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ESDN Quarterly Report December 2009

Sustainable development and economic growth: Overview and reflections on initiatives in Europe and beyond

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This Quarterly Report (QR) focuses on the linkages between sustainable development and economic growth from a conceptual perspective and provides reflections of these concepts in the strategies, initiatives and other exploratory events at the international, European Union and national level. The QR is subdivided into four parts. After outlining the historical development of the growth debate and its linkages to the sustainable development process, the current paradigms and the divergences between mainstream economics and ecological economics are presented in the first part. In the second part, the QR presents the manifestation of these concepts in the current Lisbon and European Sustainable Development Strategy (EU SDS). The third part provides an overview of strategies, initiatives and events at international level, specifically from international institution (UN and OECD), the EU institutions and initiatives in the EU Member States (France, UK, Ireland and Austria) and of selected Green Parties in Europe. For each strategy or initiative, the QR provides background information, lists objectives and topics covered, and gives information on the coverage of specific topics such as sustainable consumption, knowledge and innovation, employment and education. The overview on strategies and initiatives also includes information on responsible institutions and on implementation tools and shows follow-up measures for the future. Finally, the QR presents some concluding remarks on similarities and differences between these strategies and initiatives in their understanding of economic growth and sustainable development.

Content

- [Economic growth and sustainable development: Conceptual reflections and linkages](#)
 - [Economic Growth](#)
 - [The critique of economic growth: growth and the environment](#)
 - [The critique of economic growth: growth and well-being](#)
 - [Sustainable development](#)
 - [Sustainable development defined](#)
- [Lisbon Strategy & EU SDS - definitions and approaches of economic growth](#)
 - [Lisbon Strategy and economic growth](#)
 - [EU SDS and economic growth](#)
 - [Lisbon Strategy and EU SDS: their linkages to economic growth](#)
 - [Future development: Review of EU SDS, post-Lisbon 2010 and 'EU 2020'](#)
 - [Review EU SDS](#)
 - [Post-Lisbon 2010 and "EU 2020"](#)
- [Linking economic growth and sustainable development: Strategies, initiatives and activities on the international, EU and national level](#)
 - [International Level](#)
 - [UNEP: Green Economy Initiative](#)
 - [UNEP Global Green New Deal in the frame work of the GEI](#)
 - [OECD: Declaration on Green Growth](#)
 - [OECD: Global Project of Measuring Progress of Societies](#)
 - [European Union Level](#)

- [European Commission: 'Beyond GDP' conference and 'GDP and Beyond' communication](#)
 - [National level](#)
 - [Economic stimulus packages and sustainable development](#)
 - [France: Commission on the Measurement of Economic Performance and Social Progress](#)
 - [United Kingdom: "Prosperity without Growth"](#)
 - [Ireland: Smart Economy Strategy](#)
 - [Austria: "Growth in Transition"](#)
 - [Greening the Economy: Initiatives by various Green Parties in Europe](#)
- [Similarities between the initiatives and strategies on the different political levels](#)
- [References and Links](#)

Economic growth and sustainable development: Conceptual reflections and linkages

In this section of the QR, we provide an overview of the economic growth debate and linkages to sustainable development. This includes a reflection on different concepts of growth and how they include environmental and social issues as well as a reflection on how the sustainable development debate has dealt with growth issues over the years.

Economic Growth

For the past two centuries, economic growth (enabled by accessibility of cheap fossil fuels and accelerating technological innovation) has been the engine of modern societies. In modern democracies, markets became the central organizing principle and the volumes of production and consumption the main measurement instrument of the economy (most commonly expressed as gross domestic product, GDP). The post-World War II 'rule of growth' was cemented through the global financial system oriented towards liberalization of capital markets and an increased mobility of workforce as well as goods and services, economic harmonization and integration and associated with the spreading of the 'rule of law' and democratization. The decline of the welfare state, the collapse of the socialist economic system and the transformation of the Chinese economy, all witnessed in recent decades, only seem to underscore the dominance of the free-market capitalist democracy as the most successful political-economic system for a globalized world.

The term 'economic growth' usually refers to the positive percentage change of an economy's real GDP from one period to another, i.e. "the economy's production of goods and services, [reflecting] the economy's ability to satisfy people's needs and desires" (Mankiw, 2003, 214). GDP measures "both the total income earned in the economy and the total expenditure on the economy's output of goods and services" (Mankiw, 2003, 242). Mainstream economists maintain that the "level of real GDP is a good *gauge of economic prosperity*, and the growth of real GDP is a good gauge of economic progress" (ibid., emphasis added). However, economic growth as a permanent condition is a relatively recent phenomenon.

Although in the words of Robert Solow (1954) the 'recipe for growth' would differ from country to country according to their needs, we can distinguish two basic types of growth recipes. The first can be called '*growth by brute force*' (Baumol et al., 2007). It is a quantitative growth based on increase of inputs (more labour and capital equals more product). The second can be called '*smart growth*' and it is a qualitative growth by technological advancement or institutional change (ibid.). The key determinant of qualitative growth is rise in productivity. Large investments into infrastructure and education are considered to move the economy to a more productive stage (e.g. from an industrial to a service-oriented economy). Trade liberalisation, deregulation and privatisation were supposed to speed up growth especially of lagging economies, as they should enable to benefit from knowledge created elsewhere (Rodrik, 2008).

The critique of economic growth: growth and the environment

Economics has handled the environment in an uneven manner. Throughout the late 18th century and the 19th century, several environment-related issues were addressed by economics such as overpopulation (Malthus) or exhaustion of natural resources (Jevons). However, aside of natural resource economics, environment was missing in the dominant economic discourse from ca. 1870 to 1970. Today, economists freely admit that there are trade-offs to pursuing economic growth, for example: "More work leaves less time for play and for family. More output often is accompanied by an increase in unwelcome side effects, such as pollution." (Baumol et al., 2007:16) Many of today's textbooks on economics and also the academic discussion address environmental issues. However, dominant macroeconomic models do not take into account natural resources and the depletion of natural capital (such as fish stocks and fossil fuels) is not reflected in GDP.

Many mainstream economists believe that technological progress and market forces can successfully deal with the environmental limits to growth. An example of such optimism is reflected in the hotly debated '*environmental Kuznets curve*' (or, more precisely, inverted U-shape curve) which suggests that at a certain level of economic development, the total emissions in a given economy start to decrease and the environment improves (i.e. that thanks to innovation, an

absolute decoupling of emission or resource intensity from economic growth will occur). However, until now the so-called *'rebound effect'* has rather been observed: increasing efficiency and economies of scale and, therefore, diminishing price of goods will cause such a high rise of consumption that no absolute reduction of emissions or resource use will be reached.

A perhaps more substantive understanding of the relation between the economy and the natural environment has started to develop since the end of the 1960s. A community of economic thinkers pioneered by Nicolas Georgescu-Roegen (one of the founding fathers of 'ecological economics') focuses on the economy as a subsystem of the environment – and, therefore, regard the economy constrained by environmental limits. Since the laws of thermodynamics are suggested to apply to the coupled human and natural systems, the scale of the economy, i.e. its 'throughput' (the volume of materials and energy flowing through the economy from the production process to deposit of waste) is of crucial importance. The total throughput of the human economy is suggested to be "kept small enough to avoid exceeding two physical limits of the eco-system: its capacity to regenerate itself and its capacity to absorb the wastes" (Daly, 1996).

The recent economic crisis (caused to a significant extent by growing energy prices) serves as an opportunity to question the current policy objective of economic growth and what some term as failing of modern macroeconomic theory: On the one hand, a discussion on 'greening economic growth' takes place not only in academia but also in policy and business. On the other hand, recently developed concepts of 'zero growth', 'de-growth' or 'moving beyond growth' are receiving the attention of social movements and numerous academics. Until recently, governments have decidedly been 'growth-optimistic' but several recent initiatives (see section 2) indicate their growing willingness to ask fundamental questions about our economic systems.

The critique of economic growth: growth and well-being

Empirical observations suggest that in richer societies people tend to live longer, be better educated and enjoy broader and better enforceable rights. All of these elements can be considered to be vital components of what we could term as the quality of life. However, critics of growth question to what extent unrestricted growth has led to improvement in the 'essential ingredients of good living' (Mishan, 1977). The economic growth- and consumption-oriented culture seems to associate with growing income inequality and to create significant social 'costs' such as stress, depressions and feelings of insecurity, juvenile crime, drug abuse and disruption of social ties and ability to enjoy values such as affection and sympathy. In fact, when these negative developments are treated, such as through measures to improve mental health, prevent crime or clean up environmental pollution (called 'defensive expenditures'), this also puzzlingly contributes to economic growth. Using the GDP indicator as the basis, American economists Herman Daly and John Cobb Jr. have tried to reflect these negative costs in an indicator they titled the 'Genuine Progress Indicator' (GPI). They suggest that despite a steady economic growth experienced in the US since WWII, genuine societal progress has evened out in the early 1970s and has not substantially risen since (Talbert et al, 2007).

Subjective well-being is considered to depend on material consumption only to a certain extent. It is sensitive to factors such as lower level of standards of living, poor working conditions, job insecurity, difficulties in balancing work and life and lower quality of society but depends also on cultural, political and social factors (Mikulic, 2007). Empirical evidence seems to suggest that people with intrinsic values (as opposed to materialistic values) live both happier and with higher levels of environmental responsibility (Jackson, 2009).

Sustainable development

As mentioned above, the post-WWII 'obsession with growth' started to be put under question in the second half of the 1960s, hand in hand with the emerging environmental movement. Many of today's themes in the environmental discourse were recognised at that time already: problems of environmental pollution linked to industrial growth, population growth, curbing of quantitative economic growth and 'dematerialisation' of the economy, or recognition that well-being being is not dependent on material consumption only.

The early 1970s saw several crucial interconnected developments. First of all, it was the establishment of environmental ministries across Western democracies. Secondly, in 1972, the seminal study of the Club of Rome, entitled *"Limits to Growth"*, has been published, focusing on modelling of long-term development of several variables such as population, agricultural production or natural resources across a range of scenarios. Although the study has been heavily criticized by the economists' academic community for many of its assumptions and its accuracy and today's relevance can be questioned, it had a huge impact on the public perception of environmental issues. Thirdly, environmental concerns reached a milestone in the form of the UN Conference on Human Environment held in Stockholm in 1972, where the conflicting interests of environment and development have been explicitly articulated for the first time in a global forum. It has been recognised that environment "affects the well-being of peoples and economic development throughout the world" (*Stockholm Declaration*, para. 2), but suggests that most of the environmental problems of the developing countries are caused by underdevelopment, while "in the industrialized countries, environmental problems are generally related to *industrialization and technological development*" (ibid., para. 4, emphasis added). This was also reflected in differing interests – countries of the North pushed for the protection of environmental resources and intergenerational equity (so-called 'green agenda'), while the countries of the South expressed their need for more development and improvement of living conditions of then-poor, i.e. intra-generational equity (so-called 'brown agenda'). Even though Stockholm

managed to reach some international agreement and co-ordinated action on measures of environmental protection, the success was quickly overshadowed by following economic recession caused by the oil crises of 1973 and 1974.

The next milestone was the publication of the report, *“Our Common Future”* by the World Commission on Environment and Development in 1987. The Commission was established by the UN Secretary General in 1983 and led by Gro Harlem Brundtland, the then Norwegian Minister of Environmental Affairs. The report was the first publication to popularize the term ‘sustainable development’. It continued to place significant emphasis on stimulating economic growth and addressing global poverty through international trade. It expressed optimism in terms of the possibility to continuously achieve qualitative economic growth and decoupling.

The attention given to the Commission and its report led to the [1992 UN Conference on Environment and Development](#) in Rio de Janeiro. The ‘Earth Summit’ (as it has been called as well) saw several crucial developments. The so-called ‘Rio Declaration’ and the action plan adopted at the conference, Agenda 21, were the most comprehensive documents on sustainable development and measures to be taken produced until these days. The Rio Declaration presented the four-pillar model of sustainable development (economic, social, environmental and institutional) and contained a suggestion for a set of sustainable development indicators. However, Agenda 21 was and still is criticized for being too pro-growth and in line with neo-liberal economic recipes. Even the Rio Declaration is positive towards economic growth: “States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation” ([Rio Declaration](#), principle 12).

