environmentally-friendly modes of transport.
- The Cohesion Policies should improve their targeting of the least developed regions and those with the most acute structural problems – such as urban decay and the decline of the rural economy – and the groups in society most vulnerable to persistent social exclusion.

*“Getting prices right to give signals to individuals and businesses”*

- The Commission should give priority in its policy and legislative proposals to market-based approaches that provide price incentives, whenever these are likely to achieve social and environmental objectives in a flexible and cost effective way.

*“Invest in science and technology for the future”*

- The Community should fully exploit the potential of the Community Framework Programme for Research to support research activities related to sustainable development as a part of the European Research Area.

- Member States should consider how to make better use of public procurement to favour environmentally-friendly products and services.
- The Commission should encourage private sector initiatives to incorporate environmental factors in their purchasing specifications.
- The Commission should invite industry to identify what it considers the major obstacles to the development and wider use of new technologies in sectors such as energy, transport and communications.
- The Community should contribute to establishing by 2008 a European capacity for global monitoring of environment and security (GMES)

*“Improve communication and mobilise citizens and business”*

- The Commission’s White Paper on Governance should include proposals on wide-ranging consultation of stakeholders from within and outside the Union, typically including a public hearing, before tabling any major policy proposal. Reviews of major policies should similarly seek to obtain the views of stakeholders.
- EU businesses are urged to demonstrate and publicise their world-wide adherence to the OECD guidelines for multi-national enterprises, or other comparable guidelines.
- Member States should consider how their education systems can help develop wider understanding of sustainable development.

*“Take enlargement and the global dimension into account”*

- The World Summit on Sustainable Development (Rio+10) in Johannesburg was identified as the time limit to express the Communication on how the Union should contribute to global sustainable development.

The document defined the Headline objectives and specific Measures at EU level in some issues like:

- Limit climate change and increase the use of clean energy;
- Address threats to public health;
- Manage natural resources more responsibly;
- Improve the transport system and land-use management.

The document also concerned with implementing the strategy and reviewing progress. As it reported the actions to take in place concerning them:

### *Annual stocktaking*

- The Commission will report to each Spring European Council in its Synthesis Report on progress in implementing the Sustainable Development strategy.
- The Commission will propose a small number of headline performance indicators for this purpose to the Barcelona European Council in Spring 2002.
- The process of integration of environmental concerns in sectoral policies, launched by the European Council in Cardiff, must continue and provide an environmental input to the EU Sustainable Development strategy.

### *Working methods*

- The Commission will establish a sustainable development “Round Table” of about 10 independent experts offering a broad range of views, who will report directly to the Commission President.

### *Medium-term reviews*

- The EU Strategy for Sustainable Development will be comprehensively reviewed at the start of each Commission’s term of office.
- Starting in 2002, the Commission will hold a two-yearly Stakeholder Forum to assess the EU Strategy. The Commission invites the Economic and Social Committee to join it in organising this conference.

This strategy was presented at the Gothenburg European Council of 15 and 16 June 2001. According with the **Presidency conclusions** it completed the Union’s political commitment to economic and social renewal, added a third, environmental dimension to the Lisbon strategy and established a new approach to policy-making.

In the same Presidency conclusions were defined the European Council’s commitments in:

- improving policy coordination at the level of the Member States;
- achieving better policy coordination in the Union;
- building an effective review of the sustainable development strategy;
- combating climate change;
- ensuring sustainable transport;
- ensuring safety and quality of food;
- managing natural resources more responsibly.

However, as the Commission itself pointed out in its Communication to the Göteborg European Council, the European Union Sustainable Development Strategy (European Union-SD Strategy)

would not be complete without the inclusion of an external dimension. The Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: “**Towards a global partnership for sustainable development**” of 2002, contains that global dimension. It should be seen as an integral part of the Commission’s proposal for a European Union-SD Strategy. It identified objectives of communitarian action in some global fields. Priority objectives and actions for each field are reported in table below.

**Table 2:** Priority objectives and actions for each field (Source: Communication from the Commission “Towards a global partnership for sustainable development”).

	<b>Priority objectives</b>	<b>Action</b>
<b>Harnessing globalisation: trade for sustainable development</b>	LDCs integrated equitably into the world economy, sustainable production and trade, reduce global financial volatility.	Negotiate constructively in the WTO, Support developing countries in trade negotiation, exchange of best practices and common approaches in SD, Encourage companies to corporate social responsibility.
<b>Fighting poverty and promoting social development</b>	Attain the International Development Targets and the Millennium Development Goals	Finance LDCs and on the poorest groups in other developing countries, Ensure the presence of the water issue in poverty reduction strategies, Promote research on issues related to sustainable development.
<b>Sustainable management of natural and environmental resources</b>	Develop sectorial and intermediate objectives, Ensure the reversion of current unsustainable.	Promote sustainable water resource management based on the integrated river basin management, Promote the Kyoto Protocol, Encourage friendly modes of transport.
<b>Improving the coherence of European Union policies</b>	Ensure that an impact assessment is carried out for all major policy proposals, integrate key policies, including the Common Agricultural Policy, the Common Fisheries Policy, and European Community policies on energy, transport and industry to sustainable development.	establish a coherent methodology for impact analysis to assess the economic, social and environmental consequences of all major policy proposals. Making this integration in key policies happen
<b>Better governance at all levels</b>	Ensure good governance at all levels Strengthen the legitimacy of governance.	action in the fight against corruption Strengthening: UNEP, New Partnership for Africa's Development, role for civil society, etc.
<b>Financing sustainable development</b>	Support Official Development Assistance (ODA), Reduce the debt burden on developing countries.	Increase Official Development Assistance (ODA) and Explore innovative mechanisms for international financial solidarity, Accelerate the process of debt relief.

A report of this work on the **first SD strategy of the Union** titled “A European Union Strategy for Sustainable Development” was published in 2002. It contained not only the proposal of the Commission at the Gothenburg European Council for A European Union Strategy for Sustainable

Development, but also the Presidency conclusions at the Council, and the report of the public hearing on the strategy and the Commission's consultation paper of March 2001.

The complete EU strategy for SD was so presented at the **Johannesburg World Summit on Sustainable Development** (WSSD) that was held in September 2002, with the participation of some 100 world leaders and representatives from 193 countries. Stakeholders mobilised more than 8000 participants from NGOs, businesses and other groups.

The WSSD reaffirmed the Rio Principles, the Agenda 21 intent and the Programme for the Further Implementation of Agenda 21. Through a strong emphasis on implementation, the WSSD sought to revitalise the spirit of Rio. At the same time, the Summit maintained sustainable development high on the international political agenda. The main outcomes of the WSSD are the Johannesburg Declaration on Sustainable Development and the Johannesburg Plan of Implementation.

#### *The Johannesburg Declaration*

The “Johannesburg Declaration on Sustainable Development From our origins to the future”, in which world leaders expressed their commitment to achieving universal prosperity and peace, identified some challenges for the people of world such as:

- poverty eradication;
- changing consumption and production patterns and protecting and managing the natural resource;
- climate change
- desertification ;
- biodiversity;
- globalization.

The representatives of the peoples of the world affirmed their effort for the achievement of the common goal of sustainable development and their welcoming the focus of the Johannesburg Summit on the indivisibility of human dignity<sup>3</sup>.

---

<sup>3</sup> “We are determined to ensure that our rich diversity, which is our collective strength, will be used for constructive partnership for change and for the achievement of the common goal of sustainable development.[...] We welcome the focus of the Johannesburg Summit on the indivisibility of human dignity and are resolved, through decisions on targets, timetables and partnerships, to speedily increase access to such basic requirements as clean water, sanitation, adequate shelter, energy, health care, food security and the protection of biodiversity.” Johannesburg Declaration on Sustainable Development From our origins to the future, September 2002.

They also recognized that sustainable development requires a long-term perspective and broad-based participation in policy formulation, decision-making and implementation at all levels so they committed themselves to continuing to work for stable partnerships with all major groups, respecting the independent, important roles of each of them.

#### *Johannesburg Plan of Implementation*

The Johannesburg Plan of Implementation was a blueprint for action laying down specific time-bound targets. The main targets considered in the plan were:

- To halve the proportion of people without access to safe drinking water and basic sanitation by 2015.
- To increase access to modern energy services, energy efficiency and the use of renewable energy and support the target set out in the New Partnership for Africa's Development (NEPAD) to ensure energy access for at least 35% of Africans in the next 20 years.
- To reverse the current trend in natural resource degradation as soon as possible by implementing strategies that include targets to protect ecosystems and achieve integrated management of land, water and living resources, while strengthening regional, national and local capacities.
- To reduce biodiversity loss significantly by 2010 and halt the decline in fish stocks.
- To minimise the harmful effects of chemicals (especially by ensuring that, by 2020, chemicals are not used in ways that harm human health and the environment).
- To develop a ten-year framework of programmes on sustainable consumption and production.
- To start implementing sustainable development strategies by 2005 in all countries.

After one year of the WSSD implementation, Commission elaborated the communication from the Commission to the Council and the European Parliament "**The World Summit on Sustainable Development one year on: implementing our commitments**". The document analysed the on going EU activities in many fields of the communitarian internal and external influence:

- internal aspects:
  - Coherence;
  - Sustainable management of the natural resource base;
  - Sustainable consumption and production;
  - The contribution of Enlargement to sustainable development;
- external aspects:
  - Poverty reduction;

- Water, energy and forest initiatives;
- Sustainable globalisation and trade;
- Governance for sustainable development.

The document concluded that internally, the key challenges for the EU should be to change unsustainable patterns of consumption and production and to ensure a sustainable management of natural resources, while externally EU credibility should crucially depend on the effective implementation of its international commitments.

**Box 1:** The 6<sup>th</sup> Environment Action Programme

Another important communitarian action according to reach a sustainable development, after the union strategy of 2001, was the **6<sup>th</sup> Environment Action Programme** adopted by the Council and European Parliament in 2002. The 6th EAP was the main vehicle by which to achieve the environmental goals of the Sustainable Development Strategy. It was structured around four priority issues: climate change; nature and biodiversity; resource management; and environment and health. It set ambitious, often quantified targets which highlight the long-term commitments of the Union to environmental protection and consequently provided a predictable framework for public and private actors in Europe and the rest of the world.

In the light of the two years of the 6<sup>th</sup> EAP implementation, Commission elaborated the 2003 **Environment Policy Review** (EPR) “Consolidating the environmental pillar of sustainable development”. The first section was structured around the four priority issues of the 6<sup>th</sup> EAP and identified the key trends and challenges of each of them. The document set out the new political context of EU environmental policy since the adoption of the EUSSD in 2001. It then examined the most pressing threats to the environment and policy responses at EU level to date. It outlined the environmental policy mix required to make sustainable development a reality: particular emphasis on the three cross-cutting objectives which underpin environmental policy – integration of environmental concerns into other policies, implementation and information. Finally, the Review considered the particular challenge of enlargement and developments at an international level.

The 2004 Environment Policy Review reported the developments in EU environmental policy in 2004 and gave indications on the year after. It also identified eco-efficient innovations and resource efficiency as key to increase competitiveness in Europe<sup>4</sup>.

<sup>4</sup> “There are growing findings that environment policy and eco-innovation can promote economic growth and maintain and create jobs, contributing to competitiveness and employment.” Commission of the European Communities, 27.01.2005: ‘Communication from the commission to the Council and the European Parliament: 2004 Environmental Policy Review’: Brussels.

Highlights, New Findings and Outlook for 2005 were summarized in this document for each of the main priorities of the Sixth Environmental Action Programme.

In the conclusions it affirmed that developments in environmental policy at the EU and national level confirmed a number of trends identified in the 2003 Environment Policy Review, such as the increase in basing Environment policy on better knowledge and science or the process of regulatory simplification to reduce the administrative burden on the public sector and companies, while maintaining high environmental standards.

The EUSSD as it was conceived in 2002, wasn't a static document. Commission in fact was committed to review the strategy at the beginning of each new Commission's mandate.

The first important step for the ESSD review was the **European Economic and Social Committee exploratory opinion** on "Assessing the EU sustainable development strategy" of 28 April 2004. Drawn up by the Committee at the Commission's request, the document examined the range of problems facing the EU on the road towards sustainable development and considered how the EU should strengthen its sustainable development strategy. It started from the consideration that sustainable development involves changes but also generates significant new opportunities, and that a healthy economy with flourishing businesses is the key condition for employment.