The next milestone came in the form of the [World Summit on Sustainable Development \(WSSD\)](#) in late August and early September 2002, only several months after the International Conference on Financing for Development in Monterrey. Thousands of politicians, journalists, lobbyists and activists participated at the Summit and sustainable development was briefly in the centre of political and media attention. The results of the Summit were summarised in a [report](#). Generally, the Summit has been criticized for being a media show with only limited outcomes.

Sustainable development defined

It needs to be stressed that no political or scientific agreement on a single definition of sustainable development exists. In this report, we are going to briefly present the most dominant approaches of the sustainable development concept that are related to the QR’s topic:

The *needs approach* is based on the Brundtland Report, which defines sustainable development as “development that meets the needs of the present without compromising the ability of the future generation to meet their own needs” (WCED, 1987). It introduces two key concepts, the one of ‘needs’, especially the needs of the world’s poor which can be satisfied through trade and economic growth, and the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

The *limits-to-growth approach*, which can also be termed ‘thermodynamic’, defines sustainable development as development within the Earth’s carrying capacity (i.e. within biophysical limits). According to the [International Union for Conservation of Nature \(IUCN\)](#), sustainable development means “improving the quality of human-life while living within the carrying capacity of supporting eco-systems” (IUCN et al, 1991). This definition does not stress satisfaction of (material) needs but rather works with the concept of quality-of-life (and therefore it is not implicitly growth-oriented). This position is perhaps best exemplified by the following statement of Daly (2007): “Humankind must make the transition to a sustainable economy—one that takes heed of the inherent biophysical limits of the global ecosystem so that it can continue to operate long into the future. If we do not make that transition, we may be cursed not just with uneconomic growth but with an ecological catastrophe that would sharply lower living standards.”

The *capital-based approach* treats environment as a form of capital (similarly to manufactured capital, financial capital, human capital and social capital). This natural capital increases through natural replenishment and decreases through consumption. Sustainable living would, following the ideas of the British economist John Hicks, mean ‘living off the interest on natural capital’ without depleting the capital stock (i.e. consuming only an amount that is lower or equal than the replenished amount). Such an interpretation assumes that the role of natural capital in producing human well-being cannot be substituted by other types of capital. This position is frequently called ‘strong sustainability’. Many economists, however, defend the ‘weak sustainability’ position which suggests that natural capital can be traded for other forms of capital if total amount of capital grows (or at least stays the same).

The *human development approach* is based on the concepts of the Indian economist Amartya Sen who reframed development in terms of human freedom. Sustainable human development would pursue such development that on a long-term basis manages to improve people’s lives by expanding their choices, freedom and dignity. Healthy environment is but one condition for good living. This approach has been promoted mostly by the United Nations Development Programme.

Three dominant positions can be observed in terms of the relation between sustainability and economic growth (Hopwood et al, 2005; Steurer, 2002; Davidson, 2000):

- The *radical or transformational position* has traditionally been held by environmental scientists and grass-roots movements. Key elements of this position include the bottom-up approach, strong sustainability (i.e. economic growth and environmental protection are understood as conflicting objectives), growth-pessimism, acknowledgement of the biophysical limits to growth, and an understanding that getting our societies on the right path would probably require significant changes in social organization.
- The *reformist position* is often held by the international and national sustainable development community originating from the UN/Brundtland processes, i.e. international agencies and national governments (especially from developing countries). Characteristic for this position is the search for politically acceptable solutions and involvement of a large range of societal actors (especially businesses), re-thinking growth and focus on qualitative growth, weak sustainability and recognition of the different needs of developed and developing countries. Typical is the technology-oriented 'green economy'/low-carbon economy discourse and win-win rhetoric (i.e. economic growth and environmental protection are understood, as synergistic objectives). The preferred measures are optimizing environmental regulation and economic policy (e.g. subsidies into less resource-intensive technologies).
- The *status quo or conservative position* has traditionally been held by neo-liberal economists and chief economic organizations. keystones of this position are the top-down/laissez faire principle, conviction that there are no contradictions between economic growth and environmental degradation, understanding of environmental problems as mostly a question of property rights and market deficiencies, trust in the ability of the markets and technology to address the problem of dwindling resources, emphasis on the material component of well-being and trust that economic growth is to the ultimate benefit of all.

Lisbon Strategy & EU SDS - definitions and approaches of economic growth

In this section of the QR, we outline how economic growth is addressed in the Lisbon Strategy and the EU SDS. We will also reflect on how economic growth is envisioned in the proposed 'EU 2020' strategy, recently published by the European Commission and open for consultation until January 2010. The Lisbon Strategy and the EU SDS are the two main EU strategies that outline the most important development trajectories and objectives for the EU and its Member States. Therefore, it is important to show how they generally approach economic growth and how this approach has changed over the years.

Lisbon Strategy and economic growth

The [Lisbon Strategy](#) was agreed upon at the Lisbon Council in March 2000. It stated that a "radical transformation of the European economy" (European Council, 2000, para 1) was required as a consequence of the globalisation and the challenges of a new knowledge-driven economy. The strategic goal of the Lisbon Strategy was "to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (European Council, 2000, para 5).

This goal emphasises, firstly, the economic focus on the mechanisms of the free market by reaching the highest competitiveness in the world and, secondly, sustainable economic growth. Sustainable economic growth in this context mainly focuses on purely economic issues without comprehensively taking into account the optimal physical output of the economy, the degradation of the environment and intact natural systems (Spangenberg, 2002). Moreover, technological and knowledge-based progress was regarded as the main tool to achieve not only economic growth but also to lead to a better environment. Thus the Lisbon Strategy of 2000 was a document based on *techno-optimism* (Schauer, 2007). On the other hand, as described in the first part of the QR, technology and knowledge do not always lead to a reduction in the consumption of natural resources due to the rebound effects (Daly, 1996).

The [mid-term review of the Lisbon Strategy](#) showed that the achievements of the strategy were mixed (European Communities, 2004). The so-called 'Kok Report' observed a "disappointing delivery [which] is due to an overloaded agenda, poor coordination and conflicting priorities". It therefore suggested that "better implementation is needed now to make up for lost time" (European Communities, 2004, 6). This led to a re-launch of the Lisbon Strategy in 2005 ("Partnership for Growth and Employment") that refocused the priorities of the strategy to three vital strands (European Council, 2005):

- Knowledge and innovation as the engine for sustainable economic growth
- Making Europe an attractive area in which to invest and work
- Creating more and better jobs.

The main idea behind the re-launch was that "Europe must renew the basis of its competitiveness, increase its growth potential and its productivity and strengthen social cohesion, placing the main emphasis on knowledge, innovation and the optimisation of human capital" (European Council, 2005, para 5). An essential step towards sustainable development in the growth concept of the relaunched Lisbon Strategy was the inclusion of environmental technology as a potential engine for growth and jobs: "The European Council reiterates the important contribution of environment policy to growth and employment, and also to the quality of life, in particular through the development of eco-innovation and eco-technology

as well as the sustainable management of natural resources, which lead to the creation of new outlets and new jobs” (European Council, 2005, para 19).

However, the re-launched Lisbon Strategy of 2005 still shows a predominance of growth and employment issues which is underlined by the lower significance of and very general reference to environmental/SD issues: The 2005 Council conclusions very broadly mentioned five SD issues in the context of growth and employment, namely (1) eco-innovation and eco-technology, (2) sustainable management of natural resources, (3) energy efficiency, (4) biodiversity, and (5) sustainable production and consumption (European Council, 2005, para 19-20).

The [European Council in March 2006](#) agreed on four priority areas of the Lisbon process (European Council, 2006a, para 16): investing more in knowledge and innovation; unlocking business potential, especially of small- and medium-sized enterprises (SMEs); increasing employment opportunities for priority categories (i.e. young people, women, older workers, persons with disabilities as well as legal migrants and minorities); and energy policy for Europe. In the spring [European Council meeting in March 2007](#), a comprehensive energy action plan, ‘Energy Policy for Europe’ (EPE), was adopted for the period 2007-09. It includes the often quoted ‘20-20-20’ objectives, i.e. (i) a 20 % reduction of greenhouse gas emissions by 2020 compared to 1990, (ii) saving 20 % of the EU’s energy consumption compared to projections for 2020, and (iii) a 20 % share of renewable energies in overall EU energy consumption by 2020 (European Council, 2007). A renewed energy action plan will be adopted by the European Council in 2010.

In late November 2008, the European Commission (2008) issued the ‘[European Economic Recovery Plan](#)’ as a response to the economic and financial crisis. The Plan outlines four strategic aims: (1) stimulate demand and boost consumer confidence; (2) lessen the human cost of the economic downturn and its impact on the most vulnerable; (3) pursuing necessary structural reforms, supporting innovation, and building a knowledge economy; and (4) speed up the shift towards a low-carbon economy (i.e. limiting climate change, promoting energy security, encouraging new technologies, creating new ‘green-collar’ jobs).

Generally, the “techno-optimism” remains the predominant approach to growth in the re-launched Lisbon Strategy, though a certain shift to more environmental friendly technologies and innovations and a push in innovation and energy efficiency can be observed ([see also Table 1 below](#)).

EU SDS and economic growth

The first EU SDS was adopted at the [European Council Meeting in Gothenberg in 2001](#) and aimed at complementing the Lisbon Strategy by addressing environmental issues and thus at achieving the EU’s general objective of sustainable development. Moreover, the first EU SDS was an important document in preparation to the UN World Summit on Sustainable Development (SD) in Johannesburg in 2002 (Rio +10) ([see ESDN Quarterly Report, December 2008](#)).

The first EU SDS identified the main threats to SD like emissions of greenhouse gases, severe threats to public health, the loss of biodiversity in Europe, etc. The strategy included the idea that environmentally friendly technology can promote economic growth and create jobs and stressed the importance of ‘decoupling’: “Clear and stable objectives for sustainable development will present significant economic opportunities. This has the potential to unleash a new wave of technological innovation and investment, generating growth and employment. The European Council invites industry to take part in the development and wider use of new environmentally friendly technologies in sectors such as energy and transport. In this context the European Council stresses the importance of decoupling economic growth from resource use.” (European Council, 2001, para 21)

The first EU SDS defined four priority areas, namely (i) combating climate change, (ii) ensuring sustainable transport, (iii) addressing threats to public health, and (iv) managing natural resources more responsibly. Aspects related to economic growth are mentioned only vaguely in the second and fourth area. The only concrete link in the key objective areas was defined in the priority area of sustainable transport to decouple transport growth from economic growth. The fourth objective focuses on the “the relationship between economic growth, consumption of natural resources and the generation of waste” (European Council, 2001, para 31).

The results of the [European Commission’s review of the first EU SDS in 2005](#) showed that although several strategic initiatives had been started, unsustainable trends had yet to be reversed (European Commission, 2005). In order to meet these challenges, the European Council adopted the [renewed EU SDS in June 2006](#), “which sets out a single coherent strategy on how the EU will more effectively live up to its long standing commitment to meet the challenges of SD” (European Council, 2006b, para 4). Although renewed EU SDS mentions in its key objective the importance “to break the link between economic growth and environmental degradation” (European Council, 2006b, 3), the relationship between economic growth and sustainable development is not clarified ([see also ESDN Quarterly Report, December 2008](#)).

The renewed EU SDS includes 7 key challenges and thus adds three priority areas to the ones already defined in the first EU SDS. The key challenges are (1) climate change; (2) sustainable transport; (3) sustainable production and consumption; (4) conservation and management of natural resources; (5) public health; (6) social inclusion, demography and migration; and (7) global poverty and SD challenges. Moreover, two cross-cutting issues are defined, namely education and training as well as research and development.

Economic growth is addressed only indirectly in some of the above mentioned key challenges of the strategy: in sustainable transport, sustainable production and consumption and social inclusion as well as the cross-cutting issues. Generally, the renewed EU SDS aims to achieve in its key objective 'economic prosperity' "a prosperous, innovative, knowledge-rich, competitive and eco-efficient economy which provides high living standards and full and high-quality employment throughout the European Union" (European Council, 2006b, 4)

The priority area of sustainable transport, targets "decoupling economic growth and the demand for transport with the aim of reducing environmental impacts" (European Council, 2006, 10). However, it is not stated how this operational objective should be achieved. The key challenge sustainable consumption and production promotes "sustainable consumption and production by addressing social and economic development within the carrying capacity of ecosystems and decoupling economic growth from environmental degradation" (European Council, 2006b, 12). In the key challenge social inclusion, demography and migration, the objectives for growth and employment of the Lisbon Strategy 2005 are being supported. The idea behind social inclusion in the Lisbon Strategy, is that "job is still the best route to social inclusion" (Begg, 2008).

In the cross-cutting policy issue of research and development, the renewed EU SDS recognises the role of "technology" as a tool for economic growth, though it stresses that in order to better exploit the relation of technological progress, ecological, social and economic systems, "there is still a strong need for further research in the interplay between social, economic and ecological systems, and in methodologies and instruments for risk analysis, back- and forecasting and prevention systems" (European Council, 2006b, para 18). The strategy emphasises the role of education (i.e. research institutes and universities) in promoting research that ensures efforts to support the reinforcement of environmental protection and economic growth.

Overall, the renewed EU SDS of 2006 contributed to several objectives of the Lisbon Strategy (including objectives formulated in the integrated guidelines) which allows for coherent treatment of cross-cutting issues such as climate change, energy efficiency, ageing and social cohesion. However, the renewed EU SDS does not define specific goals or areas which comprehensively deal with the relations and implications between SD and economic growth (Trattinig, 2009).

Lisbon Strategy and EU SDS: their linkages to economic growth

When summarising the main objectives of the Lisbon Strategy and the EU SDS, one can see that the revised strategies have achieved more coherence since their beginnings. One of the major objectives of the EU is "to promote economic and social progress and a high level of employment and to achieve balanced and sustainable development" (EU Treaty, Art. 2). Both, the Lisbon Strategy and the EU SDS, aim to contribute to achieving this objective and thus outline the strategic development trajectory of the whole EU and both cover economic, social and environmental issues, though with different strengths and orientations:

The EU SDS is primarily concerned with quality of life, economic prosperity, intra- and inter-generational equity. It concentrates more on the aspects of the "quality of economic growth", which are the distributive part of economic growth, social inclusion and environmental protection. It recognises the role of economic development in facilitating the transition to a more sustainable society. However, the strategy does not clarify the relationship between economic growth and SD (ESDN Quarterly Report December 2008, Trattinig, 2009).

The Lisbon Strategy makes an essential contribution to the overarching objective of SD by focusing primarily on actions and measures aimed at increasing competitiveness and economic growth and enhancing job creation (European Council, 2006a). Topics like social inclusion through job creation, climate change and energy issues and eco-innovation are now already integrated. Thus, one can ascertain that a shift toward more innovation and environmentally friendly technology as opportunities for economic growth occurred from Lisbon 2000 to Lisbon 2005 with the goal to increase competitiveness and economic growth. However, four main content interfaces that relate to economic growth can be detected between the two strategies: sustainable consumption and production, climate change, sustainable management of natural resources and knowledge and innovation (including eco-innovation and eco-technology).

Future development: Review of EU SDS, post-Lisbon 2010 and 'EU 2020'

In the subsection below, the main trends of the future EU SDS and post-Lisbon 2010 will be outlined shortly and a table at the end of this section provides a summary of the approaches to economic growth of the Lisbon Strategy and the EU SDS.

Review EU SDS

According to the [review of the EU SDS in 2009](#), the European Commission recognises the importance of the strategy as "a long-term strategy which provides a good framework for guiding and reporting on long-term board developments and promoting forward-looking reflection on sustainability (...) by refocusing on its overarching nature" (European Commission, 2009a, 13-14). Regarding the complementing with other strategies, greater synergies with the Lisbon Strategy post-2010 and other cross-cutting strategies should be targeted. Finally, the review detects still room for some clarification in following crucial areas (European Commission, 2009a, 14-15):

- Economy: the EU SDS should contribute to a shift toward a low-carbon and low-input economy, based on energy and resources-efficient technologies, sustainable transport and shifts to sustainable consumption and production (here the link of SD to the economic sectors should be strengthened).
- Environment: intensifying environmental efforts for the protection of biodiversity, water and other natural resources.
- Social aspects: the strategy should continue to promote more the aspects of social inclusion.
- International dimension: the international dimension of SD should be strengthened in the future.

Moreover, the review of the EU SDS detects new emerging challenges which should be integrated in the future EU SDS such as energy security, adoption to climate change, food security, land use, sustainability of public finances and the external dimension of SD. It seems that, for the Commission, the missing clarification on link between SD and economic growth has been recognised since it reinforced the SD Community to clarify and contribute in the strategy to a shift towards “green growth”.

Post-Lisbon 2010 and “EU 2020”

As the Lisbon Strategy will in March 2010, the European Council agreed that there should be a follow-on process post-2010. A broad debate has been initiated on which objectives and development trajectories should be applied in the Lisbon process post-2010. Below, we summarise some of the major documents that have been recently published.

President Barroso emphasises in the guidelines for the next Commission the need to start working on “a far more sustainable Europe by 2020” and to revise the Lisbon Strategy. It seems that the financial and economic crisis as well as the challenges of tackling climate change has increased awareness for SD issues on the political agenda of the EU. Barroso identified five key challenges for the future: (1) restarting economic growth today and ensuring long-term sustainability and competitiveness for the future; (2) fighting unemployment and reinforcing our social cohesion; (3) turning the challenge of a sustainable Europe to our competitive advantage; (4) ensuring increasing security; and (5) reinforcing EU citizenship and participation. Particularly challenges 1 and 3 are related to economic growth and SD. Regarding economic growth, Barroso argues that “growth rates – and the economic model behind them – were simply not sustainable. Recovery will require a different approach from the past.” (Barroso, 2009, 15) Moreover, Barroso makes a link between SD and economic growth by referring to potentials for modernisation and benefits of technological development: “Now we need to show how fighting climate change can help to modernise our economies, how it offers the right platform to reap the benefits from technological leadership.” (Barroso, 2009, 15)

In response to the economic and financial crisis as well as to the climate change challenge, the European Commission has released in November 2009 a consultation paper on the future of the Lisbon Strategy, the “EU 2020” Strategy. The strategy is open for consultation until 15 January 2010 before it will be finalised in March 2010.

The “EU 2020” Strategy, is intended as successor of the current Lisbon Strategy, and will focus on “new sustainable social market economy, a smarter, greener economy, where our prosperity will come from innovation and from using resources better, and where the key input will be knowledge” (European Commission, 2009b, 2). There is an obvious shift in the focus of this strategy in comparison to the former Lisbon Strategy documents from quantitative growth to more “green” growth. New in the thinking is that economy and environment are parts of the same “whole”, so an infinite growth which exceeds environmental costs more than the benefits is not the kind of growth Europe wants to stand for. This has been confirmed by Barroso in an interview with The Economist magazine: “The first is that the EU knows where it wants to go. We have defined our priorities: we want to reinvigorate our inclusive social market economies; we know we must become a low-carbon economy. Second, the solidarity and sense of urgency created by the response to the crisis have actually given us momentum to work jointly towards our goals”. (Barroso, The Economist, 13 November 2009)

The Commission’s aim for Europe is “to lead, compete and prosper as a knowledge-based, connected, greener and more inclusive economy, growing fast and sustainably, creating high levels of employment and social progress” (European Commission, 2009b, 4). Three areas are defined as key drivers: (1) creating values by basing growth on knowledge (promoting knowledge as the engine for sustainable economic growth), (2) empowering people in inclusive societies (through acquisition of new skills, innovation, development of entrepreneurship), and (3) creating a competitive, connected and greener economy.

Economic growth in the “EU 2020” strategy is still seen as the only mechanism bringing our economies out of the crisis and offsetting unemployment. But there is a clear shift on the focus of the strategy to a low-carbon or green economy based on knowledge and new environmentally friendly technologies, by creating new job opportunities such as green jobs and meeting the environmental and climate goals and guaranteeing more social inclusion.

Following instruments and measures are identified as necessary for “greening the economy” in the “EU 2020” strategy (European Commission, 2009b, 7-8):

- Raising resource efficiency by shifting the economy through targeted regulation, emission trading, tax reform, grants, subsidies, public investment and procurement policies.
- The creation of new industries or industrial restructuring by putting the emphasis on sustainability, innovations and

- human skills, needed for being competitive in world markets.
- Development of smart upgraded transport energy infrastructures

This consultation paper will serve as a basis for further discussions and negotiations with other EU institutions and stakeholders including member states. The Spring European Council in 2010 should set the strategy on its course for the next 5 years.

To sum up the development of Lisbon from 2000 to 2010, Figure 1 below gives a quick overview of the shifting priorities which portrays the balance of the Lisbon Strategy across the two dimensions of economic/wealth creating and quality of life/distributive aims. The original strategy from the year 2000 hold a balance between the two classic aims, reflecting a social-democratic agenda, whereas the 2005 re-launch owed more to the market orientated "neo-liberal" agenda. For the future, like envisioned in the EU 2020, a paradigm shift to a low-carbon economy is emerging and could be interpreted as shifting the strategy more towards the horizontal axis (Begg, 2008).

Figure 1: Aims of Coordination in the Lisbon Strategy (Begg, 2008)

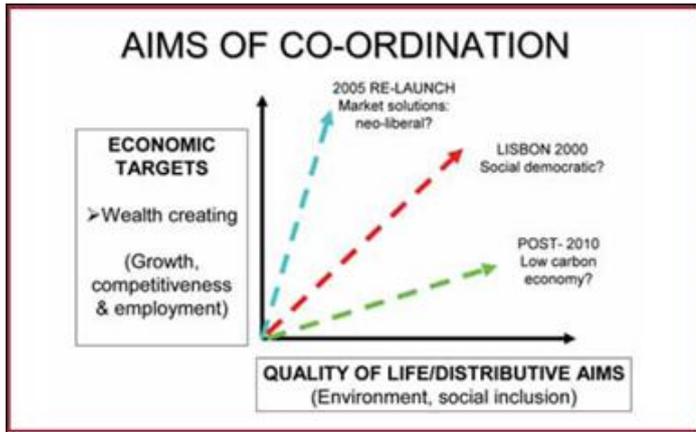


Table 1: Focus of the strategies and their implications and understanding of economic growth

Lisbon Strategy (2000)	Re-launched Lisbon strategy (2005)	Proposed "EU 2020" Strategy (2009)
Technological and knowledge-based progress leads to economic growth and less environmental degradation. Document based on techno-optimism	A step towards sustainability in the growth concepts towards the inclusion of environmental technology as a potential engine for growth and jobs. Document based on techno-optimism, by supporting more environmental friendly technologies	A further essential step towards the inclusion of green technologies and green industries in order to create more green growth. Document based on the concepts of green economy
Objective: A radical transformation of the European economy was required as a consequence of globalisation and the challenges of a new knowledge-driven economy. The EU was "to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion".	Objective: The goal remains the same, but The European Council reiterates the important contribution of environment policy to growth and employment, and also of the quality of life, in particular through the development of eco-innovation and eco-technology as well as the sustainable management of natural resources, which leads to the creation of new outlets and new jobs. <u>5 SD issues in the context of growth and employment:</u> 1) eco-innovation, 2) sustainable management of natural resources, 3) energy efficiency, 4) biodiversity and 5) sustainable consumption and production	Objective: New sustainable social market economy, a smarter, greener economy, where the prosperity will come from innovation and from using resources better, and where the key input will be knowledge.
EU SDS (2001)	EU SDS (2006)	Future EU SDS (based on review of European Commission in 2009)
Environmentally friendly technology can promote economic growth, use of new environmentally friendly technologies in sectors such as energy and transport. SD opens new	Aims at breaking the link between economic growth and environmental degradation but does not clarify the relationship between SD and economic growth. Recognises that investments in human, social and	Not only breaking the link, but should contribute to a shift toward a low-carbon and low-input economy, based on energy and resources-efficient technologies,

<p>opportunities to unleash a “new wave of technological innovation, investment and growth”. No clarified relation between SD and economic growth, only explicitly in some of the goals</p>	<p>environmental capitals as well as technological innovation are the prerequisites for long-term competitiveness and economic prosperity, social cohesion, quality employment and better environmental protection. No clarified relation between SD and economic growth, only explicitly in some of the goals, primarily concerned with quality of life, intra- and inter-generational equity</p>	<p>sustainable transport and shifts to SCP. Inclusion of the relation of SD to economic growth, by contributing to shift to low-carbon economy. Aim is to clarify the link between economic growth and SD.</p>
<p>Objective: Sustainable development - to meet the needs of the present generation without compromising those of future generations - is a fundamental objective of the EU Treaty: this requires dealing with economic, social and environmental policies in a mutually reinforcing way. <u>4 key objectives:</u></p> <ul style="list-style-type: none"> • climate change • sustainable transport: decouple growth from transport • public health • sustainable management of natural resources 	<p>Objectives have not been changed but three key objectives have been included, dealing more as well with the economic aspects of SD: <u>Three more key objectives:</u></p> <ul style="list-style-type: none"> • Sustainable consumption and Production • Social inclusion: demography and change • Global poverty <p><u>Two cross-cutting issues:</u> (I) education and training and (II) research and development</p>	<p>Objectives: intended to remain the same but strengthen more the three pillars in the strategy in the following areas:</p> <p><i>Economy:</i> shift to low carbon economy</p> <p><i>Environment:</i> more focus on biodiversity (major problem in EU)</p> <p>Social aspects: strengthen social inclusion, due to the economic crisis</p> <p><i>International dimension</i> <u>Coverage</u> of following topics in the strategy in the future:</p> <ul style="list-style-type: none"> • energy security, • food security, • land use, • sustainability of public finances

Linking economic growth and sustainable development: Strategies, initiatives and activities on the international, EU and national level

Due to the different crises effecting environment, economy and society, various international organisation and government bodies at different political levels have undertaken measures to counteract to the crisis. All these initiatives have at the core of their activities to set new development paths for our economies in order to be more in line with environmental and social requirements. We present in the following section various strategies and initiatives at the international, EU and national level on linking economic growth and sustainable development.