According to the Committee was clear that the EU sustainable development strategy adopted at the Gothenburg summit was in need of a deep revision and that this revision should seek a better balance between the environmental, economic and social dimensions of sustainability. The strategy should also make clear how the individual EU policies could be framed more coherently and how the requisite national, regional and even local sustainable development strategies could be interlinked. The Committee asked the review to:

- take account of the external aspects and thus, *inter alia*, to urge a change in WTO rules;
- define objectives that are quantified as far as possible, setting out precisely the responsibilities;
- monitor sustainable development constantly, not only in terms of the environment, but taking account of the economic and social dimension as well;
- explicate that sustainable development should present significant economic opportunities because it should require huge investments which should create will many jobs;
- give adequate consideration to the issues of distributive and intergenerational justice;
- discuss the outcome of the consultation process with the parties involved especially with organised civil society;

- laid down enough clear and readily understandable indicators in the each of the various fields.

Also in the light of the advises of the European Economic and Social Committee was put forward the 2005 **Review of the EU Sustainable Development Strategy: Initial Stocktaking and Future Orientations** of 9.2.2005. The Communication from the Commission to the Council and the European Parliament provided an initial assessment of the progress made since 2001 and outlined a number of future orientations for the 2006 review. It showed progress in implementing Sustainable Development policies such as the Energy Tax Directive, (which extended the Community system of minimum tax rates from mineral oils to other energy products, in order to Getting prices and incentives right), or Measures to enhance resource efficiency, (including the EU Directive on waste electrical and electronic Equipment). The annex analysed the progress made in implementing the EU Sustainable Development Strategy as regard some issues, such as public health or financing for development (FfD). The document reaffirmed the basic principles of the European Union Sustainable Development Strategy and the new approach to policy making and policy coherence which has to give a further boost to the different components of the EU's Better Regulation agenda (including impact assessment, stakeholder consultation and regulatory simplification).

In May 2005, to help direct the work on the renewal of the Sustainable Development Strategy, the Commission elaborated a draft **Declaration on Guiding Principles for Sustainable Development**. It reiterated the broad long-term vision of sustainability and reported the guiding principles corresponding to the underlying values of a dynamic European model of society. The Declaration stated that the European Union and its Member States were committed to pursue, on their own and with partners, the following *Key Objectives*:

- *environmental protection*: respect the limits of the planet's natural resources and ensure a high level of protection and improvement of the quality of the environment prevent and break the link between economic growth and environmental degradation.
- *social equity and cohesion*: promote a democratic, socially inclusive, cohesive, healthy, safe and just society with respect for fundamental rights and cultural diversity.
- *economic prosperity*: promote an economy which provides high living standards, and full and high-quality employment throughout the European Union.
- *meeting our international responsibilities*: defend the stability of democratic institutions across the world, based on peace, security and freedom and actively promote SD worldwide.

To achieve these objectives the Union had to apply the *Policy Guiding Principles* reported in the scheme below.

**Scheme 1:** Policy Guiding Principles for the EU policies on SD (Source: Commission, “Draft Declaration on Guiding Principles for Sustainable Development” of may 2005).

PROMOTION AND PROTECTION OF FUNDAMENTAL RIGHTS	Place human beings at the centre of the European Union’s policies, by promoting fundamental rights, by combating all forms of discrimination and contributing to the reduction of poverty worldwide.
INTRA- AND INTERGENERATIONAL EQUITY	Address the needs of current generations without compromising the ability of future generations to meet their needs in the EU and elsewhere.
OPEN AND DEMOCRATIC SOCIETY	Guarantee citizens’ rights of access to information and ensure access to justice. Develop adequate consultation and participatory channels for all interested parties and associations.
INVOLVEMENT OF CITIZENS	Enhance the participation of citizens in decision making. Promote education and public awareness of sustainable development. Inform citizens about their impact on the environment and their options for making more sustainable choices.
INVOLVEMENT OF BUSINESSES AND SOCIAL PARTNERS	Enhance the social dialogue, corporate social responsibility and private-public partnerships to foster cooperation and common responsibilities to achieve sustainable production and consumption.
POLICY COHERENCE AND GOVERNANCE	Promote coherence between all European Union policies and coherence between local, regional, national and global actions in order to increase their contribution to sustainable development.
POLICY INTEGRATION	Promote integration of economic, social and environmental considerations so that they are coherent and mutually reinforce each other by making full use of instruments for better regulation, such as balanced impact assessment and stakeholder consultations.
USE BEST AVAILABLE KNOWLEDGE	Ensure that policies are developed, assessed and implemented on the basis of the best available knowledge and that they are economically sound and cost-effective.
PRECAUTIONARY PRINCIPLE	Take a precautionary approach where there is objective scientific uncertainty in order to avoid potential damage to people’s health or to the environment and take preventive action.
MAKE POLLUTERS PAY	Ensure that prices reflect the real costs to society of production and consumption activities and that polluters pay for the damage they cause to human health and the environment.

Thus the Declaration summarized the *Key Objectives* that were to be reached and, at the same time, defined the *Policy Guiding Principles* which have to inspire the action to pursue those objectives and which should run under the future policy choices in Europe.

This preparatory work brought to the ‘Review of the EU Sustainable Development Strategy (EU SDS) - Renewed Strategy’ that the Council of the European Union issued in June 2006.

The document reaffirms the key objectives and principles of the ‘Declaration on Guiding Principles’ and the synergies between the EU SDS and the Lisbon strategy for growth and jobs.

Some key challenges for the Renewed Strategy are considered, they are:

- To limit climate change and its costs and negative effects to society and the environment;

- To ensure that our transport systems meet society's economic, social and environmental needs whilst minimising their undesirable impacts;
- To promote sustainable consumption and production patterns;
- To improve management and avoid overexploitation of natural resources;
- To promote good public health on equal conditions and improve protection against health threats;
- To create a socially inclusive society and to secure and increase the quality of life of citizens;
- To actively promote sustainable development worldwide and ensure that the European Union's policies are consistent with it.

Operational objectives, targets and concrete actions are defined for each of these challenges in the Commission document “On the review of the Sustainable Development Strategy: A platform for action” annexed to the Renewed Strategy.

As regards the timing of the concrete applying of these actions, the Council affirms that by 2008 the Commission should put forward a roadmap for the reform, sector by sector, of subsidies that have considerable negative effects on the environment and are incompatible with sustainable development, in order to gradually eliminating them. Also the Commission is committed to submit every two years a progress report on SDS in the EU while the Member States are committed to appoint their representative acting as SDS focal point and the Council itself has to review progress and priorities.

The renewed EU SDS intent is to identify and develop actions to enable the EU to continuously improve quality of life both for current and for future generations creating sustainable communities able to manage and use resources efficiently.

---

<sup>9</sup> Malta has a number of strategies for specific environmental issues, such as pesticides control, animal

## 4 Nationals Sustainable Development policies in Europe

Not only the international level or the European one are involved in the process of the achievement of SD. During the last years a lot of national sustainable development policies or measures were issued, also in the wake of some prescriptions of international agreements or declarations.

For example chapter eight of Agenda 21 recommended governments to draw up national sustainable development strategies (NSDS). The 1997 Special Session of the UN General Assembly set a target date of 2002 for NSSD elaboration. In 2002, the World Summit on Sustainable Development reiterated the recommendation of the Johannesburg Plan of Implementation to urge countries to make progress in the formulation and elaboration of NSDS and to begin their implementation by 2005. Following the outcome of Johannesburg, the Environment European Council conclusions of 17 October 2002, urged Member States to implement their strategies on SD. Also the Brussels 2003 spring summit concluded that, in order to deliver the full set of reforms proposed in Göteborg, EU institutions and the Member States should both took action to enhance the effectiveness and coherence of existing processes, strategies and instruments.

A working document on “National Sustainable Development Strategies in the European Union” was published by the Commission in April 2004 to take stock of progress in preparing NSDS.

At that time a total of 20 of the 25 MS and AC had a national strategy and were currently implementing them. This included nearly all current Member States (with the exception of Spain), and four of the ten accession countries (Slovakia, Poland, Lithuania and Latvia). The other countries were in the process of preparing their NSDS. Cyprus and Slovenia did not have a NSDS but touched upon the three dimensions of sustainable development in their National Development Plans (NDP). All AC, with the exception of Malta<sup>9</sup>, had their National Environmental Action Programmes (NEAP) whose aim was to integrate environmental considerations in other policy fields and to adopt and implement the European Union’s Environmental Acquis.

Some Member States, such as the Netherlands, Sweden, Finland and the UK, developed NSDS at a very early stage before or shortly after the 1992 Rio conference and have since regularly updated them. Initially these were mainly focused on the environmental dimension of sustainable development, but gradually encompassed more elements of the social and economic dimensions.

The Commission study analysed a large variations in the institutional and procedural settings adopted for the preparation and implementation of each national strategy according to the differing national circumstances, objectives and measures.

Coordination of the policy areas was one of the first key issues to address and was faced in several ways from MS. The organisation responsible for preparation of the NSDS was typically an inter-ministerial body, composed of high level representatives from all relevant Ministries.

The study showed how also the efforts to ensure a broad participation of stakeholders and public consultation, as means of achieving the broad consensus needed for society to accept the structural changes that sustainable development implies, were different. Stakeholders could either be organised in National Councils for Sustainable Development independent of the inter-ministerial working bodies (Belgium, Denmark, France, Germany, Greece, Italy, Spain, Sweden, Netherlands, United Kingdom, Cyprus, Hungary), or they could form an integral part of the working bodies (Austria, Finland, Ireland, Portugal, Czech Republic, Estonia, Latvia, Lithuania, Poland, Slovakia, Slovenia, Malta).

The role played by the national Parliament in the preparation and adoption of the NSDS was not always clear. Sweden, Finland, Italy, the Netherlands and Slovakia submitted their NSDS to Parliament for approval, and Hungary, Slovenia and Estonia did the same for their National Environment Programmes. France consulted its Economic and Social Committee and Parliament at the end of the NSDS's preparatory process. Portugal consulted its Parliament in preparation of its Framework Strategy. The Irish Parliament established a special sub-committee to monitor and examine sustainable development issues.

The study stated that a better integration of the economic, social and environmental dimensions of sustainable development was one of the main reasons for developing a NSDS. It found that almost all countries covered the three dimensions, although in different ways. For instance, whereas some countries (e.g. Sweden, the UK, Lithuania and Poland) included considerations in relation to competitiveness, innovation and economic growth, others did so to a much lesser extent. Italy took a two dimensional approach and focused its strategy on decoupling economic growth from environmental degradation. A few countries explicitly considered a cultural dimension to their strategy, others included an international dimension while someone focused on education and training.

Most countries included a fairly large number of priority areas. Others, like France or Belgium, took an even more holistic approach (in line with Agenda 21) and covered a broader scope.

The need of a better policy coherence and better integration of social, economic and environmental development goals was affirmed by many countries as one of the explicit aims of the NSDS.

The study reveals as the institutional mechanisms for implementation of the NSDS varied depending on the specific constitutional circumstances of each country. In some cases, such as in

the UK, Hungary, Slovakia, Lithuania, Greece and Italy, one Minister had the overall responsibility for coordination of the implementation, however, in all countries Government remains politically responsible.

## 4.1 National Environmental Strategy for Sustainable Development

As regard the present study, the National Environmental Strategy for Sustainable Development taken into account were those of the nations involved in the European project INSURE<sup>10</sup>: Italy, Netherlands, Spain and Czech Republic.

A draft description of these NSSD is reported in the paragraphs below.

### 4.1.1 Italian National Environmental Strategy for Sustainable Development

The Italian National Environmental Strategy for Sustainable Development (NESSD) was developed by the Ministry of the Environment and Land protection, in accordance with the 6th Environmental Action Plan and the guidelines of Barcelona 2002 European Council. The NESSD was approved by the Inter-ministerial Committee for Economic Planning (CIPE) on the 2nd August 2002 and is currently in its implementation phase. CIPE is organised into six Commissions, one of which is devoted to Sustainable Development. The planning process started with a Communication submitted by the Ministry of Environment to the Italian Parliament on October 2001. The drafting of the strategy was negotiated with all relevant stakeholders such as Ministries, environmental NGOs, Trade Unions, Enterprises, and local authorities (regions).

The NESSD focuses mainly on environmental matters. The driving element for sustainability and for the definition of targets is essentially a decoupling between economic growth and pressure on the use of natural resources and on the environment, especially in agriculture, power and transport sectors. The specific indicators for use of material, soil, energy, water, resources, and waste production per units of economic wealth, added value or per capita, must decrease relative to economic growth (partial decoupling) and finally stabilise or decrease in absolute terms (absolute decoupling).

The Italian NSDS contains four broad priority themes, the same of the EU's 6<sup>th</sup> Environmental Action Plan:

- a. Climate Change and stratospheric ozone;
- b. Protection and sustainable valorisation of Nature and Biodiversity;
- c. Quality of the environment and quality of life in urban areas;
- d. Exploitation of resources and waste generation.

The search for more policy coherence through integrated environmental policies is one of the explicit aims of the NSDS. Several measures, such as the application of the legislation on

---

<sup>10</sup> "Flexible framework for indicators for sustainability in regions using systems dynamics modelling" – [www.insure-project.net](http://www.insure-project.net)

environmental protection or the integration of the environmental factor within sectorial policies, are included in the NSDS.

At sub-national level local Agenda21 strategies (co-financed by the Ministry of Environment) and regional SD strategy exist. The spread of such instruments is one of the objectives of the State-Region Permanent Conference. These subnational planning and policy processes are in line with the National SDS.

#### ***4.1.2 National Environmental Strategy for Sustainable Development in Netherlands***

As regards the Netherlands, it has been working since 1990 on the issue of SD. The Dutch Cabinet decided to establish the National Strategy for Sustainable Development "Nationale Strategie voor Duurzame Ontwikkeling", (NSDO), early 2001. An interdepartmental body was formed guided by a ministerial group, lead by the prime minister. The ministers for Environment, for Economic Affairs and for City Development and Integration have been permanent members of the guiding group. Other ministers could attend whenever they wished.

The Dutch Cabinet has released several strategic plans, including the Fourth National Environmental Policy Plan and the Fifth White Paper for Urban and Rural Planning.

It also decided to request each ministry to give an overview of their contribution to sustainable development in their annual budget to be discussed in Parliament. In July 2003, the Action Programme for SD entitled "Duurzame Daadkracht" was expressed by Ministry of Housing, Spatial Planning & the Environment (VROM) and Ministry of Foreign Affairs.

This political document translated the long-term SD objectives into short-term objectives and measured and put into practice the commitments of Johannesburg.

The programme addressed 12 themes with attached general objectives and actions. It also developed a number of general instruments for Government and for stakeholders to enhance SD, and contained a list of specific projects to illustrate concrete advances towards SD. The 12 themes were spread over national and international parts of the document. On the national level (known as the "national strategy", adopted in July 2003) they included sustainable water management, energy, health and safety, agriculture, biodiversity, population (ageing and migration), mobility, production and consumption, and finally knowledge. The international section (known as the "international strategy", submitted to Cabinet in January 2003) focused on the WEHAB themes from Johannesburg, namely water, energy, health, agriculture and biodiversity, and added themes from the Millennium declaration and the Doha round such as sustainable investments and commerce.

The programme contained a section of very general objectives (like the increase efficient water use or the implement WSSD commitments ) and referred to existing sectoral or thematic action

programmes to fulfil these. It also committed the government to send Parliament an annual report on progress. The first progress report, in April 2004, only covered the international component, so the parliament requested the next report to integrate it. The second annual progress report on the SDAP (for the year 2004) focused mainly on SD processes since WSSD, indicating obstacles encountered and where progress had been slow. The most recent report (covering 2005) was prepared through processes involving all the stakeholders: a series of meetings were organised between September and December with line ministries and NGOs.

The report provided a summary of progress on sustainable development, covering several fields, they were:

- the relationship between the Netherlands' national and international efforts to bring about a more sustainable society in the country and elsewhere;
- some of the highlights relating to SD in 2005 (e.g. UN Millennium Ecosystem Assessment; UN MDG Summit; parliamentary and public debates; corporate social responsibility);
- a more detailed account of some of the activities in Sustainable Action, to illustrate the Netherlands' efforts (e.g. partnerships; WEHAB themes (water, energy, health, agriculture and biodiversity));
- activities that the government wants to implement in 2006 – including the EU SD strategy and CSD meetings;
- all the other activities, proposals and projects described in Sustainable Action (in the annex).

The Dutch provinces have their own, independent programme for sustainable development. These programmes are within the responsibility of the provinces themselves, but there is regular consultation with the national government in order to ensure coherence of policy. Also, on the local level some municipalities have programmes geared towards enhancing sustainable development.

#### ***4.1.3 National Environmental Strategy for Sustainable Development in Spain***

Spain's national strategy for sustainable development (NSDS) has not yet been adopted. A paper called "consultation document" was finalised in the beginning of 2002 in order to serve as a reference guide starting from a set of diagnostics which address key themes for the forthcoming 25 years.

The Inter-ministerial Commission for the Coordination of the NSDS has lead political responsibility for developing the NSDS. The consultation document of the Spanish NSDS, was elaborated through the coordination of 12 Ministry Departments led by the Inter-Ministerial Commission for the Coordination of the NSDS, and through consultations of the Territorial Administrations and the Economic & Social Council, as well as the general public.

The document explicitly addresses social, economic and environmental objectives. The main themes being addressed do not contain time-frame-defined quantitative targets, as far as the social, environmental and economic objectives are concerned. The overall intent is to change unsustainable patterns and, due to the country's characteristics, emphasize on regional, territorial and prudent land use. The document offers a general/global vision of sustainable development. The strategy is mainly based on the 27 principles discussed in the UN Rio Declaration (1992).

The consultation document contains some underlining themes that are fundamental for Spain to achieve SD. For a number of themes under the economic, social and environmental dimensions, (such as reduce biodiversity loss, support eco-efficiency or fight poverty and promote equity), it foresees qualified objectives and measures.

The consultation document stipulates the need to look for sectoral and horizontal policies at all levels in order to comply with the EU directives on the harmonisation of European socio-economic space. Key objectives and measures that are thought to increase policy coherence are also related each other. Given the heterogeneity of the Spanish municipalities and Autonomous Communities, regional plans are addressed in terms of support to the different territorial institutions through sectoral and integrated programmes whose measures will be based on the principle of competitive subsidiary. Additionally, positive, ample past experience could serve well to establish inter-territorial cooperation networks. The document also emphasizes support to the Law of International Cooperation for Development in terms of fostering the progressive integration of developing countries into the international economy.

#### ***4.1.4 National Environmental Strategy for Sustainable Development in the Czech Republic***

The work on Czech Republic NSDS has started in 2003 under the leadership of the Governmental Council for SD whose members are representatives of governmental institutions as well as all major groups of society (business, academics, NGOs and other stakeholders) .

The first working paper for the NSDS was presented on the Council's website for the broad public discussion. It covered the 3 dimensions of SD while emphasising the inter-linkages and coherence between different policy areas and strengthening the communication and balance between all three dimensions.

In November 2004, the preparatory work brought to the "Czech Republic Strategy for Sustainable Development" for the years 2004 to 2014. Its primary role is to provide timely warning of any existing or potential problems that might endanger the Czech Republic's transition to sustainable development, and to initiate measures designed to prevent such threats or at least mitigate their impact and deal as efficiently as possible with any consequences.

Firstly the document shows a SWOT analysis of the current condition in the Czech Republic both in the economic and social fields. Then it lists the principles of the Strategy for Sustainable Development, e.g. the principle of respect for human life (the ethical principle), nature and the values of civilisation and culture or the “polluter and consumer pays” principle.

The strategy moves through some key components and, for each of them, identifies strategic goals associated with a set of partial goals that target selected problem areas. Here is reported a draft scheme of this structure.

**Table 3:** key components, strategic goals and partial goals of the Czech NSSD (Source: Government of the Czech Republic, November 2004: ‘The Czech Republic Strategy For Sustainable Development’).

<b>Key Components</b>	<b>Strategic Goals</b>	<b>Partial Goals</b>
Competitiveness of the economy	maintain the stability of the Czech economy	e.g. reform public finance to ensure the long-term sustainability of social services
	create conditions for economic growth	e.g. reduction in the indirect labour cost
	create conditions for a flexible economy based on knowledge	e.g. support best available environmentally friendly technologies
Protecting nature, the environment, natural resources	preserve the Czech Republic's natural resources	e.g. protection of forests
	minimise economic activities /environmental protection conflict	e.g. a strategic spatial planning procedure
	solve the climatic changes, ozone and biodiversity threats	e.g. reduce the consumption of fuel by vehicles
Social cohesion and stability	support human resource development	e.g. create a new system of financial aid
	reduce unemployment	e.g. react to ongoing structural changes
	maintain a stable number of inhabitants	e.g. a long-term migration policy
Research and development, education	attain a high level of education in society	e.g. financial coverage for research and development
European and international context	promote SD in international relations	e.g. contributing to the Millennium Development Goals
	be an active member of the EU	e.g. embrace the processes and principles of work of the EU
Good governance	ensure the approximation of the constitutional system to the needs of the society	-
	grant regions/municipalities a status corresponding to their functions	e.g. support public cultural services
	improve conditions for the public participation in decision-making	e.g. financing of non-profit non-governmental organisations
	ensure consideration of SD in public administration	e.g. ensure high-quality legal regulations
	ensure that the measures to be taken protect from crime, terrorism in particular	e.g. involvement of the Czech defence industry

The Government will continuously monitor progress in the accomplishment of these goals by using indicators compiled on the basis of official data and established methodologies. The Czech

strategy outlines two sets of indicators: one set (116 indicators) to monitor progress on specific elements, while the other (24 indicators) to communicate with policy makers and the public.

According to the document, the update to the Czech Republic Strategy for Sustainable Development should be presented by the end of 2007.

The central government also provides support to local Agenda 21 initiatives through the system of grants. Furthermore, the representatives of the local government are also members of the Governmental Council for SD and different working bodies of the Council are dealing also with the regional aspects of sustainable development.

#### **4.1.5 Comparing European National Environmental Strategy for Sustainable Development**

The present paragraph is in order to compare the NSSD shortly descript in the previous one. Firstly general aspects of the strategies, such as the date of the most recent document or the existence of a SD commission, were investigated.

The results of the analysis are summarized in the scheme below.

**Table 4:** NSSD general characteristics comparison.

NATIONAL SD STRATEGY FEATURES	Czech Republic	Spain	Netherlands	Italy
<b>NAME of NSDS</b>	NSDS	“Consultation Document” for NSDS	Government’s Action Programme for SD	National Environmental Strategy for SD
<b>1st act on SD</b>	2003	2002	1990	1993
<b>Most recent act on SD</b>	November 2004	2002	2005	2002
<b>Inter-ministerial elaboration of SD strategy</b>	-	YES	YES	NO
<b>Existence of a SD Commission /Council</b>	Governmental Council for SD	Inter-ministerial Commission for the coordination of the NSDS	NO	Commission for SD
<b>Env.-centred or Integrated</b>	Integrated	Integrated	Integrated	Env.-centred

Then the contents of the policies, the issues which they identified as main priorities, were compared.

The scheme below presents the results of this survey.

**Table 5:** NSSD main priorities comparison.

NATIONAL SD STRATEGY FEATURES	Czech Republic	Spain	Netherlands	Italy
<b>Targets, short-term objectives</b>	-	-	YES	NO
<b>Main priorities</b>	<ul style="list-style-type: none"> <li>*competitiveness of the economy</li> <li>*protecting nature, the environment, natural resources</li> <li>*social cohesion and stability</li> <li>*Research and development, education</li> <li>* European and international context</li> <li>* Good governance</li> </ul>	<p>NSDS does not exist. Consultation document not yet approved by the Spanish Government.</p> <p>Based on 27 principles from Rio Declaration</p>	<ul style="list-style-type: none"> <li>* sustainable water management</li> <li>* energy</li> <li>* health &amp; safety</li> <li>* agriculture</li> <li>* biodiversity</li> <li>* ageing and migration</li> <li>* mobility</li> <li>* knowledge</li> <li>* sustainable investments</li> <li>* commerce</li> <li>* coherence between national and international efforts to SD</li> </ul>	<ul style="list-style-type: none"> <li>* Climate change</li> <li>* nature and biodiversity protection</li> <li>*quality of life and environment in urban areas</li> <li>*exploitation of resources &amp; waste generation</li> </ul>

It has to be noted that, as the policy is integrated or environmental centred, there are different priorities or several weights for the same priority. Anyway there are some shared main issues: those ones of development of quality of life and of protection of natural resources. The identification of these shared contents in the EU NSSD is useful in order to reveal some common scenarios for SD in Europe.