International Level

In this subsection, we will provide an overview of the initiatives that the United Nations (UN) and the OECD have undertaken towards a “greener economy”.

UNEP: Green Economy Initiative

Type and Time frame

Due to the financial and economic crisis, the United Nations Environment Programme (UNEP) launched the Green Economy Initiative (GEI) in October 2008. Envisioned as a two-year project, the GEI has been expanded to include a number of related UNEP and UN-wide initiatives focused on providing macro-economic evidence for significantly increasing investments in the environment as a means of promoting sustainable economic growth, decent job creation, and poverty reduction.

Institution

UNEP’s Green Economy Initiative (GEI) is the result of a joint effort by numerous experts from UN organizations, academic institutes, think tanks, businesses and environmental groups. It falls under the responsibility of UNEP which is the designated authority on environmental issues at the global and regional level within the UN system. Its mandate is to coordinate the development of environmental policy consensus by keeping the global environment under review and bringing emerging issues to the attention of governments and the international community for action.

Main objectives of GEI

The Green Economy Initiative (GEI) is designed *to assist governments in “greening” their economies* by reshaping and refocusing policies, investments and spending towards a range of sectors, such as (1) clean technologies, (2) renewable energies, (3) water services, (4) green transportation, (5) waste management, (6) green buildings and (7) sustainable agriculture and forests. ([UNEP Green Economy Homepage](#))

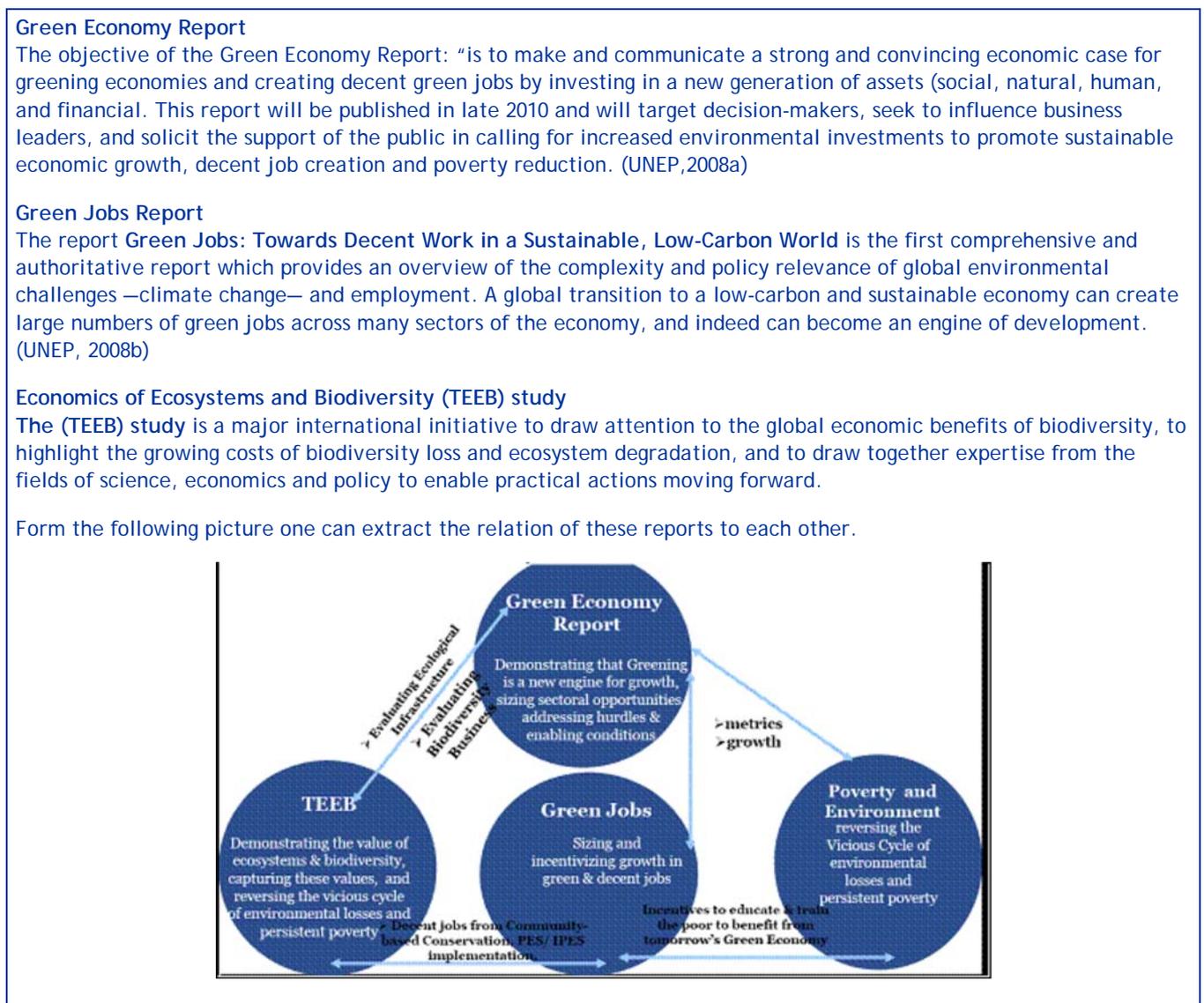
GEI activities compromise three parts of how to achieve its main objective (applied together with other UN agencies and a network of leading policy research institutions and think tanks):

(1) At the national and regional level through [advisory services](#) to countries interested in greening their economies, by providing them with technical assistance services like the development and assessment of green economy reforms, information and analysis to support informed policy-making.

(2) Producing research products: Most GEI research efforts are currently focused on the development of GEI’s flagship product, the [Green Economy Report](#) (which will be published in 2010) and managing the development of [The Economics of Ecosystems and Biodiversity \(TEEB\)](#) series of reports. [The Green Economy Report](#) builds on two other research products, the [Global Green New Deal Policy Brief](#) and the [Green Jobs Report](#). For an overview on the content of these reports, please see the Figure 2 below.

(3) Engage [partners](#) to effectively promote and implement green economy strategies. UNEP is stimulating collaboration between different stakeholders at the international and national level. At the international level, the UNEP - together with more than 20 UN agencies, the IMF and the World Bank - issued a [joint statement](#) in June 2009 which noted that the current financial and economic crisis requires a collective response from the global community. At the national level, UNEP stimulates collaboration between civil society, governments, the private sector and consumers in the realization of a low-carbon, resource-efficient future. For instance, UNEP is working in partnership with the Government of the Republic of Korea to support the country’s green economy strategy ([UNEP website](#)).

Figure 2: UNEP Research Products in the framework of the GEI



UNEP Global Green New Deal in the frame work of the GEI

In the framework of the Green Economy Initiative (GEI) and in response to the financial and economic crisis, the UNEP has called in for a "Global Green New Deal" (GGND). Its concepts are based on former US president Franklin D. Roosevelt's New Deal, which helped the US recover from the Great Depression of the 1930s (UNEP, 2009a). The New Deal in the USA included not only wide-ranging programmes stimulating the economy, but provided a policy framework of governance that modernized US infrastructure at the same time, which lasted for the rest of the twentieth century. Due to the economic and financial crisis and raising awareness to the scientific damages of climate change, the same kind of government leadership is aimed by the UNEP's Global Green New Deal, with the difference that it takes place at the global scale and embraces a wider vision. It would not only be aimed at a fundamental restructuring of economies, helping them recover, but trying as well simultaneously to accelerate the fight against climate change, environmental degradation and poverty (UNEP 2009a).

Type and Timeframe

In the framework of the GEI, the financial crisis and the stimulus packages launched as response were perceived as an opportunity to start greening the economy through the greening of these stimulus packages (UNEP 2009a). UNEP is recommending that a significant portion of the estimated US\$3 trillion in pledged economic stimulus packages could be invested in five critical areas (UNEP Global Green New Deal Homepage):

- Raising the energy efficiency of old and new buildings;
- Transitioning to renewable energies, including wind, solar, geothermal and biomass;
- Increasing reliance on sustainable transport. including hybrid vehicles, high speed rail and bus rapid transit systems;
- Bolstering the planet's ecological infrastructure, including freshwaters, forests, soils and coral reefs;
- Supporting sustainable agriculture, including organic production.

It is in this context that the "Global Green New Deal" gained momentum and a Policy Brief outlining these recommendations was prepared in consultation with over 20 UN agencies and intergovernmental organizations and shared with members of the G20 meeting in April 2009 ("London Summit"). UNEP followed-up on this initial brief with a Global Green New Deal update that was launched during the G20 meeting in September 2009 ("Pittsburgh Summit"). The update concludes that much more needs to be done and urges G20 governments to invest US\$750 billion of the US\$2.5 trillion stimulus package (about 1 per cent of the global GDP) towards building a "green economy" - which is understood as economy that reduces carbon dependency, addresses poverty, generates good quality and decent jobs, maintains and restores our natural ecosystems, and moves towards sustainable consumption (UNEP, 2009b).

UNEP regards the G20 as anchor to start implementing the Global Green New Deal and has called on the 20 most advanced economies to invest at least 1 per cent of their total GDP in promoting green economic sectors (UNEP, 2009b). The G20 summits should help develop common views among its members and bring up ideas for further development in the restructuring of our economies on the way to the UN Climate Summit in Copenhagen, which was held in December 2009.

Main objectives

The overall objectives of a GGND should contribute to multilateral and national efforts to address the current financial crisis and its social, economic and environmental impacts, while simultaneously addressing the interconnected global climate, food, fuel and water challenges that threaten society over the medium term.

The Global Green New Deal Policy Brief defines three main broad objectives:

- Revive the world economy, create employment opportunities and protect vulnerable groups
- Reduce carbon dependency, esteem degradation and water scarcity.
- Further the Millennium Development Goal of ending extreme world poverty by

2015.

In the Policy Brief five sectors (sustainable transport, energy efficient building, sustainable energy, agriculture and freshwater) are being identified in which the greening of the economy should be realised through fiscal stimulus packages.

In the following sections, we would like to describe how consumption, knowledge and innovation (technology) and employment and education are addressed in the restructuring of the economy by the UNEP's Global Green New Deal and which main objectives are being set in these fields on the way to a green economy.

Consumption

In respect of consumption and its future developments, the Global Green New Deal (GGND) argues that the “*achievement of the desired levels of human wellbeing, reduced poverty, sustainable trade, increased access to food and other commodities, and improved health of natural resources, even with all the efforts and investments that are available to the international community, is less likely if the production and consumption patterns of 20th century are continued*” (UNEP, 2009a, 25).

Concerning developed countries, the GGND refers primarily to the unsustainable patterns of *energy consumption* in the transport and construction sector of the economy. The first one relies on the subsidies on fossil fuel, which still creates an increasing demand and consumption of this resource and inhibits growth of renewables. Moreover, subsidies on fuel lead to an increasing demand for vehicles which resulted in higher gas emissions. Therefore, the GGND calls on governments to reduce subsidies for traditional energy resources (e.g. for fossil fuels) and instead to create positive incentives and appropriate taxes which will encourage a greener economy (UNEP, 2009a). In using the right instruments for achieving this goal, Germany has been a good example, demonstrating the positive effects of green tax reform. This reform has created 250,000 jobs, reduced fuel consumption by 7 percent, CO₂ emissions by 2-2.5 percent, and pension costs by US\$7 billion (UNEP, 2009a).

Another sector where unsustainable consumption pattern were identified, was in the construction sector, mainly concerning the energy inefficiency in buildings. This results in higher energy consumptions from households and higher greenhouse gas emissions (GHG). Therefore, the GGND calls for starting by 2012 in the reduction the energy consumption from households by 40% and GHG by 50%. The achieving of this target can be reached by using current building technology. This would lead to a cut of 80 percent of energy use, compared to conventional designs. The goal is to increase “the supply of and access to such technologies and materials, particularly in developing countries” (UNEP, 2009a, 20). Moreover, governments could be supported from the local institutions in regulating building standards and pass building permits. So far, investments in green buildings have already been proposed for inclusion in a number of economic stimulus packages, including France, Germany, Japan, Republic of Korea and the United Kingdom. In this matter, Germany could programme on retrofitting existing housing stocks could bespeak the improvement in energy efficiency. So far, over 200,000 apartments have been retrofitted, 25,000 new jobs created and 116,000 existing jobs sustained (UNEP, 2009a).

Technology, Knowledge and Education

In the policy brief of the GGND, technology and technology transfer (also referred to as ‘soft technologies’ such as knowledge, systems and management approaches) are observed as essential drivers in the transition towards a green economy in different sectors as in construction, agriculture, industry, transport, etc. (UNEP, 2009a). To achieve the knowledge transfer towards a green economy, the engagement of business, training and educational institutions, such as business schools should play an important role in the future. Although some green technologies already exist in developing countries, the use of such technologies is not yet widespread, largely due to the lack of information, education, financing, and technical support (UNEP, 2009a). Based on this fact, the GGND calls on the governments of developing countries to scale up the efforts in providing support, training and capacity-building for the diffusion of technologies cooperation. This can be achieved with the support of both domestic and external resources and enhanced international cooperation, from both the private and public sectors.

Green jobs

As mentioned before, the GGND identifies five sectors, which have the potential for positive impact on employment and environment. These are efficient buildings, renewable energy, sustainable transport, sustainable agriculture & freshwater, and ecological infrastructure. The GGND makes the following assumptions (UNEP, 2009a): In the construction sector, investments in improved energy efficiency in buildings could generate an additional 2-3.5 million green jobs in Europe and the United States alone. In the transport sector more than 3.8 million jobs could be created globally through the increased production of low emission. Moreover, investing more in clean and efficient public urban transit system have significant in direct employments effects.

Implementation of the GGND

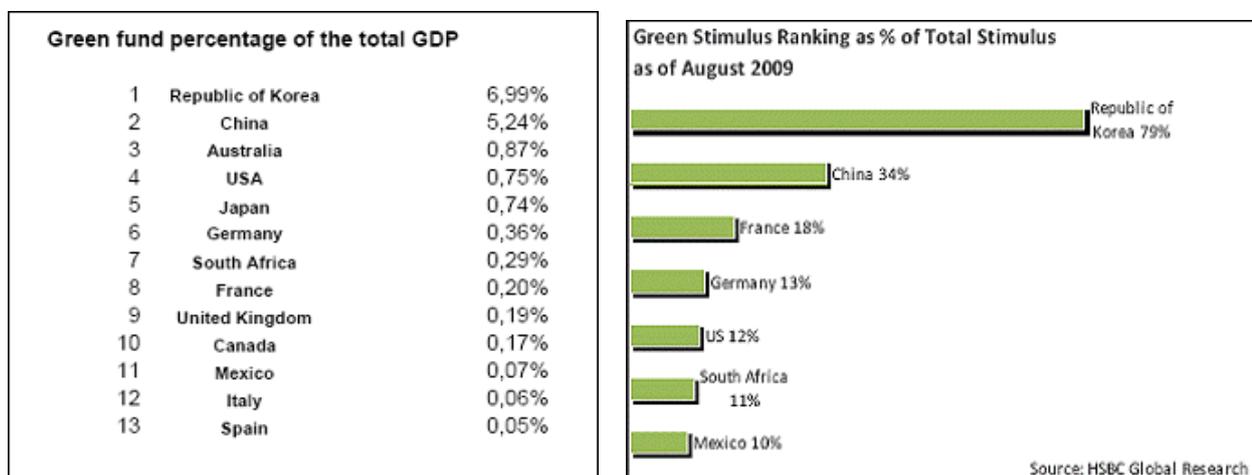
The objectives of the GGND should be achieved by including and implementing a number of common elements: these are either direct investments or spending in key sectors, or they are reforms which should serve as enabling conditions to support a global and coordinated response to the prevailing crisis. These elements can be broke down into three categories (UNEP 2009a):

1. *Sectorally targeted fiscal stimulus* to be carved out of the US\$3.0 trillion stimulus packages now being proposed, in five sectors: sustainable transport, energy efficient building, sustainable energy, agriculture and freshwater.
2. *Domestic policy reforms* to enable the success of green investments within domestic economies. The domestic policy changes (including and improving environmental legislation, reducing or eliminating perverse subsidies such as in fossil fuel, introducing fiscal measures like taxes and incentives to promote greater use of renewable versus fossil fuels, public transport versus private cars, etc) are important to shift investments in the green sectors.
3. *Reforms to international policy architecture and international coordination* to enable and support national initiatives. The GGND puts an emphasis on action in the areas of international trade, international aid, a global carbon market, global markets for ecosystem services, development and transfer of technology, and international

coordination for a GGND.

Follow-up

Based on the first GGND Policy Brief, an updated version followed in the framework of the G20 Pittsburgh Summit, September 2009. The new policy brief summarizes progress in both green elements of fiscal stimulus packages, including the pace of disbursement, and domestic policy reforms. All countries considered have announced green components in their stimulus packages, with many in the 10 to 20 per cent range. China and South Korea stand out, however, with green investments that represent 34 and 78 per cent of their stimulus packages, respectively. Please see the tables below.



The update concludes that much more needs to be done and urges G20 governments to invest US\$750 billion of the US\$2.5 trillion stimulus package (about 1 per cent of global GDP) in building a green economy (UNEP, 2009b). Although the current economic recovery packages are a set of mostly independent domestic stimulus efforts, *"a deal in the UN Climate Summit in Copenhagen provides the opportunity for a global stimulus package that can kick-start the shift to a low carbon world. Any Copenhagen agreement will need to develop appropriate mechanisms to trigger the investment needed"* (UNEP, 2009b, 13).

OECD: Declaration on Green Growth

Due to the current financial and climate change crisis, the world main economies represented through their ministries at the OECD ministerial council gathered at a ministerial meeting to discuss "green growth" as a potential way out of the crisis and to open up new prospects for the climate change negotiations at the [15th Conference of the Parties of the UN Framework Convention on Climate Change \(COP15\) in Copenhagen](#) in December 2009. To have an overview to some of the "green" measures governments are undertaking in their stimulus packages, a discussion paper on ["Green Growth: overcoming crisis and beyond"](#) has been prepared by the OECD.

Institution

The OECD Ministerial Council is vested through decision-making power. It is made up of one representative per [member country](#), plus a representative of the [European Commission](#). The Council meets at the ministerial level once a year to discuss key issues and set priorities for OECD work. The work mandated by the Council is carried out by the OECD secretariat.

Type and Timeframe

The ministerial council of the OECD held their annual ministerial Council meeting from the 24th -25th June 2009 and elaborated a [Declaration on Green Growth](#) signed by all 30 OECD countries plus Chile, Estonia, Israel and Slovenia.

Main objectives

The main objective of the Declaration on Green Growth is to strengthen the efforts to pursue "green growth", by addressing three urgent challenges such as:

- the fight against climate change, environmental degradation,
- enhancement of energy security,
- creation of new engines of economic growth.

This can be achieved by: (a) *encouraging green investment and sustainable management* of natural resources, which will in the short-term contribute to economic recovery and in the long-term to build an environmentally friendly infrastructure; (b) *recognise the value of biodiversity* through information sharing on green investment flows and policies, and best practices; and (c) *support the development of green jobs* and skills needed for them through close co-ordination of green

growth measures with labour market and human capital formation (OECD, 2009a).

The Declaration on Green Growth cannot be analysed in the different topics like consumption, technology and education and green jobs, since it is a short paper and does not provide details what is aimed to be done in these fields. But the Declaration invites the OECD and its committees to develop a Green Growth Strategy in which those topic will be addressed to some extent.

Implementation

The policy instruments vary in the OECD Declaration on Green Growth from “green growth strategy”, to different policy mixes. In the different instruments presented, one can distinguish between three types of implementation instruments: (a) market-based instruments, (b) regulations (regulations to ensure clear and long-term price signals encouraging efficient environmental outcomes) and (c) other policies to change private sector responses. The incentives for more green investment should be provided in areas where pricing carbon is unlikely, like safe and sustainable low-carbon infrastructure, R & D technologies.

Implementation level

At the international level, the main objective should be reached through the support of OECD and closer international cooperation in following fields: (1) trade liberalisation in environmental goods to foster green growth, (2) clean technology, (3) creating an international market for environmental goods and services, (4) Post-Kyoto agreement, (5) support for the developing countries to foster “green growth”.

The OECD can, through policy analysis and identification of best practices, assist countries in their efforts to respond to the growing demand to foster green growth and work with countries to develop further measures to build sustainable economies. At the national level, the governments should limit domestic policies that might be harmful for green growth, e.g. subsidies that increase fossil fuel consumption, the unsustainable use of other scarce natural resources which contribute to negative environmental outcomes, etc.

Follow-up

Ministers asked the OECD to develop a “Green Growth Strategy” by bringing together economic, environmental, technological, financial and development aspects into a comprehensive framework. An interim report will be delivered to the OECD’s next Ministerial Council Meeting in 2010. It is planned to adopt the Green Growth Strategy during 2011. Content of the strategy: it will analyse green growth measures in OECD as well in non-member countries and will fully take into consideration the OECD Innovation Strategy, the OECD Environmental Outlook to 2030, the OECD work on the economics of climate change, the results of the Copenhagen UN Climate Change Conference of December 2009 and inputs from the International Energy Agency (OECD, 2009a).

OECD: Global Project of Measuring Progress of Societies

The OECD has deployed efforts not only in the process of restructuring the economy towards a more sustainable path. It has also during the last few years endeavoured to provide a network for the many initiatives and international projects aimed at “going beyond GDP” to measure societal well-being, quality of life and progress. Recent prominent initiatives express a new generation of statistics on the various dimensions of well-being, these include the mandate given by French President Nicolas Sarkozy to the Commission on the Measurement of Economic Performance and Social Progress, chaired by Joseph Stiglitz, the Communication of the European Commission on “GDP and Beyond”, and the G20 commitment to “encourage work on measurement methods so as to better take into account the social and environmental dimensions of economic development” (OECD, 2009b).¹ The OECD gave impetus to a worldwide institutional partnership aimed at catalyzing and convening these initiatives and at improving the methods for measurement. (OECD, 2009b)

Type and Timeframe

The OECD World Forums on “Statistics, Knowledge and Policies”, held in Palermo (2004) and Istanbul (2007), led to the Istanbul Declaration on Measuring and Fostering the Progress of Societies, jointly agreed by the European Commission, the OECD, the UNDP, the World Bank and the Organization of the Islamic Conference - and then endorsed by numerous governmental and non-governmental organizations (OECD, 2007). To achieve the goals of the Declaration, a partnership-based Global Project was launched in 2007 and is hosted by the OECD. The core of OECD’s strategy and commitments to measure and foster well-being and progress is outlined in the OECD Road Map.

Institution

The OECD seems well placed to contribute to the implementation of this agenda, based on its long standing experience and its substantive contribution to the work of the Stiglitz Commission (the OECD Chief Statistician was a member of the Stiglitz Commission and senior staff of the OECD acted as rapporteurs). The OECD Secretary-General, therefore, accepted the French government’s request that the OECD act as the international focal point to follow-up on the recommendations of the Stiglitz Commission (OECD, 2009b). The above mentioned work by the OECD will be carried out in co-ordination with both OECD and non-OECD member countries (via the relevant OECD committees) and with other international

organizations. It will be linked to other horizontal OECD projects, in particular the *Green Growth Strategy*.