## 5 Common scenarios of sustainable growth in European Nations

The **Draft Declaration on Guiding Principles for Sustainable Development** commits both EU Commission than EU MS to pursue some Policy Guiding Principles, such as the involvement of citizens or the “make polluters pay” principle, which are common for all these institutions.

In the light of this communitarian intent to move all together in a global effort to SD, the present study aims to investigate how shared policies for SD could be within the European context. After the previous comparison of some NSSD in EU, the following paragraphs analyse those overriding issues or those particularities concerning some statements on SD, and then moves to the comparison of the advanced common scenarios.

## 5.1 Prioritarian issues shared and particularisms

Analysing documents produced both by communitarian institutions and by internationals organisation it is possible to see how, while they present an holistic approach to fight unsustainable trends, they often individuate some prioritarian issues on which they focus the attention about Sustainable Development achievement.

According to the European Union **Strategy for Sustainable Development of 2006**, the main threats to SD are:

- To limit climate change and its costs and negative effects to society and the environment;
- To ensure that our transport systems meet society's economic, social and environmental needs whilst minimising their undesirable impacts;
- To promote sustainable consumption and production patterns;
- To improve management and avoid overexploitation of natural resources;
- To promote good public health on equal conditions and improve protection against health threats;
- To create a socially inclusive society and to secure and increase the quality of life of citizens;
- To actively promote sustainable development worldwide and ensure that the European Union's policies are consistent with it.

Also the **2003 Gothenburg European Spring Council** defines some priorities for what concerns the achievement of SD. One of these is the ensuring of the effective follow-up to the new goals and targets agreed in Johannesburg on water and sanitation, the protection of the marine environment, depleted fish stocks, chemicals and natural resources, including forests and biodiversity, but also the ensuring of the effective follow-up to the commitment made in Monterrey on the realisation of the 0,7% target for official development aid.

According to the Council the enhancement of corporate social and environmental responsibility (both at EU level and internationally) and the promoting of sustainable and fair trade (notably through developing incentives to trade in sustainably produced goods and encouraging export credits consistent with sustainable development) are also prioritarian actions.

The Council aims to promote some initiatives such as the Union's "Water for Life" and "Energy for Poverty Eradication and Sustainable Development" or those regarding regional sustainable development strategies.

Some of the biggest difficulties faced by many MS in their SSD, according to the **first analysis by the European Commission of 2004**, include:

- *Getting the process right*: Industries do not always have a good, let alone a common understanding of sustainable development and, moreover, administrators have many difficulties to think “outside the box” and, for example, take account of spillovers from their policy areas. Finally, apart from a handful of countries, like the UK, NSDS show a lack of clear provisions to inform tradeoffs and systematically assess costs and benefits that allow policy makers to take informed decisions that reflect people’s preferences.
- *Creating a sense of ownership*: the review showed that the processes often do not-sufficiently guarantee the full participation and engagement of all actors concerned. Strategies also focus predominantly on actions to be taken by the government. A bottom-up approach will increase the sense of ownership, but is a very time consuming and resource intensive exercise.
- *International collaboration*: the public good and trans-boundary character of many unsustainable trends renders policy action difficult if there is insufficient collaboration across national borders and between different levels of government.
- *Finding a coherent vision or an agreed path for long term development*: the objectives and measures contained in the NSDSs are often a mixed bag or assembly of individual actions. Therefore they are not always integrated into a broad framework, so that NSDSs fail to pick up on or make use of inter-linkages. Many decisions that are contrary to the aims of NSDS also prevail.
- *Prioritisation and concretisation of policies*: addressing questions of policy coherence becomes more difficult the larger the number of policy areas addressed by the NSDS. A lack of prioritisation can be noted in many NSDS, and many of their objectives lack a concrete understanding of what they actually imply and how they should be reached.
- *Financial implications of the NSDS*: the implementation of NSDS may require important shifts in both policy priorities and budgets.
- *Matching intentions with action*: to what extent NSDS remain declarations of intent or actually have contributed substantially to changing the policy measures and the way they are made, in many cases remains to be seen.

As it is visible on the basis of this draft excursus there are a few elements that are present as key issues on SD in the majority of the Communitarian documents.

Some of them are regarding protection of natural resources, they include the issues on emissions of greenhouse gases, use of hazardous chemicals, loss of bio-diversity or transport congestion.

Others are concerning the necessity of creating a sense of ownership on Sustainable Development both in the private sector than in the institutional one with the aim of constituting a spread environmental responsibility.

Finally there are some elements regarding the most important challenges that our society is going to face in the next years, such as poverty and ageing of population. The strategy for SD is proposed as the mean to fight these threats: this is really important as it reveals how Sustainable Development Strategy is conceived not as “a” strategy but as “the” strategy for the European future.

As it can be easily seen all these elements correspond to those ones that the Commission itself identifies as *Key Objectives* and principles for the future in the draft **Declaration on Guiding Principles for Sustainable Development** of May 2005 (see §3).

## 5.2 Monitor the growth: which indicators

The Strategy for Sustainable Development adopted by the European Council in Gothenburg in June 2001 sets out a commitment to regular monitoring that could assist decision-makers and inform the general public about achievements, trade-offs and failures in attaining the commonly agreed objectives of sustainable development.

According to this commitment, any of the forthcoming thematic strategies will include provisions, such as indicators, to monitor their effectiveness.

Several initiatives are underway to identify and develop environment related ‘integration’ indicators, such as TERM<sup>11</sup> for transport, and IRENA<sup>12</sup> for agriculture but also BIO-IMPS<sup>13</sup> for biodiversity and REACH<sup>14</sup> for chemicals. In addition a multinational task force has been set up by Eurostat at the request of the European Statistical Committee to develop Sustainable Development Indicators that can measure the overlap and trade-offs between the various dimensions.

A further Commission initiative aims to create a common Infrastructure for Spatial Information in Europe<sup>15</sup>, in order to ensure coherence between the public sources of spatial information thus allowing economies of scale and interoperability. Closely associated is the Global Monitoring for Environment and Security<sup>16</sup> initiative which seeks to develop monitoring services to support environment and security related policies. GALILEO<sup>17</sup> and ESPON<sup>18</sup> are additional relevant instruments. The first, among its many applications, could contribute to ocean and cryosphere mapping, including the determination of the extent of polluted areas and tracking of pollution sources. The second will help to define a set of territorial indicators to analyse the regional impacts of Community policies. The aim of these initiatives is to deploy a broad range of instruments at the disposal of the Commission and the European Space Agency (ESA) in order to establish a European capacity for monitoring by 2008. The Commission will endeavour to improve the synergies between these different initiatives.

In the light of the Commission self-assigned commitment for monitoring SD is also to be seen the Communication from Mr. Almunia to the members of the Commission: “**Sustainable**

---

<sup>11</sup> Transport and Environment Reporting Mechanism

<sup>12</sup> Development of agri-environmental indicators

<sup>13</sup> biodiversity implementation indicators

<sup>14</sup> Registration, Evaluation and Authorisation of Chemicals

<sup>15</sup> INSPIRE project

<sup>16</sup> GMES project

<sup>17</sup> the European Programme for Global Navigation Services

<sup>18</sup> the European Spatial Planning Observatory Network

## **Development Indicators (SDI) to monitor the implementation of the EU Sustainable Development Strategy”.**

The purpose of this Communication is to present the state of play of the Commission’s reflections on possible indicators for monitoring the implementation of the EU Sustainable Development Strategy.

The document reports a list of indicators that have been selected only for the purpose of evaluating the EU Sustainable Development Strategy. This means in particular that these indicators are not a priori suited to serve national purposes. The SDI task force in preparing the list made maximum use of existing indicator initiatives, such as those of the UN Commission on Sustainable Development and OECD, the Structural Indicators, the Laeken indicators, indicators monitoring the Cardiff integration process (agriculture, energy, transport), and the core set of indicators of the European Environment Agency.

The Commission designed a framework for indicators based on themes and sub-themes, which are directly linked to EU policy priorities and correspond to the priority areas of the 2001 and 2002 Commission Communication, the WSSD Plan of Implementation and the Millennium Declaration:

1. Economic development	6. Production and consumption patterns
2. Poverty and social exclusion	7. Management of natural resources
3. Ageing society	8. Transport
4. Public health	9. Good governance
5. Climate change and energy	10. Global partnership

The themes were further divided into sub-themes and ‘areas to be addressed’. Also the preliminary set of SDI – consisting of 12 headline, 45 core policy and 98 analytical indicators, was divided in three levels:

-Level 1: consists of a set of 12 high level indicators allowing an initial analysis of the theme development. These indicators are aimed at a high-level policy-making and general public and can therefore be seen as a set of headline indicators.

-Level 2: corresponds to the sub-themes of the framework and, together with Level1 indicators, it monitors progress in achieving the headline policy objectives. These 45 indicators are aimed at evaluation of the core policy areas and communication with the general public.

-Level 3: corresponds to the areas to be addressed, i.e. various measures implementing the headline objectives, and it facilitates a deeper insight into special issues in the theme. The Commission describes specific areas to be addressed for several themes. These 98 indicators are aimed at further policy analysis and better understanding of the trends and complexity of issues

associated with the theme or inter-linkages with other themes in the framework. The criteria of selection used are the following:

- capture the essence of the problem and have a clear and accepted normative interpretation,
- robust and statistically validated,
- responsive to policy interventions but not subject to manipulation,
- measurable in a sufficiently comparable way across Member States, and comparable as far as practicable with the standards applied internationally by the UN and the OECD,
- timely and susceptible to revision.

The set so selected allows integrated evaluation of sustainable development at EU because a majority of indicators address more than one dimension of interest. The complete set is reported for level in the next scheme.

**Table 6:** Scheme for the Sustainable Development Indicators (SDI) to monitor the implementation of the EU Sustainable Development Strategy

Level I	Level II	Level III
Growth rate of GDP per capita	Investment as % of GDP, by institutional sector	1. Real GDP growth rate 2. GDP per capita in Purchasing Power Standards 3. Regional breakdown of GDP per capita 4. Total consumption expenditure as % of GDP 5. Net national income as a % of GDP 6. Inflation rate 7. Net saving as % of GDP, by institutional sector
	2. Labour productivity per hour worked 3. International price competitiveness (Real effective exchange rate)	8. Unit labour cost growth, for total and industry 9. Life-long learning 10. Turnover from innovation as a % of total turnover, by economic sector 11. Total R&D expenditure as a % of GDP 12. Public expenditure on education as a % of GDP
	4. Total employment rate	13. Total employment growth 14. Total employment rate, by gender and by highest education attained 15. Total unemployment rate, by gender, by age highest level of education attained 16. Regional breakdown of employment rate
1. At-risk-of poverty rate after social transfers	1. At-persistent-risk-of-poverty rate	1. At-risk-of-poverty rate, by gender, by age group, by highest level of education attained, and by household type 2. Relative at-risk-of-poverty gap 3. Inequality of income distribution (Income quintile share ratio) 4. Poverty mobility (i.e. probability to enter or exit poverty)
	2. Total long-term unemployment rate	5. Gender pay gap in unadjusted form 6. Very long-term unemployment rate 7. People living in jobless households, by age group 8. At risk-of-poverty rate
	3. Early school leavers	9. Persons with low educational attainment, by age group 10. Adequacy of housing conditions