Main Objectives

The Istanbul Declaration aims to shift the focus of the current measurement system metrics of market production to a system that genuinely focuses on people's well-being² and on how it changes over time (OECD, 2007). In the road map of the OECD, the broad aims in this context are (OECD, 2009b):

- To measure capital stocks as much as flows and to expand the range of stocks that matter for the sustainability of the well-being -including the biosphere - and develop better metrics on how production impacts these stocks (i.e. "green growth").
- To measure various forms of inequality (in income, wealth, health, education and political voice), and pay special attention to the conditions of those people who accumulate several disadvantages or handicaps.

The Istanbul Declaration encourages communities to identify what "progress" means for the 21st century and identifies the share of best practices on the measurement of societal progress as an important tool to better understand it. It also sets incentives to stimulate international debate and discuss about the broader, shared public understanding of changing conditions and targets and appropriate investment in building statistical capacity (OECD, 2007). For reaching this aim, the Istanbul Declaration requires the commitment of all partners and urges "statistical offices, public and private organisations, and academic experts to work alongside representatives of their communities to produce high-quality, facts-based information that can be used by all of society to form a shared view of societal well-being and its evolution over time" ([OECD, Global Project Homepage](#)).

Implementation

The activities and outputs of the *Global Project on Measuring the Progress of Societies* are aimed to be achieved over the next two years and concentrate on three areas:

- *Define what the different communities understand by "progress"*. The actions undertaken here vary from the establishment of the Global Project web site, to development of other communication tools (newsletter, blogs, etc.), of regional working groups and conferences as to building Guidelines on how to build progress initiatives at national and local levels.
- *Carry out different activities and measures for developing a better understanding of how progress can be measured* ([taxonomy framework of societal progress](#), [handbook measuring the progress of societies](#), [guidelines on how to measure particular dimensions of progress](#), ["Journal of the Progress of Societies"](#), [Knowledge Base](#) which describe initiatives around the world on measures of progress (or sustainability, wellbeing or quality of life).
- *Foster the development of new tools and approaches to help decision makers and citizens develop a better knowledge of their society using statistical information.* (Release and promotion of ICT tools to communicate data and indicators, Survey module to measure what citizens know about the progress of their society and so forth). (see [OECD, Global Project Homepage](#))

Follow-up

The OECD will continue its strong support of the *Global Project on Measuring the Progress of Societies* as a "network of networks and as a movement to advocate for the importance of progress and well-being" ([OECD Global Project Homepage](#)). The OECD also looks forward to organizing another *World Forum on Statistics, Knowledge and Policy*.

In addition, the final Report of the Stiglitz Commission has given renewed impetus and concrete direction to the process initiated by the OECD, where it commits to play a leading role, particularly in setting priorities for the statistical agenda, developing measures, methods and tools and improving and enhancing policy making in the future.

European Union Level

The institutions of the EU have been active in recent years by introducing a policy framework for the greening of the economy within which individual Member States can operate. In addition to the greening activities, the EU, based on the OECD Istanbul Declaration on Measuring the Progress of Societies, has perceived the need to go beyond the limits of GDP measure and start addressing political goals such as well-being or environmental sustainability, by developing different indicators. Moreover, as mentioned in the second part of the QR, the *'EU 2020' Strategy* as successor of the current Lisbon Strategy, will focus on "new sustainable social market economy, a smarter, greener economy, where our prosperity will come from innovation and from using resources better, and where the key input will be knowledge" (European Commission, 2009b, 2).

European Commission: 'Beyond GDP' conference and 'GDP and Beyond' communication

The discussion on how to measure growth is gaining momentum worldwide. It is being discussed at all political levels and it is attracting an increasing media attention. Economic indicators, such as GDP, were not designed to be comprehensive measures of well-being; they measure only the macroeconomic activity of a country. Despite this fact, it has come to be

regarded as a proxy indicator for overall societal development and progress in general. Critically, GDP does not measure environmental sustainability or social inclusion and these limitations need to be taken into account when using it in policy analysis and debates. A 2008 Eurobarometer poll showed that more than two thirds of EU citizens feel that social, environmental and economic indicators should be used equally to evaluate growth. Only just under one sixth prefer evaluation based mostly on economic indicators. An international poll in 2007 gave similar results. (European Commission, 2009c, 5)

Therefore, complementary indicators to GDP are needed that are as clear as GDP but more inclusive of other dimensions of progress - in particular environmental and social aspects. The EU high-level conference, "Beyond GDP" (2007), and the Commission communication, "GDP and Beyond" (2009) are intended steps in filling this gap.

Time frame and Type

In November 2007, the European Commission, the European Parliament, Club of Rome, OECD and WWF hosted the high-level conference "Beyond GDP" with the objective of clarifying which indices are most appropriate to measure progress, and how these can best be integrated into the decision-making process and taken up by public debate (please click here for a [summary of the conference results](#)). The conference brought together over 650 policy makers, experts and civil society representatives to address these critical issues. Preceding the main conference, an expert workshop was held in which leading practitioners discussed the development and application of indicators of progress, true wealth, and well-being.

The Conference started with Mr. Barroso's speech, emphasizing that, "it is not enough for us to talk about the different global challenges, as energy, climate change, health, security and the environment. We need widely accepted communication tools that show progress in these fields. And that progress can only be measured with suitable indicators. So it's time to go beyond the tools developed for the very different world of the 1930s. (...) It's time to go beyond GDP". Other politicians also addressed that it is necessary to go beyond GDP to measure societal well-being and progress (see the box below).

On 20 August 2009, the European Commission released its Communication "[GDP and beyond: Measuring progress in a changing world](#)". This Communication is a direct outcome of the "Beyond GDP" conference in 2007 and outlines an EU roadmap with five key actions which support the Commission's aim.

Main objectives

The Communication, "GDP and beyond", identifies a number of actions that should be taken in the short to medium term: "The overall aim is to develop more inclusive indicators that provide a more reliable knowledge base for better public debate and policy-making. The Commission intends to cooperate with stakeholders and partners to develop indicators that are internationally recognized and implemented". (European Commission, 2009c, 3)

Angela Merkel, Chancellor, Federal Republic of Germany: "It is becoming increasingly clear to people that if the European institutions want to be serious about measuring sustainability, they need to move away from crude ratings of economies according to Gross Domestic Product (GDP), and move towards a re-definition of progress, measuring the value of products and services in relation to resource use". (Speech at the 7th Annual Conference of the Federal German Sustainability Council, November 2007)

French President Nicolas Sarkozy: "For years, statistics have registered an increasingly strong economic growth as a victory over shortage until it emerged that this growth was destroying more than it was creating. The crisis does not only make us free to imagine other models, another future, another world. It obliges us to do so." ([Sarkozy to Guardian.co.uk](#), 14.09.2009)

The *five key actions* of the Communication mentioned above are (European Commission, 2009c):

1. *Complementing GDP with environmental and social indicators*: developing an environmental index, since the methodologies for composite indices and data are now sufficiently mature. To the social indicators, the Communication states the one on quality of life and well-being. The European Foundation for the Improvement of Living and Working Conditions is working on this issue.
2. *Near real-time information for decision-making*: environmental and social data in many cases are too old to provide operational information in contrast to GDP and unemployment figures, which in contrast are published frequently. The aim is to develop here as well instruments and tools to measure more frequently social and environmental aspects; this can be achieved by two means:
 - o To provide more timely environmental indicators such as satellites, automatic measurement stations and the internet that will make it increasingly possible to monitor the environment in real time.
 - o To provide more timely social indicators: since social data is usually collected from surveys using face-to-face interviews with large samples of respondents, the Commission, together with Member States, has been working to streamline and improve the surveys and reduce the time lag between data collection and publication. The European Labor Force Survey collects data on employment quarterly and results are published within half a year. Data on Healthy Life Years are also collected.

3. *More accurate reporting on distribution and inequalities*: the aim is to reduce disparities between regions and social groups. In addition, far-reaching reforms – such as those required fighting climate change or to promote new patterns of consumption – can only be achieved if efforts and benefits have to be equitably shared among countries, regions, and economic and social groups.
4. *Developing a European Sustainable Development Scoreboard*: the [EU Sustainable Development Indicators \(SDIs\)](#) have been developed together with Member States to monitor progress on the multitude of objectives of the EU Sustainable Development Strategy (EU SDS) and are reflected in the Commission's biennial Progress Report. The problem arising here is that the monitoring tool does not fully capture recent developments in important areas, that are not yet well covered by official statistics (such as sustainable production and consumption or governance issues). The aim is to further develop a more concise and up-to-date set of data.
5. *Extending the European System of Accounts (EAS)*: in its June 2006 conclusions, the European Council called on the EU and its Member States to extend the national accounts to key aspects of sustainable development. The national accounts will therefore be complemented with integrated environmental, economic accounting that provides data that are fully consistent with many economic indicators (including GDP).

Follow-up

The Commission intends to report on the implementation and outcomes of the actions put forward by this Communication by 2012 at the latest. Regarding key action number one, the Commission services intend to present a pilot version of an index on environmental pressure in 2010. This index will reflect on pollution and other harms to the environment, within the EU. It will comprise the following major strands of environmental policy: (1) climate change and energy use, (2) nature and biodiversity, (3) air pollution and health impacts, (4) water use and pollution and (5) waste generation and use of resources. The index will initially be published annually for the EU and Member States with the longer term aim being – if successful – to publish it in parallel to GDP (European Commission, 2009c).

Regarding, environmental quality, the Commission will also continue to work on indicators that capture the environmental impact outside the EU (e.g. indicators to monitor the Thematic Strategy on Sustainable Use of Natural Resources) and will continue to support improvement of the Ecological Footprint (European Commission, 2009c). In the key action number four, the Commission therefore explores the possibilities to develop, together with Member States, a Sustainable Development Scoreboard. The SD Scoreboard, based on the EU SDI set, could also include other quantitative and qualitative publicly available information, for instance on business and policy measures. The Commission services intend to present a pilot version of the SD scoreboard in late 2009 (European Commission, 2009, 9).

In the longer term it is expected that more integrated environmental, social and economic accounting will provide the basis for new top-level indicators. The Commission services will continue to explore – through collaboration with international organizations, dialogue with civil society and research projects – how such macro-indicators could best be designed and used.

National level

In this section, the QR presents initiatives to link economic growth and sustainable development of four EU Member States (France, UK, Ireland and Austria). Before describing the national initiatives, the QR shortly provides an overview of the economic stimulus packages and their relation to sustainable development.

Economic stimulus packages and sustainable development

In autumn 2008, it became evident that the world had entered into a *financial and economic crisis*. The International Monetary Fund (IMF) estimated in October 2009 (latest available figures) that global economic activities (GDP) will decline by 1.1 % and economic activities within the EU will decline by 4.2 % in 2009 (IMF, 2009). Several EU Member States are hit even harder than the global or EU average, with for instance an expected decline of 4.4 % in the UK or even 5.3 % in Germany. As a response to the economic crisis and to propose solutions for the future, the European Commission published in November 2008 the [“European Economic Recovery Plan”](#).

Moreover, several EU Member States have over the past year launched a range of *economic stimulus packages* (Eurofound, 2009; Meyer-Ohlendorft, 2009). However, only a few of these packages have a specific green policy content and focus on issues like modernisation of buildings, better insulation, car scrappage or the use of alternative energy. Many of the packages are linked to the countries' overall plans to increase competitiveness in the current difficult economic climate, although it is acknowledged that the 'green economy' is a potential growth sector and a likely source of new jobs (Eurofound, 2009). An overview of *green initiatives in the economic stimulus packages* of European governments can be found in Table 2 below.