1. Current and projected old age dependency ratio	1. Projected theoretical replacement ratio (ratio between income after and prior to retirement) 1a. Ratio of median household equivalised income of persons aged 65+ to median household equivalised income of persons aged <65	1. At-risk-of-poverty rate for persons aged 65 years and over
	2. Life expectancy at age 65 by gender	2. Total fertility rate 3. Net inwards migration, by main age groups
	3. General government consolidated gross debt as % of GDP	4. Current and projected public (and private) pensions expenditure as % of GDP 5. Total employment rate by age group 6. Average exit age from the labour market 7. Current and projected public expenditure on care for the elderly as % of GDP
1. Healthy life years at birth by gender	1. Percentage of overweight people, by age group 2. Resistance to antibiotics ( <i>Streptococcus pneumoniae</i> pathogens)	1. Healthy life years at age 65 by gender 2. Health care expenditure as % of GDP 3. Cancer incidence rate, by gender and by type 4. Suicide death rate, by gender and by age group 5. Percentage of present smokers, by gender and by age group 6. Work with high level of job
	3. Deaths due to infectious foodborne diseases 3a. Salmonellosis incidence rate in human beings	8. Dioxins and PCBs in food and feed 9. Heavy metals, and mercury in particular, in fish and shellfish 10. Pesticides residues in food
	4. Index of apparent consumption of chemicals, by toxicity class 4a. Index of production of chemicals, by toxicity class	
	5. Population exposure to air pollution by particulate matter	11. Population exposure to air pollution by ozone 12. Proportion of population living in households considering that they suffer from noise and from pollution 13. Monetary damage of air pollution as % of GDP
	1. Total greenhouse gas emissions 2. Gross inland energy consumption by fuel	2. Gross inland energy consumption by fuel 3. Share of renewable energy, by source 4. Combined heat and power generation as % of gross electricity generation 5. Energy intensity of manufacturing industry 6. Consumption of biofuels, as a % of total fuel consumption in transport 7. External costs of energy use 8. Energy tax revenue at constant prices and energy consumption 9. High-level radioactive waste and spent nuclear fuel awaiting permanent disposal
1. Total material consumption and GDP at constant prices 1a. Domestic Material Consumption and GDP at constant prices	1. Emissions of acidifying substances and ozone precursors and GDP at constant prices, by source sector 2. Generation of waste by all economic activities and by households 2a. Municipal waste collected per capita	1. Components of Domestic Material Consumption 2. Domestic Material Consumption, by material 3. Municipal waste treatment, by type of treatment method 4. Generation of hazardous waste, by economic activity
	3. Electricity consumption per dwelling for lighting and domestic appliances 4. Green public procurement	5. Household number and size 6. Meat consumption per capita 7. Share of consumption of products with an EU or national eco-label

The Sustainable Development Strategy and the others relevant EU policy documents encompass several priority areas on which no information or only partial information is available. The SDI list overcomes also this technical constraint and assures the production and compilation of the

necessary data dividing indicators into two categories, ‘best available’ (that can be compiled on the basis of existing data) and ‘best needed’ (due to data quality problems).

Also the **European Environment Agency** developed a set of indicators, by which, during the last years, it took out a core set. The criteria of selection of these indicators were:

- Be policy relevant-support EU policies’ priority issues of increasing policy relevance (on the basic of available EU policy documentation, DG environment work programme),
- Monitor progress toward the quantified targets (if there is no targets, then use thresholds),
- Be based on ready available and routinely collected data for EEA countries within specified timescale (to be determined country by country) at reasonable cost-benefit ratio,
- Be consistent in space coverage and cover all or most of EEA countries,
- Time coverage—sufficient/insufficient time trends (exemptions of general nature to be verified – e.g. situation of candidate countries),
- Primarily be national in scale and representative for countries(countries benchmarking),
- Be understandable and simple,
- Be conceptually and methodologically well founded and representative (to be used by at least one community or international organization) and on the bases of well established consultation with countries,
- Be of priority in EEA management plan,
- Be timely(be produced in reasonable and “useful” time),
- Be well documented and of known quality.

Here is presented the list of the EEA core set of indicators reported for theme and with the identification numbers on the set (CSI).

- Agriculture
  - Area under organic farming (CSI 026)
  - Gross nutrient balance (CSI 025)
- Air pollution and ozone depletion
  - Emissions of acidifying substances (CSI 001)
  - Emissions of ozone precursors (CSI 002)
  - Emissions of primary particles and secondary particulate precursors (CSI 003)
  - Exceedance of air quality limit values in urban areas (CSI 004)
  - Exposure of ecosystems to acidification, eutrophication and ozone (CSI 005)
  - Production and consumption of ozone depleting substances (CSI 006)
- Biodiversity
  - Designated areas (CSI 008)
  - Species diversity (CSI 009)

- Threatened and protected species (CSI 007)
- Climate change
  - Atmospheric greenhouse gas concentrations (CSI 013)
  - Global and European temperature (CSI 012)
  - Greenhouse gas emissions and removals (CSI 010)
  - Projections of greenhouse gas emissions and removals (CSI 011)
- Energy
  - Final energy consumption by sector (CSI 027)
  - Renewable electricity (CSI 031)
  - Renewable energy consumption (CSI 030)
  - Total energy consumption by fuel (CSI 029)
  - Total energy intensity (CSI 028)
- Fisheries
  - Aquaculture production (CSI 033)
  - Fishing fleet capacity (CSI 034)
  - Status of marine fish stocks (CSI 032)
- Terrestrial
  - Land take (CSI 014)
  - Progress in management of contaminated sites (CSI 015)
- Transport
  - Freight transport demand (CSI 036)
  - Passenger transport demand (CSI 035)
  - Use of cleaner and alternative fuels (CSI 037)
- Waste
  - Generation and recycling of packaging waste (CSI 017)
  - Municipal waste generation (CSI 016)
- Water
  - Bathing water quality (CSI 022)
  - Chlorophyll in transitional, coastal and marine waters (CSI 023)
  - Nutrients in freshwater (CSI 020)
  - Nutrients in transitional, coastal and marine waters (CSI 021)
  - Oxygen consuming substances in rivers (CSI 019)
  - Urban waste water treatment (CSI 024)
  - Use of freshwater resources (CSI 018)

Another international institute that developed a set of indicators for SD, is the OECD that recently published a new statistical yearbook, the **“OECD Factbook 2005”**. It presents a comprehensive statistical picture of OECD countries and constitutes a key reference tool for everyone working on economic and policy issues. It is the first edition of a comprehensive and dynamic new statistical

annual from the OECD. Data are provided for all OECD member countries, and in some cases, for selected non-member economies and area totals.

The special online edition presented on OECD's online service<sup>19</sup>, provides, for each indicator, descriptive information on the indicator, statistical tables showing the data, graphics illustrating key messages shown by the data.

Here is reported the complete set of the OECD indicators available on line.

**Table 7:** complete set of the OECD indicators available on line (Source: <http://www.OECD.org>).

<i>Trade</i>	<i>Gross domestic product (GDP)</i>
• Share of trade in GDP	• Size of GDP
• Trade in goods	• Value added by activity
• Trade in services	<i>Economic growth</i>
• Trading partners	• Evolution of GDP
• Balance of payments	• Evolution of value added by activity
<i>Foreign direct investment (FDI)</i>	• Household saving
• FDI flows and stocks	<i>Productivity</i>
• FDI and employment	• Labour productivity
<i>Employment</i>	• Multi-factor productivity
• Employment rates by gender	<i>Commodities: production and supply</i>
• Employment rates by age group	• Energy supply
• Part-time employment	• Electricity generation
• Self-employment	• Steel production
<i>Unemployment</i>	• Fisheries
• Standardised unemployment rates	<i>Consumer and producer prices</i>
• Long-term unemployment	• Consumer price indices (CPI)
<i>Air, water and land</i>	• Producer price indices (PPI)
• Emissions of Carbon Dioxide (CO2)	<i>Purchasing power and competitiveness</i>
• Water consumption	• Long-term interest rates
• Municipal waste	• Rates of conversion
• Nutrient use in agriculture	• International competitiveness
<i>Energy use</i>	<i>Research and development (R&amp;D)</i>
• Energy supply and economic growth	• Expenditure on R&D
• Energy supply per capita	• Investment in knowledge
• Renewable energy	• Researchers
<i>Government deficits and debt</i>	• Patents
• Government deficits	<i>Information and communication technology</i>

<sup>19</sup> <http://www.OECD.org>

• Government debt	• Size of the ICT sector
<i>Public expenditure and aid</i>	• Investment in ICT
• Social expenditure	• Computer and internet access by households
• Health expenditure	• High-technology exports
• Agricultural support estimates	<i>Outcomes</i>
• Government support for fishing	• International student assessment
• Official development assistance	• Tertiary attainment
<i>Taxes</i>	<i>Expenditure on education</i>
• Total tax revenue	• Expenditure by level of education
• Taxes on the average production worker	• Public and private education expenditure
<i>Regional disparities</i>	<i>Health</i>
• Regional GDP	• Life expectancy
• Regional unemployment	• Infant mortality
<i>Energy</i>	• Obesity
• World energy supply	• Public and private health expenditure
• Regional energy supply	<i>Work and leisure</i>
• Regional oil production	• Hours worked
• Regional natural gas production	• Tourism: hotel nights
• Regional hard coal production	<i>Crime</i>
• Renewables supply	• Prison population
• World electricity generation	• Victimization rates
• Final consumption by sector	<i>Transport</i>
• Selected world energy indicators	• Road motor vehicles and road fatalities
• Crude oil prices	• Passenger transport by road and rail
• IEA government budgets for energy R&D	<i>Demographic trends</i>
• World energy production and consumption	• Evolution of the population
• World primary energy demand outlook	• Ageing societies
• Regional primary energy demand outlook	<i>International migration</i>
• Global oil import dependency	• Foreign population
• CO2 emissions outlook	• International migration

## 6 Conclusions

The European Union has a key role in bringing about sustainable development, the present study is to highlight and frame it in the light of finding an overall trend in SD achievement at the European level.

During the last years also other international institutions are facing the challenge of defining a policy for SD. Some examples are here reported, as the activity of United Nations, that brought to the Millennium Declaration of 2000, or the Organisation for Economic Co-operation and Development one, which brought to the OECD Environmental Strategy. This shortly presented international contest is the one in which the European Community is called to carry out its strategy.

To meet its responsibility on SD, the EU and other signatories of the 1992 United Nations' "Rio declaration" committed themselves, at the 19th Special Session of the United Nations' General Assembly in 1997, to draw up strategies for sustainable development in time for the 2002 World Summit on Sustainable Development.

After a preparatory work the Commission presented its first 'European Union Strategy for Sustainable Development' at the Johannesburg World Summit on Sustainable Development (WSSD) held in September 2002, with the participation of some 100 world leaders and representatives from 193 countries.

But the communitarian action towards the achievement of SD didn't end with the 2002 EUSSD. Many documents and measures in fact followed the EUSSD, such as green and white papers, environmental policies and their reviews or the 6<sup>th</sup> Environment Action Programme of 2002.

The EUSSD itself wasn't a static policy. A constant Commission effort, on SD made of working documents, consultations, communications and studies, constitute the EUSSD course on the Commission: the study recovers all the steps of this course until the final one of the issuing of the 2006 EUSSD review.

Moreover the communitarian action focuses on Member States, pressing them to produce their own strategy on SD. According to this commitment MS adopted some policies or measures on SD and a lot of them expressed their own National Strategies on Sustainable Development (NSSD). The study contains a draft overview of these NSSD regarding the nations involved in the European project INSURE<sup>20</sup>: Italy, The Netherlands, Spain and Czech Republic.

Finally it carries out a research on key elements recognizable as fixed points throughout the Communitarian production on Sustainable Development. The survey shows that environmental protection, social equity and cohesion are shared objectives together with an overall research of

---

<sup>20</sup> "Flexible framework for indicators for sustainability in regions using systems dynamics modelling" - [www.insure-project.net](http://www.insure-project.net)

economic prosperity and acknowledgment. This result basically agrees with the one expressed by the Commission itself, in the draft Declaration on Guiding Principles for Sustainable Development of May 2005. In this document the Commission elaborated some Policy Guiding Principles that include protection of fundamental rights, intra- and intergenerational equity, democratic society and the use of best available knowledge. These will be probably the future driving forces of EU policy on SD.

## **SITE-GRAPHY**

<http://www.empirica.biz/sibis/index.htm>

<http://europa.eu.int/>

[http://europa.eu.int/comm/environment/policy\\_en.htm](http://europa.eu.int/comm/environment/policy_en.htm)

[http://europa.eu.int/comm/employment\\_social/employment\\_analysis/employ\\_2004\\_en.htm](http://europa.eu.int/comm/employment_social/employment_analysis/employ_2004_en.htm)

[http://europa.eu.int/comm/environment/climat/home\\_en.htm](http://europa.eu.int/comm/environment/climat/home_en.htm)

[http://europa.eu/press\\_room/presspacks/sustdev/index\\_en.htm](http://europa.eu/press_room/presspacks/sustdev/index_en.htm)

[http://ec.europa.eu/sustainable/welcome/index\\_en.htm](http://ec.europa.eu/sustainable/welcome/index_en.htm)

[http://ue.eu.int/cms3\\_fo/index.htm](http://ue.eu.int/cms3_fo/index.htm)

<http://epp.eurostat.cec.eu.int/portal>

<http://rpg.nwra.gov.uk/index.php>

<http://www.actionforsustainability.org>

<http://www.OECD.org>

<http://www.iied.org/>

<http://www.iisd.org/>

<http://www.un.org/esa/agenda21/natlinfo/>

## **OFFICIAL DOCUMENTS**

Declaration of Rio de Janeiro, 29-06-1992: Rio de Janeiro

Commission of the European Communities, 24.1.2001: 'Communication from the commission to the Council and the European Parliament, the Economic and Social Committee and the Committee of the Regions: On the sixth environment action programme of the European Community 'Environment 2010: Our future, Our choice' - The Sixth Environment Action Programme - Proposal for a Decision of the European Parliament and of the Council Laying down the Community Environment Action Programme 2001-2010 (Presented by the Commission)': Brussels.

Commission of the European Communities, 6.2.2001: 'Communication from the commission to the Council and the European Parliament: Ten years after Rio: Preparing for the World Summit on Sustainable Development in 2002': Brussels.

Commission of the European Communities, 27.2.2001: 'WHITE PAPER: Strategy for a future Chemicals Policy (presented by the Commission)': Brussels.

Commission of the European Communities, 27.3.2001: 'Commission staff working paper: Consultation paper for the preparation of the European Union Strategy for Sustainable Development': Brussels.

Commission of the European Communities, 15.5.2001: 'Communication from the Commission: A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development (Commission's proposal to the Gothenburg European Council)': Brussels.

Göteborg Statement, 14/06/01: Göteborg

Commission of the European Communities, 12.9.2001: 'WHITE PAPER: European transport policy for 2010: time to decide': Brussels.

European Commission, 2002: 'A European Union Strategy For Sustainable Development': Office for Official Publications of the European Communities: Brussels.

VROM, February 2002: summarised version of the 'A study of National Government policy in the framework of the National Strategy for Sustainable Development' as sent by the Cabinet to the Chairman of the Lower House of the Dutch Parliament on 17 January 2001.

Commission of the European Communities, 13.2.2002: 'Communication from the commission to the Council and the European Parliament: Towards a global partnership for sustainable development': Brussels.

Johannesburg Declaration on Sustainable Development From our origins to the future, September 2002: Johannesburg

Commission of the European Communities, 11.8.2003: 'Proposal for a Regulation of the European Parliament and of the Council on certain fluorinated greenhouse gases': Brussels.

Commission of the European Communities, 3.12.2003: 'Communication from the commission to the Council and the European Parliament: 2003 Environment Policy Review Consolidating the environmental pillar of sustainable development': Brussels.

Commission of the European Communities, 23.12.2003: 'Communication from the commission to the Council and the European Parliament: The World Summit on Sustainable Development one year on: implementing our commitments': Brussels.

Commission of the European Communities, April 2004: 'Commission staff working paper: National Sustainable Development Strategies in the European Union: A first analysis by the European Commission': Brussels,  
And annex 'Summary analysis of national sustainable development strategies in the EU'

European Economic and Social Committee, 28 April 2004: 'Opinion of the European Economic and Social Committee on Assessing the EU sustainable development strategy - exploratory opinion': Brussels.

Commission of the European Communities, 26 May 2004: 'Commission proposes action to secure the social dimension of globalisation': Brussels.

European Commission Directorate-General for Employment and Social Affairs, August 2004: 'Employment in Europe report 2004': Luxembourg.

Government of the Czech Republic, November 2004: 'The Czech Republic

Strategy For Sustainable Development': Prague.

Commission of the European Communities, 27.01.2005: 'Communication from the commission to the Council and the European Parliament: 2004 Environmental Policy Review': Brussels, And its annex.

Commission of the European Communities, 9.2.2005: 'Communication from the commission to the Council and the European Parliament: The 2005 Review of the EU Sustainable Development Strategy: Initial Stocktaking and Future Orientations': Brussels, And its annex.

Commission of the European Communities, 9.2.2005: 'Communication from Mr. Almunia to the members of the Commission Sustainable Development Indicators to monitor the implementation of the EU Sustainable Development Strategy': Brussels.

Commission of the European Communities, 9.2.2005: 'Commission staff working paper: Winning the battle against global climate change Background paper': Brussels.

Council of the European Union, March 2005: 'Presidency conclusions of the Brussels European Council (22 and 23 March 2005)': Brussels.

Commission of the European Communities, 25.5.2005: 'Communication from the commission to the Council and the European Parliament: Draft Declaration on Guiding Principles for Sustainable Development': Brussels.

Commission of the European Communities, 13.12.2005: 'Communication from the commission to the Council and the European Parliament: On the review of the Sustainable Development Strategy: A platform for action': Brussels, And its annex.

Council of the European Union, 26 June 2006: 'Review of the EU Sustainable Development Strategy (EU SDS) – Renewed Strategy': Brussels.

## REFERENCES

North West Region of the United Kingdom, 2000: 'Action for Sustainability (AfS): The Programme for Integrating Sustainable Development across the North West': North West Region.

International Institute for Sustainable development (IISD), 2003: 'Sustainable Development Report': Winnipeg.

United Nations, 2003: 'Indicators for Monitoring the Millennium Development Goals Definitions Rationale Concepts and Sources': New York.

Organisation for Economic Co-operation and Development (OECD) Environment Directorate, 2004: 'Highlights OECD environmental strategy: 2004 review of progress': Paris.

Jacqueline McGlade, 22 March 2004: 'European Environment Agency EEA core set of indicators EEA core set of indicators': Brussels.

Gerald Berger (ICCR), 29.03.2004: 'REGIONET (project funded by the European Commission under the "energy, environment and sustainable development rtd programme of the 5th framework programme): Strategies for Regional Sustainable Development: An Integrated Approach Beyond Best Practice': Vienna.

Markus Amann, Imrich Bertok, Janusz Cofala, Frantisek Gyarfas, Chris Heyes, Zbigniew Klimont, Wolfgang Schöpp, Wilfried Winiwarter, October 2004: 'Baseline Scenarios for the Clean Air for Europe (CAFE) Programme, Final Report': Luxenburg.

European Environment Agency, 2005 'EEA core set of indicators — Guide (EEA Technical report No 1/2005 — ISSN 1725-2237)': Office for Official Publications of the European Communities: Luxembourg.

Organisation for Economic Co-operation and Development (OECD), 2006: 'Good Practices in the National Sustainable Development Strategies of OECD Countries': Paris.

Dalal and Bass, International Institute for Environment and Development, July 2006: 'A Review of Monitoring Mechanisms for National Sustainable Development Strategies': a report prepared for the OECD, Paris.

## NOTE DI LAVORO DELLA FONDAZIONE ENI ENRICO MATTEI

### Fondazione Eni Enrico Mattei Working Paper Series

Our Note di Lavoro are available on the Internet at the following addresses:

<http://www.feem.it/Feem/Pub/Publications/WPapers/default.html>

<http://www.ssrn.com/link/feem.html>

<http://www.repec.org>

<http://agecon.lib.umn.edu>

## NOTE DI LAVORO PUBLISHED IN 2006

SIEV	1.2006	<i>Anna ALBERINI: Determinants and Effects on Property Values of Participation in Voluntary Cleanup Programs: The Case of Colorado</i>
CCMP	2.2006	<i>Valentina BOSETTI, Carlo CARRARO and Marzio GALEOTTI: Stabilisation Targets, Technical Change and the Macroeconomic Costs of Climate Change Control</i>
CCMP	3.2006	<i>Roberto ROSON: Introducing Imperfect Competition in CGE Models: Technical Aspects and Implications</i>
KTHC	4.2006	<i>Sergio VERGALLI: The Role of Community in Migration Dynamics</i>
SIEV	5.2006	<i>Fabio GRAZI, Jeroen C.J.M. van den BERGH and Piet RIETVELD: Modeling Spatial Sustainability: Spatial Welfare Economics versus Ecological Footprint</i>
CCMP	6.2006	<i>Olivier DESCHENES and Michael GREENSTONE: The Economic Impacts of Climate Change: Evidence from Agricultural Profits and Random Fluctuations in Weather</i>
PRCG	7.2006	<i>Michele MORETTO and Paola VALBONESE: Firm Regulation and Profit-Sharing: A Real Option Approach</i>
SIEV	8.2006	<i>Anna ALBERINI and Aline CHIABAI: Discount Rates in Risk v. Money and Money v. Money Tradeoffs</i>
CTN	9.2006	<i>Jon X. EGUILA: United We Vote</i>
CTN	10.2006	<i>Shao CHIN SUNG and Dinko DIMITRO: A Taxonomy of Myopic Stability Concepts for Hedonic Games</i>
NRM	11.2006	<i>Fabio CERINA (Ixxviii): Tourism Specialization and Sustainability: A Long-Run Policy Analysis</i>
NRM	12.2006	<i>Valentina BOSETTI, Mariaester CASSINELLI and Alessandro LANZA (Ixxviii): Benchmarking in Tourism Destination, Keeping in Mind the Sustainable Paradigm</i>
CCMP	13.2006	<i>Jens HORBACH: Determinants of Environmental Innovation – New Evidence from German Panel Data Sources</i>
KTHC	14.2006	<i>Fabio SABATINI: Social Capital, Public Spending and the Quality of Economic Development: The Case of Italy</i>
KTHC	15.2006	<i>Fabio SABATINI: The Empirics of Social Capital and Economic Development: A Critical Perspective</i>
CSRM	16.2006	<i>Giuseppe DI VITA: Corruption, Exogenous Changes in Incentives and Deterrence</i>
CCMP	17.2006	<i>Rob B. DELLINK and Marjan W. HOFKES: The Timing of National Greenhouse Gas Emission Reductions in the Presence of Other Environmental Policies</i>
IEM	18.2006	<i>Philippe QUIRION: Distributional Impacts of Energy-Efficiency Certificates Vs. Taxes and Standards</i>
CTN	19.2006	<i>Somdeb LAHIRI: A Weak Bargaining Set for Contract Choice Problems</i>
CCMP	20.2006	<i>Massimiliano MAZZANTI and Roberto ZOBOLI: Examining the Factors Influencing Environmental Innovations</i>
SIEV	21.2006	<i>Y. Hossein FARZIN and Ken-Ichi AKAO: Non-pecuniary Work Incentive and Labor Supply</i>
CCMP	22.2006	<i>Marzio GALEOTTI, Matteo MANERA and Alessandro LANZA: On the Robustness of Robustness Checks of the Environmental Kuznets Curve</i>
NRM	23.2006	<i>Y. Hossein FARZIN and Ken-Ichi AKAO: When is it Optimal to Exhaust a Resource in a Finite Time?</i>
NRM	24.2006	<i>Y. Hossein FARZIN and Ken-Ichi AKAO: Non-pecuniary Value of Employment and Natural Resource Extinction</i>
SIEV	25.2006	<i>Lucia VERGANO and Paulo A.L.D. NUNES: Analysis and Evaluation of Ecosystem Resilience: An Economic Perspective</i>
SIEV	26.2006	<i>Danny CAMPBELL, W. George HUTCHINSON and Riccardo SCARPA: Using Discrete Choice Experiments to Derive Individual-Specific WTP Estimates for Landscape Improvements under Agri-Environmental Schemes Evidence from the Rural Environment Protection Scheme in Ireland</i>
KTHC	27.2006	<i>Vincent M. OTTO, Timo KUOSMANEN and Ekko C. van IERLAND: Estimating Feedback Effect in Technical Change: A Frontier Approach</i>
CCMP	28.2006	<i>Giovanni BELLA: Uniqueness and Indeterminacy of Equilibria in a Model with Polluting Emissions</i>
IEM	29.2006	<i>Alessandro COLOGNI and Matteo MANERA: The Asymmetric Effects of Oil Shocks on Output Growth: A Markov-Switching Analysis for the G-7 Countries</i>
KTHC	30.2006	<i>Fabio SABATINI: Social Capital and Labour Productivity in Italy</i>
ETA	31.2006	<i>Andrea GALLICE (Ixxix): Predicting one Shot Play in 2x2 Games Using Beliefs Based on Minimax Regret</i>
IEM	32.2006	<i>Andrea BIGANO and Paul SHEEHAN: Assessing the Risk of Oil Spills in the Mediterranean: the Case of the Route from the Black Sea to Italy</i>
NRM	33.2006	<i>Rinaldo BRAU and Davide CAO (Ixxviii): Uncovering the Macrostructure of Tourists' Preferences. A Choice Experiment Analysis of Tourism Demand to Sardinia</i>
CTN	34.2006	<i>Parkash CHANDER and Henry TULKENS: Cooperation, Stability and Self-Enforcement in International Environmental Agreements: A Conceptual Discussion</i>
IEM	35.2006	<i>Valeria COSTANTINI and Salvatore MONNI: Environment, Human Development and Economic Growth</i>
ETA	36.2006	<i>Ariel RUBINSTEIN (Ixxix): Instinctive and Cognitive Reasoning: A Study of Response Times</i>