Table 2: Green initiatives in economic stimulus packages in Europe (Eurofund, 2009)

Initiative	Countries
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Subsidies for the insulation and heating refurbishment of domestic and commercial premises	Austria, Ireland, Lithuania, Hungary
Tax credits for households investing in alternative energy and insulation	Belgium
Car scrappage	Austria, Czech Republic, Germany, Italy, Luxembourg, Slovakia, Spain, UK
Using taxation and financial support to encourage energy efficiency and promoting the use of alternative energy such as solar and wind power	Cyprus, Finland, Malta, the Netherlands, Portugal, Romania, Slovakia, Spain, UK
Support for specific industries	Italy (encouraging consumers to choose environmentally-friendly consumer goods); Lithuania, the Netherlands and UK (supporting the construction sector in the building of more energy-efficient houses and public buildings)
Support for the agriculture sector or the organic farming industry by means of financial incentives	Cyprus, Denmark, Ireland
Encouraging the development of green transport systems	Germany (hybrid cars and battery-powered trains); Ireland (lower car use, improvements in public transport and cycling provision); Luxembourg (cars with low CO2 emissions); Norway (electric cars, walking and cycle paths)
Investments in new technology such as carbon capture	Norway, UK
Sustainable tourism	Bulgaria, Ireland, Malta

Generally though, most EU Member States are lagging behind the United States and several Asian countries (e.g. South Korea, China) regarding the share of 'green' spending or initiatives of the stimulus packages or recovery programmes (Schepelmann et al, 2009). The stimulus packages of several Member States also contain some decidedly non-green aspects, with significant funding for further road construction as well as measures to stimulate increased car sales, such as the car scrappage schemes, without making strong fuel efficiency an important aspect for determining subsidy levels (Eurofund, 2009). Therefore, the danger exists that "stimulus funds could lock in non-sustainable technologies and structures" (Meyer-Ohlendorf et al, 2009, 4).

In the following, we present initiatives of EU Member States that aim to link economic growth and sustainable development. The types of initiatives can be grouped into three categories: (1) initiatives on measurement of social progress (France: Stiglitz Commission on the measurement of economic performance and social progress); (2) initiatives that rethink the whole current economic structure and its contribution to prosperity (UK: Sustainable Development Commission report, "Prosperity without Growth", Ireland: "Smart Economy Strategy", Austria: initiative on "Growth in Transition"); and (3) the third category are initiatives by Green parties on the EU and Member States level.

France: Commission on the Measurement of Economic Performance and Social Progress

Type and Timeframe

The French government followed the footsteps of the OECD initiated activity for 'Measuring Progress of Societies' by recognising the need to work over the state of statistical information about the economy and the society. In February 2008, the President of the French Republic, Nicholas Sarkozy, gave the mandate to create the [Commission on the Measurement of Economic Performance and Social Progress \(CMEPSP\)](#).

Institution

The CMEPSP is headed by the world famous economics Joseph Stiglitz (chair), Amartya Sen (chair advisor) and Jean Paul Fitoussi (coordinator) and comprises further 22 Commission members. The members of the Commission are renowned experts from universities, governmental and inter-governmental organisations from France, UK, USA and India. Rapporteurs and secretariat are provided by the French national statistical institute (Insee), OFCE, and OECD. The Commission held its first plenary meeting on 22 - 23 April 2008 in Paris and delivered its [final report](#) in 2009.

Main objectives

The aim of the commission is to identify the limits of GDP as an indicator of economic performance and social progress, to consider additional information required for the production of a more relevant picture, to discuss how to present this information in the most appropriate way, and to check the feasibility of measurement tools proposed by the Commission

(CMEPSP Homepage).

The Commission's final report strives to give recommendations on how to measure the economic performance in the current complex economy by better reflecting the structural changes characterizing the evolution of our economies. Nowadays, capturing quality change is a tremendous challenge, since so far the quantity of the output has been the mainstream and leading indicator. A shift in the measurement system from measuring only economic production to measuring people's well being is being aimed for the future (Stiglitz et.al 2009).

The message and recommendations of the report are concentrated around three topics:

- Limits and Potential of GDP indicator
- Quality of life
- Sustainable Development and Environment

Important to mention in the first aspect is that more prominence should be given to the household perspective through measures of household income and consumption if citizens' material living standards are to be better followed. Then, income and consumption are to be assessed jointly with wealth, because if wealth is being only consumed, the current wealth on consumption goods increases the current well-being, but at the expense of the future. Thus, there is a need for household balance sheets which, if aggregated, would form the countries balance sheets. These sheets are not novel in concepts but their availability is still limited. Consequently, more prominence should be given to the distribution of income, consumption and wealth, since arising GDP does not mean a rising of the relative but only of the absolute income, while the discrepancy between rich and poor can become bigger (Stiglitz et al. 2009). Finally, there is a need to broaden income measures to non-market activities such as family services, which reflect economic activities not included in the national accounts. When discussing about standards of living, the report gives an importance to measure the amount of leisure that people enjoy.

Regarding quality-of-life and well-being, the report emphasises the multi-dimensional approach on the definition of well-being, by showing the different variables³ that can affect it. Many of these factors, "are missed by conventional income measures" (Stiglitz et al. 2009, 15). The Commission believes that in the future, measurements of the subjective as well as the objective dimension of well-being is important, if quality-of-life is to be captured by indicators.

Implementation

The Commission's work is neither focused on France, nor on developed countries. The outputs of the Commission were made public by providing a template for every interested country or group of countries. Four groups have been aimed when preparing this report: (a) political leaders: the report emphasis here to shift the view away from "production-oriented" to "well-being" of current and future generation; (b) policy-makers: they should strive at getting a better sense of which indicators are available and useful to design, implement and assess policies aimed at improving well-being and foster social progress; (c) academic community, statisticians and intensive users of statistics; (d) civil society organisations that are both users and producers of statistics (Stiglitz et.al 2009).

Generally, the final report of the Commission is more about measurement rather than policies, thus it does not discuss how best societies could advance through collective actions in the pursuit of various goals. *"However, as what we measure shapes what we collectively strive to pursue - and what we pursue determines what we measure - the report and its implementation may have a significant impact on the way in which our societies looks at themselves and, therefore, on the way in which policies are designed, implemented and assessed"*. (Stiglitz et.al 2009, 9)

Follow-up

The Commission regards its report as opening a discussion rather than closing it. The report hints at issues that ought to be addressed in the context of more comprehensive research efforts. Other bodies at the national and international level should discuss the recommendations in this report, identify their limits, and see how best they can contribute to this broad agenda, each from their own perspective. At the national level, round-tables should be established with the involvement of stakeholders and at the international level, together with the collaboration of OECD, a global debate around the issues and recommendations raised in this report should provide an important venue for a discussion of societal values (Stiglitz et.al 2009).

United Kingdom: "Prosperity without Growth"

In the UK Sustainable Development Commission has started an important initiative to rethink the whole economic system and questioning the growth concepts and its perception and contribution to prosperity. The report, "Prosperity without Growth", was written by Tim Jackson, Economics Commissioner in the Sustainable Commission in UK, in 2009. In this report, Jackson describes the dilemma of economic growth as a guarantor for wealth, prosperity, stability, employment and its ecological limits and provides recommendations for the governments how to effects the transition to a sustainable economy. Although written by an individual author, this study builds on work form right across the Sustainable Development Commission. In particular, it draws extensively from the work programme on *Redefining Prosperity* which has been developed at the SDC over the last five years.

Institution

The [Sustainable Development Commission](#) (SDC) is the UK Government's independent advisory body on sustainable development (i.e. government 'watchdog'). Through advocacy, advice and appraisal, the SDC helps to put sustainable development at the heart of Government policy. On 1st February 2009, the SDC became an executive non-departmental body (Executive NDPB). More information about the SDC can also be found in the [ESDN Quarterly Report, December 2006](#). The SDC is led by a board of 11 Commissioners, from a mix of academic, scientific, business and NGO backgrounds. It is chaired by Will Day and supported by 61 policy staff members.

Main Objectives

A part of the aim of the report, "Prosperity without Growth", is to provide a coherent foundation for policies and to help strengthen the hand of government in taking them forward, since it recognizes that "*for advanced economies of the Western world, prosperity without growth is no longer an utopian dream. It is a financial and ecological necessity*" (Jackson 2009, 12). The report sets out 12 objectives within three topics: (a) building a sustainable macro-economy, (b) protecting capabilities for flourishing, and (c) respecting ecological limits.

The first main challenge is to develop a *new macro-economy* for sustainable development. This new macro-economy will have to become more ecologically literate and will have to reduce the structural reliance on consumption growth and find a different mechanism to achieve underlying stability. In operational terms, this new macro-economy will require enhanced investment in public infrastructures, in sustainable technologies and in ecosystem maintenance. It is likely to demand a different balance between public and private goods. It will require reframing the concepts of productivity and profitability. Above all, a new macro-economy for sustainability should be ecologically and socially literate, "ending the folly of separating economy from society and environment" (Jackson 2009, 83).

The second component of change in the consumerism of today is of sociological nature and lies in shifting the social logic of consumerism towards more "*psychological flourishing*" (Jackson 2009, 64). A lasting prosperity can only be achieved by freeing people from this damaging dynamic and providing creative opportunities for people to flourish - within the ecological limits of the planet. Five policy areas address this challenge: sharing the available work and improving the work-life balance, tackling systemic inequality, measuring capabilities and flourishing, strengthening human and social capital, and reversing the culture of consumerism.

The third component of the "prosperity without growth" concept is to *respect ecological limits*. The material profligacy of consumer society is depleting natural resources and placing unsustainable burdens on the planet's ecosystems. Therefore, there is an urgent need to establish clear resource and environmental limits on economic activity and develop policies to achieve them. Three policy suggestions should contribute to that task: imposing clearly defined resource/emissions caps, implementing fiscal reform for sustainability, and promoting technology transfer and international ecosystem protection.

Consumption

The report reveals that the culture of consumerism has developed in part at least as a means of protecting consumption-driven economic growth (Jackson 2009). Its role as the engine and contributor to economic growth and prosperity is being criticized. The author describes that consumption driven growth is not leading us to more prosperity when observed from the social and ecological point of view.

Therefore, two specific components of change have been identified, the first implying an *economic restructuring*, which should not only be based on consumption as a driver but more on investments and innovations towards sustainability goals. The economic restructuring should, be therefore, accompanied with a new governance-type to effect the transition to a sustainable economy. The second change involves, *questioning and changing the social logic of the current consumerism*. This logic describes the tendency of individuals to consume more and more since goods have a positional and status symbol for us. This need of more consumption has been evidenced, to be socially constructed and not a terminal quality of the human psyches (Jackson 2009).

Generally, the public sector and government, has an absolutely crucial role to play in the transition to sustainable economy and in shaping for better or worse consumption. The public sector also has an active role to play in protecting macro-economic stability, delivering public goods, investing in and managing long-term infrastructure assets, and co-creating the climate for sustainable consumption.

Technology

Technology is perceived as an important tool for making the production process more efficient and supporting the "decoupling" process. In the report, the importance of technological change is being emphasized irrespective if a country's economy is growing or not. Consequently, small economies would face as well the challenge of declining fossil energy requirements and substantially reduced carbon emissions.

Since absolute and relative decoupling, as described in our first part, have not contributed to reduction of resource usage, since emissions today are almost 40% higher than they were in 1990 - the Kyoto base year -and since the global GDP is still growing faster than carbon dioxide consumption, the report suggests that for reversing this trend, a *technological*

breakthrough is necessary. Substantial early investment in low-carbon technologies is therefore, obviously essential. Stabilizing carbon emissions (and addressing problems of energy security) requires a whole-scale transition in global energy systems. According to the report, the need for this investment could transform the economics of 21st Century (Jackson, 2009). However, the way out of the growth dilemma is not only the technological breakthrough but as well a committed *policy towards decoupling*.

Employment

This report argues that economic growth can be ecologically unsustainable, but de-growth is proved to be unstable (Jackson 2009, 8). There is one macroeconomic model, presented in the report which tries to define how employment and ecological issues can be tackled in a low-growth economy. Reducing the working week is the simplest and most often cited structural solution to the challenge of maintaining full employment with non-increasing output. And there is some precedent for it, for example, from labour policies in certain European nations. Achieving reduced working hours, for example, requires careful policy and only tends to succeed under certain conditions (Jackson, 2009).

Innovation

Innovation is, according to Schumpeter, the driver of economic growth. Business innovation and consumer demand will drive consumption forwards. Innovation will still be vital in the future, but it will need to be targeted more carefully towards sustainability goals. Specifically, investments will need to focus on resource productivity, renewable energy, clean technology, green business, climate adaptation and ecosystem maintenance and protection. These are some of the issues to emerge from the consensus around a “Global Green New Deal” (see above). In operational terms, the move towards a new macro-economy will require enhanced investment in public infrastructures, in sustainable technologies and in ecosystem maintenance (Jackson, 2009).