ETA	37.2006	<i>Maria SALGADeO</i> (lxxix): <u>Choosing to Have Less Choice</u>
ETA	38.2006	<i>Justina A.V. FISCHER and Benno TORGLER</i> : <u>Does Envy Destroy Social Fundamentals? The Impact of Relative Income Position on Social Capital</u>
ETA	39.2006	<i>Benno TORGLER, Sascha L. SCHMIDT and Bruno S. FREY</i> : <u>Relative Income Position and Performance: An Empirical Panel Analysis</u>
CCMP	40.2006	<i>Alberto GAGO, Xavier LABANDEIRA, Fidel PICOS And Miguel RODRÍGUEZ</i> : <u>Taxing Tourism In Spain: Results and Recommendations</u>
IEM	41.2006	<i>Karl van BIERVLIET, Dirk Le ROY and Paulo A.L.D. NUNES</i> : <u>An Accidental Oil Spill Along the Belgian Coast: Results from a CV Study</u>
CCMP	42.2006	<i>Rolf GOLOMBEK and Michael HOEL</i> : <u>Endogenous Technology and Tradable Emission Quotas</u>
KTHC	43.2006	<i>Giulio CAINELLI and Donato IACOBUCCI</i> : <u>The Role of Agglomeration and Technology in Shaping Firm Strategy and Organization</u>
CCMP	44.2006	<i>Alvaro CALZADILLA, Francesco PAULI and Roberto ROSON</i> : <u>Climate Change and Extreme Events: An Assessment of Economic Implications</u>
SIEV	45.2006	<i>M.E. KRAGT, P.C. ROEBELING and A. RUIJS</i> : <u>Effects of Great Barrier Reef Degradation on Recreational Demand: A Contingent Behaviour Approach</u>
NRM	46.2006	<i>C. GIUPPONI, R. CAMERA, A. FASSIO, A. LASUT, J. MYSIAK and A. SGOBBI</i> : <u>Network Analysis, Creative System Modelling and DecisionSupport: The NetSyMod Approach</u>
KTHC	47.2006	<i>Walter F. LALICH</i> (lxxx): <u>Measurement and Spatial Effects of the Immigrant Created Cultural Diversity in Sydney</u>
KTHC	48.2006	<i>Elena PASPALANOVA</i> (lxxx): <u>Cultural Diversity Determining the Memory of a Controversial Social Event</u>
KTHC	49.2006	<i>Ugo GASPARINO, Barbara DEL CORPO and Dino PINELLI</i> (lxxx): <u>Perceived Diversity of Complex Environmental Systems: Multidimensional Measurement and Synthetic Indicators</u>
KTHC	50.2006	<i>Aleksandra HAUKE</i> (lxxx): <u>Impact of Cultural Differences on Knowledge Transfer in British, Hungarian and Polish Enterprises</u>
KTHC	51.2006	<i>Katherine MARQUAND FORSYTH and Vanja M. K. STENIUS</i> (lxxx): <u>The Challenges of Data Comparison and Varied European Concepts of Diversity</u>
KTHC	52.2006	<i>Gianmarco I.P. OTTAVIANO and Giovanni PERI</i> (lxxx): <u>Rethinking the Gains from Immigration: Theory and Evidence from the U.S.</u>
KTHC	53.2006	<i>Monica BARNI</i> (lxxx): <u>From Statistical to Geolinguistic Data: Mapping and Measuring Linguistic Diversity</u>
KTHC	54.2006	<i>Lucia TAJOLI and Luca DE BENEDICTIS</i> (lxxx): <u>Economic Integration and Similarity in Trade Structures</u>
KTHC	55.2006	<i>Suzanna CHAN</i> (lxxx): <u>“God’s Little Acre” and “Belfast Chinatown”: Diversity and Ethnic Place Identity in Belfast</u>
KTHC	56.2006	<i>Diana PETKOVA</i> (lxxx): <u>Cultural Diversity in People’s Attitudes and Perceptions</u>
KTHC	57.2006	<i>John J. BETANCUR</i> (lxxx): <u>From Outsiders to On-Paper Equals to Cultural Curiosities? The Trajectory of Diversity in the USA</u>
KTHC	58.2006	<i>Kiflemariam HAMDE</i> (lxxx): <u>Cultural Diversity A Glimpse Over the Current Debate in Sweden</u>
KTHC	59.2006	<i>Emilio GREGORI</i> (lxxx): <u>Indicators of Migrants’ Socio-Professional Integration</u>
KTHC	60.2006	<i>Christa-Maria LERM HAYES</i> (lxxx): <u>Unity in Diversity Through Art? Joseph Beuys’ Models of Cultural Dialogue</u>
KTHC	61.2006	<i>Sara VERTOMMEN and Albert MARTENS</i> (lxxx): <u>Ethnic Minorities Rewarded: Ethnostratification on the Wage Market in Belgium</u>
KTHC	62.2006	<i>Nicola GENOVESE and Maria Grazia LA SPADA</i> (lxxx): <u>Diversity and Pluralism: An Economist's View</u>
KTHC	63.2006	<i>Carla BAGNA</i> (lxxx): <u>Italian Schools and New Linguistic Minorities: Nationality Vs. Plurilingualism. Which Ways and Methodologies for Mapping these Contexts?</u>
KTHC	64.2006	<i>Vedran OMANOVIC</i> (lxxx): <u>Understanding “Diversity in Organizations” Paradigmatically and Methodologically</u>
KTHC	65.2006	<i>Mila PASPALANOVA</i> (lxxx): <u>Identifying and Assessing the Development of Populations of Undocumented Migrants: The Case of Undocumented Poles and Bulgarians in Brussels</u>
KTHC	66.2006	<i>Roberto ALZETTA</i> (lxxx): <u>Diversities in Diversity: Exploring Moroccan Migrants’ Livelihood in Genoa</u>
KTHC	67.2006	<i>Monika SEDENKOVA and Jiri HORAK</i> (lxxx): <u>Multivariate and Multicriteria Evaluation of Labour Market Situation</u>
KTHC	68.2006	<i>Dirk JACOBS and Andrea REA</i> (lxxx): <u>Construction and Import of Ethnic Categorisations: “Allochthones” in The Netherlands and Belgium</u>
KTHC	69.2006	<i>Eric M. USLANER</i> (lxxx): <u>Does Diversity Drive Down Trust?</u>
KTHC	70.2006	<i>Paula MOTA SANTOS and João BORGES DE SOUSA</i> (lxxx): <u>Visibility &amp; Invisibility of Communities in Urban Systems</u>
ETA	71.2006	<i>Rinaldo BRAU and Matteo LIPPI BRUNI</i> : <u>Eliciting the Demand for Long Term Care Coverage: A Discrete Choice Modelling Analysis</u>
CTN	72.2006	<i>Dinko DIMITROV and Claus-JOCHEM HAAKE</i> : <u>Coalition Formation in Simple Games: The Semistrict Core</u>
CTN	73.2006	<i>Ottorino CHILLEM, Benedetto GUI and Lorenzo ROCCO</i> : <u>On The Economic Value of Repeated Interactions Under Adverse Selection</u>
CTN	74.2006	<i>Sylvain BEAL and Nicolas QUÉROU</i> : <u>Bounded Rationality and Repeated Network Formation</u>
CTN	75.2006	<i>Sophie BADE, Guillaume HAERINGER and Ludovic RENOU</i> : <u>Bilateral Commitment</u>
CTN	76.2006	<i>Andranik TANGIAN</i> : <u>Evaluation of Parties and Coalitions After Parliamentary Elections</u>
CTN	77.2006	<i>Rudolf BERGHAMMER, Agnieszka RUSINOWSKA and Harrie de SWART</i> : <u>Applications of Relations and Graphs to Coalition Formation</u>
CTN	78.2006	<i>Paolo PIN</i> : <u>Eight Degrees of Separation</u>
CTN	79.2006	<i>Roland AMANN and Thomas GALL</i> : <u>How (not) to Choose Peers in Studying Groups</u>

CTN	80.2006	<i>Maria MONTERO: Inequity Aversion May Increase Inequity</i>
CCMP	81.2006	<i>Vincent M. OTTO, Andreas LÖSCHEL and John REILLY: Directed Technical Change and Climate Policy</i>
CSRM	82.2006	<i>Nicoletta FERRO: Riding the Waves of Reforms in Corporate Law, an Overview of Recent Improvements in Italian Corporate Codes of Conduct</i>
CTN	83.2006	<i>Siddhartha BANDYOPADHYAY and Mandar OAK: Coalition Governments in a Model of Parliamentary Democracy</i>
PRCG	84.2006	<i>Raphaël SOUBEYRAN: Valence Advantages and Public Goods Consumption: Does a Disadvantaged Candidate Choose an Extremist Position?</i>
CCMP	85.2006	<i>Eduardo L. GIMÉNEZ and Miguel RODRÍGUEZ: Pigou's Dividend versus Ramsey's Dividend in the Double Dividend Literature</i>
CCMP	86.2006	<i>Andrea BIGANO, Jacqueline M. HAMILTON and Richard S.J. TOL: The Impact of Climate Change on Domestic and International Tourism: A Simulation Study</i>
KTHC	87.2006	<i>Fabio SABATINI: Educational Qualification, Work Status and Entrepreneurship in Italy an Exploratory Analysis</i>
CCMP	88.2006	<i>Richard S.J. TOL: The Polluter Pays Principle and Cost-Benefit Analysis of Climate Change: An Application of Fund</i>
CCMP	89.2006	<i>Philippe TULKENS and Henry TULKENS: The White House and The Kyoto Protocol: Double Standards on Uncertainties and Their Consequences</i>
SIEV	90.2006	<i>Andrea M. LEITER and Gerald J. PRUCKNER: Proportionality of Willingness to Pay to Small Risk Changes – The Impact of Attitudinal Factors in Scope Tests</i>
PRCG	91.2006	<i>Raphaël SOUBEYRAN: When Inertia Generates Political Cycles</i>
CCMP	92.2006	<i>Alireza NAGHAVI: Can R&amp;D-Inducing Green Tariffs Replace International Environmental Regulations?</i>
CCMP	93.2006	<i>Xavier PAUTREL: Reconsidering The Impact of Environment on Long-Run Growth When Pollution Influences Health and Agents Have Finite-Lifetime</i>
CCMP	94.2006	<i>Corrado Di MARIA and Edwin van der WERF: Carbon Leakage Revisited: Unilateral Climate Policy with Directed Technical Change</i>
CCMP	95.2006	<i>Paulo A.L.D. NUNES and Chiara M. TRAVISI: Comparing Tax and Tax Reallocations Payments in Financing Rail Noise Abatement Programs: Results from a CE valuation study in Italy</i>
CCMP	96.2006	<i>Timo KUOSMANEN and Mika KORTELAINEN: Valuing Environmental Factors in Cost-Benefit Analysis Using Data Envelopment Analysis</i>
KTHC	97.2006	<i>Dermot LEAHY and Alireza NAGHAVI: Intellectual Property Rights and Entry into a Foreign Market: FDI vs. Joint Ventures</i>
CCMP	98.2006	<i>Inmaculada MARTÍNEZ-ZARZOSO, Aurelia BENGOCHEA-MORANCHO and Rafael MORALES LAGE: The Impact of Population on CO2 Emissions: Evidence from European Countries</i>
PRCG	99.2006	<i>Alberto CAVALIERE and Simona SCABROSETTI: Privatization and Efficiency: From Principals and Agents to Political Economy</i>
NRM	100.2006	<i>Khaled ABU-ZEID and Sameh AFIFI: Multi-Sectoral Uses of Water &amp; Approaches to DSS in Water Management in the NOSTRUM Partner Countries of the Mediterranean</i>
NRM	101.2006	<i>Carlo GIUPPONI, Jaroslav MYSIAK and Jacopo CRIMI: Participatory Approach in Decision Making Processes for Water Resources Management in the Mediterranean Basin</i>
CCMP	102.2006	<i>Kerstin RONNEBERGER, Maria BERRITELLA, Francesco BOSELLO and Richard S.J. TOL: Klum@Gtap: Introducing Biophysical Aspects of Land-Use Decisions Into a General Equilibrium Model A Coupling Experiment</i>
KTHC	103.2006	<i>Avner BEN-NER, Brian P. McCALL, Massoud STEPHANE, and Hua WANG: Identity and Self-Other Differentiation in Work and Giving Behaviors: Experimental Evidence</i>
SIEV	104.2006	<i>Aline CHIABAI and Paulo A.L.D. NUNES: Economic Valuation of Oceanographic Forecasting Services: A Cost-Benefit Exercise</i>
NRM	105.2006	<i>Paola MINOIA and Anna BRUSAROSCO: Water Infrastructures Facing Sustainable Development Challenges: Integrated Evaluation of Impacts of Dams on Regional Development in Morocco</i>
PRCG	106.2006	<i>Carmine GUERRIERO: Endogenous Price Mechanisms, Capture and Accountability Rules: Theory and Evidence</i>
CCMP	107.2006	<i>Richard S.J. TOL, Stephen W. PACALA and Robert SOCOLOW: Understanding Long-Term Energy Use and Carbon Dioxide Emissions in the Usa</i>
NRM	108.2006	<i>Carles MANERA and Jaume GARAU TABERNER: The Recent Evolution and Impact of Tourism in the Mediterranean: The Case of Island Regions, 1990-2002</i>
PRCG	109.2006	<i>Carmine GUERRIERO: Dependent Controllers and Regulation Policies: Theory and Evidence</i>
KTHC	110.2006	<i>John FOOT (lxxx): Mapping Diversity in Milan. Historical Approaches to Urban Immigration</i>
KTHC	111.2006	<i>Donatella CALABI: Foreigners and the City: An Historiographical Exploration for the Early Modern Period</i>
IEM	112.2006	<i>Andrea BIGANO, Francesco BOSELLO and Giuseppe MARANO: Energy Demand and Temperature: A Dynamic Panel Analysis</i>
SIEV	113.2006	<i>Anna ALBERINI, Stefania TONIN, Margherita TURVANI and Aline CHIABAI: Paying for Permanence: Public Preferences for Contaminated Site Cleanup</i>
CCMP	114.2006	<i>Vivekananda MUKHERJEE and Dirk T.G. RÜBBELKE: Global Climate Change, Technology Transfer and Trade with Complete Specialization</i>
NRM	115.2006	<i>Clive LIPCHIN: A Future for the Dead Sea Basin: Water Culture among Israelis, Palestinians and Jordanians</i>
CCMP	116.2006	<i>Barbara BUCHNER, Carlo CARRARO and A. Denny ELLERMAN: The Allocation of European Union Allowances: Lessons, Unifying Themes and General Principles</i>
CCMP	117.2006	<i>Richard S.J. TOL: Carbon Dioxide Emission Scenarios for the Usa</i>

NRM	118.2006	<i>Isabel CORTÉS-JIMÉNEZ and Manuela PULINA: A further step into the ELGH and TLGH for Spain and Italy</i>
SIEV	119.2006	<i>Beat HINTERMANN, Anna ALBERINI and Anil MARKANDYA: Estimating the Value of Safety with Labor Market Data: Are the Results Trustworthy?</i>
SIEV	120.2006	<i>Elena STRUKOVA, Alexander GOLUB and Anil MARKANDYA: Air Pollution Costs in Ukraine</i>
CCMP	121.2006	<i>Massimiliano MAZZANTI, Antonio MUSOLESI and Roberto ZOBOLI: A Bayesian Approach to the Estimation of Environmental Kuznets Curves for CO<sub>2</sub> Emissions</i>
ETA	122.2006	<i>Jean-Marie GRETHER, Nicole A. MATHYS, and Jaime DE MELO: Unraveling the World-Wide Pollution Haven Effect</i>
KTHC	123.2006	<i>Sergio VERGALLI: Entry and Exit Strategies in Migration Dynamics</i>
PRCG	124.2006	<i>Bernardo BORTOLOTTI and Valentina MILELLA: Privatization in Western Europe Stylized Facts, Outcomes and Open Issues</i>
SIEV	125.2006	<i>Pietro CARATTI, Ludovico FERRAGUTO and Chiara RIBOLDI: Sustainable Development Data Availability on the Internet</i>
SIEV	126.2006	<i>S. SILVESTRI, M PELLIZZATO and V. BOATTO: Fishing Across the Centuries: What Prospects for the Venice Lagoon?</i>
CTN	127.2006	<i>Alison WATTS: Formation of Segregated and Integrated Groups</i>
SIEV	128.2006	<i>Danny CAMPBELL, W. George HUTCHINSON and Riccardo SCARPA: Lexicographic Preferences in Discrete Choice Experiments: Consequences on Individual-Specific Willingness to Pay Estimates</i>
CCMP	129.2006	<i>Giovanni BELLA: Transitional Dynamics Towards Sustainability: Reconsidering the EKC Hypothesis</i>
IEM	130.2006	<i>Elisa SCARPA and Matteo MANERA: Pricing and Hedging Illiquid Energy Derivatives: an Application to the JCC Index</i>
PRCG	131.2006	<i>Andrea BELTRATTI and Bernardo BORTOLOTTI: The Nontradable Share Reform in the Chinese Stock Market</i>
IEM	132.2006	<i>Alberto LONGO, Anil MARKANDYA and Marta PETRUCCI: The Internalization of Externalities in The Production of Electricity: Willingness to Pay for the Attributes of a Policy for Renewable Energy</i>
ETA	133.2006	<i>Brighita BERCEA and Sonia OREFFICE: Quality of Available Mates, Education and Intra-Household Bargaining Power</i>
KTHC	134.2006	<i>Antonia R. GURRIERI and Luca PETRUZZELLIS: Local Networks to Compete in the Global Era. The Italian SMEs Experience</i>
CCMP	135.2006	<i>Andrea BIGANO, Francesco BOSELLO, Roberto ROSON and Richard S.J. TOL: Economy-Wide Estimates of the Implications of Climate Change: A Joint Analysis for Sea Level Rise and Tourism</i>
CCMP	136.2006	<i>Richard S.J. TOL: Why Worry About Climate Change? A Research Agenda</i>
SIEV	137.2006	<i>Anna ALBERINI, Alberto LONGO and Patrizia RIGANTI: Using Surveys to Compare the Public's and Decisionmakers' Preferences for Urban Regeneration: The Venice Arsenale</i>
ETA	138.2006	<i>Y. Hossein FARZIN and Ken-Ichi AKAO: Environmental Quality in a Differentiated Duopoly</i>
CCMP	139.2006	<i>Denny ELLERMAN and Barbara BUCHNER: Over-Allocation or Abatement? A Preliminary Analysis of the EU Ets Based on the 2005 Emissions Data</i>
CCMP	140.2006	<i>Horatiu A. RUS (lxxxi): Renewable Resources, Pollution and Trade in a Small Open Economy</i>
CCMP	141.2006	<i>Enrica DE CIAN (lxxxi): International Technology Spillovers in Climate-Economy Models: Two Possible Approaches</i>
CCMP	142.2006	<i>Tao WANG (lxxxi): Cost Effectiveness in River Management: Evaluation of Integrated River Policy System in Tidal Ouse</i>
CCMP	143.2006	<i>Gregory F. NEMET (lxxxi): How well does Learning-by-doing Explain Cost Reductions in a Carbon-free Energy Technology?</i>
CCMP	144.2006	<i>Anne BRIAND (lxxxi): Marginal Cost Versus Average Cost Pricing with Climatic Shocks in Senegal: A Dynamic Computable General Equilibrium Model Applied to Water</i>
CCMP	145.2006	<i>Thomas ARONSSON, Kenneth BACKLUND and Linda SAHLÉN (lxxxi): Technology Transfers and the Clean Development Mechanism in a North-South General Equilibrium Model</i>
IEM	146.2006	<i>Theocharis N. GRIGORIADIS and Benno TORGLER: Energy Regulation, Roll Call Votes and Regional Resources: Evidence from Russia</i>
CCMP	147.2006	<i>Manish GUPTA: Costs of Reducing Greenhouse Gas Emissions: A Case Study of India's Power Generation Sector</i>
CCMP	148.2006	<i>Valeria COSTANTINI: A Modified Environmental Kuznets Curve for Sustainable Development Assessment Using Panel Data</i>
IEM	149.2006	<i>Andrea BIGANO, Mariaester CASSINELLI, Anil MARKANDYA and Fabio SFERRA: The Role of Risk Aversion and Lay Risk in the Probabilistic Externality Assessment for Oil Tanker Routes to Europe</i>
KTHC	150.2006	<i>Valeria GATTAI: A Tale of Three Countries: Italian, Spanish and Swiss Manufacturing Operations in China</i>
NRM	151.2006	<i>Alessandra SGOBBI and Gregorio FRAVIGA: Governance and Water Management: Progress and Tools in Mediterranean Countries</i>
SIEV	152.2006	<i>Pietro CARATTI and Gabriella Lo CASCIO: Sustainable Development Policies in Europe</i>

(lxxviii) This paper was presented at the Second International Conference on "Tourism and Sustainable Economic Development - Macro and Micro Economic Issues" jointly organised by CRENOS (Università di Cagliari and Sassari, Italy) and Fondazione Eni Enrico Mattei, Italy, and supported by the World Bank, Chia, Italy, 16-17 September 2005.

(lxxix) This paper was presented at the International Workshop on "Economic Theory and Experimental Economics" jointly organised by SET (Center for advanced Studies in Economic Theory, University of Milano-Bicocca) and Fondazione Eni Enrico Mattei, Italy, Milan, 20-23 November 2005. The Workshop was co-sponsored by CISEPS (Center for Interdisciplinary Studies in Economics and Social Sciences, University of Milan-Bicocca).

(lxxx) This paper was presented at the First EURODIV Conference "Understanding diversity: Mapping and measuring", held in Milan on 26-27 January 2006 and supported by the Marie Curie Series of Conferences "Cultural Diversity in Europe: a Series of Conferences".

(lxxxi) This paper was presented at the EAERE-FEEM-VIU Summer School on "Computable General Equilibrium Modeling in Environmental and Resource Economics", held in Venice from June 25th to July 1st, 2006 and supported by the Marie Curie Series of Conferences "European Summer School in Resource and Environmental Economics".

#### 2006 SERIES

<b>CCMP</b>	<i>Climate Change Modelling and Policy</i> (Editor: Marzio Galeotti )
<b>SIEV</b>	<i>Sustainability Indicators and Environmental Valuation</i> (Editor: Anil Markandya)
<b>NRM</b>	<i>Natural Resources Management</i> (Editor: Carlo Giupponi)
<b>KTHC</b>	<i>Knowledge, Technology, Human Capital</i> (Editor: Gianmarco Ottaviano)
<b>IEM</b>	<i>International Energy Markets</i> (Editor: Matteo Manera)
<b>CSRM</b>	<i>Corporate Social Responsibility and Sustainable Management</i> (Editor: Giulio Sapelli)
<b>PRCG</b>	<i>Privatisation Regulation Corporate Governance</i> (Editor: Bernardo Bortolotti)
<b>ETA</b>	<i>Economic Theory and Applications</i> (Editor: Carlo Carraro)
<b>CTN</b>	<i>Coalition Theory Network</i>