Implementation and follow-up

The report concludes with recommendations for governments how to effect the transition to a sustainable economy for each of the three main topics: (1) building a sustainable macro-economy, (2) protecting capabilities for flourishing, and (3) respecting ecological limits. They are summarised in the Table 3 below:

Table 3: “Prosperity without Growth”’s 12 Steps to a Sustainable Economy (Jackson, 2009)

Box 1: 12 Steps To a Sustainable Economy
<p>Building a Sustainable Macro-Economy Debt-driven materialistic consumption is deeply unsatisfactory as the basis for our macro-economy. The time is now ripe to develop a new macro-economics for sustainability that does not rely for its stability on relentless growth and expanding material throughput. Four specific policy areas are identified to achieve this:</p> <ol style="list-style-type: none"> 1. Developing macro-economic capability 2. Investing in public assets and infrastructures 3. Increasing financial and fiscal prudence 4. Reforming macro-economic accounting
<p>Protecting Capabilities for Flourishing The social logic that locks people into materialistic consumerism is extremely powerful, but detrimental ecologically and psychologically. A lasting prosperity can only be achieved by freeing people from this damaging dynamic and providing creative opportunities for people to flourish – within the ecological limits of the planet. Five policy areas address this challenge.</p> <ol style="list-style-type: none"> 5. Sharing the available work and improving the work-life balance 6. Tackling systemic inequality 7. Measuring capabilities and flourishing 8. Strengthening human and social capital 9. Reversing the culture of consumerism
<p>Respecting Ecological Limits The material profligacy of consumer society is depleting natural resources and placing unsustainable burdens on the planet’s ecosystems. There is an urgent need to establish clear resource and environmental limits on economic activity and develop policies to achieve them. Three policy suggestions contribute to that task.</p> <ol style="list-style-type: none"> 10. Imposing clearly defined resource/emissions caps 11. Implementing fiscal reform for sustainability 12. Promoting technology transfer and international ecosystem protection.

Ireland: Smart Economy Strategy

Type and Time frame

In December 2008, the Irish Government published ‘Building Ireland’s Smart Economy: a Framework for Sustainable

Economic Renewal’ its strategy for medium-term economic recovery based around the concept of the ‘Smart Economy’. The strategy sets out an ambitious set of actions to reorganise the economy over the *next five years* and to secure the prosperity of current and future generations. The framework also sets out the strategic direction in order to manage the transition to a new model of sustainable economic growth.

In October 2009, the Irish Government published *Science, Technology & Innovation - Delivering the Smart Economy*, a report outlining the progress made in developing the ‘Smart Economy’ through strategic investment in R&D and how the implementation of this strategy will serve as a key driver for future growth, prosperity and employment.

Institution

The main role of the Prime Minister’s Office (Department of the Taoiseach) is to support and advice in carrying out the various duties of the government. As the central government department, it plays an important role in acting as a link between the President, the Prime Minister and other government departments in coordinating sectoral policies.

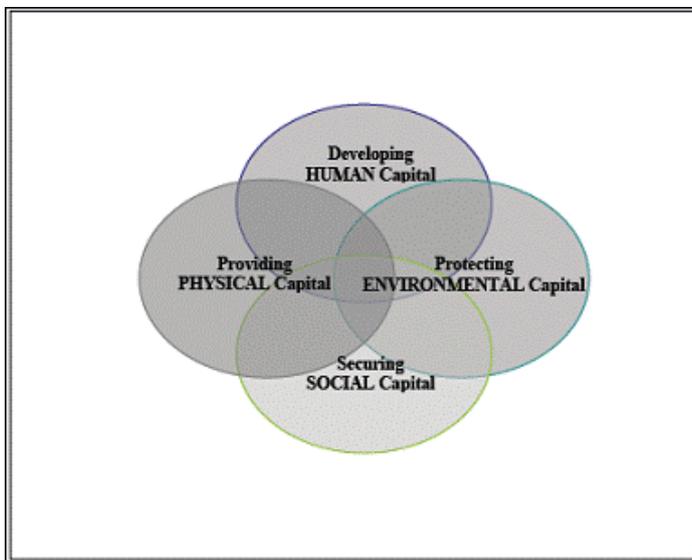
Main Objectives

The main objectives of the strategy are: (1) To drive economic growth through the enhancement of productivity per person by securing fiscal stability and enhancing R&D intensive foreign direct investment; (2) investing in human capital and research & development; and (3) incentivising innovation and commercialisation by investing in critical public infrastructure and improving public sector performance, within a high-quality physical and social environment.

The Smart Economy Concept combines the successful elements of the enterprise economy and the innovation or ‘ideas’ economy while promoting a high-quality environment, improving energy security and promoting social cohesion. Smart Economic Growth recognises the interdependence between *four forms of capital* accumulation that drive the economic and social progress of the nation (see also Figure 3 below):

- human or knowledge capital - the skills, knowledge, ingenuity and creativity of people;
- physical capital - the stock of infrastructure that is used to produce goods and services, e.g. machinery, buildings, transport and communications networks
- natural or environmental capital - naturally-provided assets and the quality of the surrounding environment within which people live and work;
- social capital - the networks, connections, mutual trust and shared values and behaviours of the population.

Figure 3: Smart Economy Concept (Government of Ireland, 2008)



A key feature of this approach is building the innovation or ‘ideas’ component of the economy through the utilisation of human capital - the knowledge, skills and creativity of people - and its ability and effectiveness in translating ideas into valuable processes, products and services. A second important aspect is the greening of the economy, recognising the transition to a low-carbon economy as well as the opportunities for investment and jobs in clean industry.

The Smart Economy is a ‘Green Economy’ concept in that it recognises the inter-related challenges of climate change and energy security. It involves the transition to a low-carbon economy and recognises the opportunities for investment and jobs in clean industry. The core of this ‘Green New Deal’-like approach is to move away from fossil-fuel based energy production through investments in renewable energy and increased

energy efficiency to reduce demand.

The smart economy concept involves *following objectives for Ireland*:

- Moving Ireland up the value chain by developing an exemplary research, innovation and commercialisation ecosystem thereby creating ‘The Innovation Island’;
- Building on Ireland’s significant strengths in terms of the multinational presence and Ireland’s stock of highly-skilled workers by incentivising greater investments in high-value research and development areas which will provide quality jobs;
- Investing in the green economy;
- Building on the Government’s investment in research and development with a plan to create a similarly R&D-intensive indigenous enterprise sector through the provision of considerable supports for start-up companies and the attraction of entrepreneurs from overseas to Ireland.

In the following, we would like to describe how consumption, technology, knowledge and innovation and employment are understood in the Ireland's strategy towards a smart and green economy.

Consumption

Ireland's 'Smart Economy' strategy includes the objective of energy efficiency in order to reverse the unsustainable consumption patterns towards fossil fuel. Energy efficiency should be improved through following measures: (1) introduction of smart meters⁴, (2) increasing the range of energy efficient equipment, (3) a Sustainable Travel and Transport Action Plan which will provide a new policy framework for travel and transport, (4) a target of 10% of Ireland's road transport fleet being electrically powered by 2020; and (5) releasing a National Energy Efficiency Action Plan - in the first quarter of 2009 - including the targeted of 33% improvement in energy efficiency in Ireland's own services by 2020 (Government of Ireland 2008).

Knowledge and Innovation

The strategy aims to make Ireland a global hub for knowledge, innovation and know-how. Innovation is regarded as the key ingredient to ensuring rising standards of living. A key feature of this approach is *building the innovation or 'ideas' component of the economy through the utilisation of human capital - the knowledge, skills and creativity of people - and its ability and effectiveness in translating ideas into valuable processes, products and services.*

Employment

The 'Smart Economy' strategy sets different actions for dealing with unemployment caused by the economic crisis. They can be diversified in two groups: (1) *Job Search Supports* capacity under the National Employment Action Plan (NEAP) will be increased to over 10,000 persons per month (from the existing capacity of 6,500 per month) and (2) *additional Training and Education Support* will follow. The aim of these measures is to significantly improve access for unemployed persons to job search, training and education, community and employment programmes and to maximise opportunities for up-skilling and re-skilling so that people will be better placed to avail of new job opportunities where they become available, including in new sectors such as energy efficiency (Government of Ireland, 2008).

Implementation

The successful implementation of the 'Smart Economy' strategy will not just going to be delivered by the policy measures and investments put in place by the government. It requires a national effort and close collaboration with societal stakeholders.

There are five government actions to build the Smart Economy:

- *Meeting the Short-term Challenge - Securing the Enterprise Economy and Restoring Competitiveness:* achieving fiscal stability; stabilising the banking sector; aiding the restructuring of the construction sector; reinvigorating financial services; improving competitiveness;
- *Building the Ideas Economy - Creating 'The Innovation Island' - Fostering ingenuity entrepreneurship and skills:* incentivising R&D; developing the exported services sector; stimulating innovation & commercialisation; developing indigenous high value-added industry;
- *Enhancing the Environment and Securing Energy Supplies - Mobilising the market to protect the environment:* developing the Green Enterprise sector; the public sector as a driver of environmental innovation; improving energy security and reducing energy costs;
- *Investing in Critical Infrastructure:* investing in infrastructure; stimulating economic activity and employment; enhancing productivity and competitiveness; improving transportation, environmental services, communications and energy infrastructure;
- *Providing Efficient and Effective Public Services and Smart Regulation:* achieving greater efficiency in public services; reducing costs and enhancing services; improving citizen focus; effective and efficient regulation.

These are a combination of existing policies on which the government will build and will drive the restructuring of the economy. This combination is important because a principal objective is to reprioritise the business of government and to re-focus resources in a manner that will hasten economic renewal.

Follow-up

The various ministries will report regularly and systematically on progress in the key action areas. Each ministry will also be asked to develop and bring forward new proposals consistent with this strategic direction in their respective areas. The Cabinet Committee will be supported by the work of the National Economic and Social Council and by regular analysis from the National Competitiveness Council. The Prime Minister and the Minister for Enterprise, Trade and Employment is establishing an Advisory Council of Business Leaders who will report regularly to the Cabinet Committee on measures the government can take to direct the economy to a more sustainable path (Government of Ireland, 2008).

Austria: "Growth in Transition"

Type and Timeframe

Although the growth debate in the scientific scene has taken place for decades, the discussion on what kind of growth is being targeted for the future has still been missing in the policy-making arena. The Austrian initiative "[Growth in Transition](#)" aims to fill this gap and to foster a debate among policy-makers and experts on sustainable development and growth. The initiative began in 2008 and, so far, four workshops have been organised, involving policy-makers, experts and several stakeholder groups to collect suggestions on what kind of growth is perceived as sustainable.

Institutions

"Growth in Transition" was initiated by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management in cooperation with a research institute ([SERI](#)) and a consultancy ([Karuna Consult](#)). It is conceptualised as a stakeholder dialogue between various stakeholders in Austria with the involvement of various government ministries (Ministry of Finance; Ministry of Labour, Social Affairs and Consumer Protection; Ministry of Science and Research), the Austrian National Bank, the Austrian Association of Industry, the Club of Rome, municipalities, etc. Generally, the initiative derived from the policy-makers community and not from the research community.

Main Objective

The initiative "Growth in Transition" aims at raising awareness among the policy-makers on sustainable economic growth and intends to trigger a dialogue among institutions and stakeholders about how the transformation process can be shaped towards sustainability. It also aims at contributing to current EU and international processes and at informing the Austrian public about them (e.g. the EU initiative "Beyond GDP").

Implementation

The outcomes of the stakeholder dialogues held so far were summarised in a book, entitled "Which growth is sustainable? A presentation of arguments", that was published in May 2009. So far, the book is only available in German, but an English edition is already planned. Starting from the EU SDS, the book included arguments for "alternative growth" focussing on concepts of human quality-of-life and well-being. The book comprises 13 accompanying commentaries from selected experts of the stakeholder dialogues.

Follow-up

The [public discussion platform](#) of the initiative is designed to support the preparation of the [international conference "Growth in Transition"](#) which will take place in January 2010 in Vienna. The conference aims at debating approaches for high quality-of-life and sustainable prosperity for everyone. The conference initiators put the following topics for discussion (in the framework of ten thematic sessions): (1) Money and the Financial System, (2) Growth and Resource Use, (3) Social Justice and Poverty, (4) Macroeconomics for Sustainability, (5) Quality of Life & Measurement of Prosperity, (6) Work, (7) Regional Aspects, (8) Governance, (9) Sustainable Production and Consumption, (10) Sustainable Management

Greening the Economy: Initiatives by various Green Parties in Europe

With the aim of delivering answers to the 'double crisis' (i.e. economic crisis and combating climate change), several Green Parties in Europe have been debating and presenting initiatives on 'sustainable economy' at national level. In the following subsection, we present a study initiated by the Greens in the European Parliament and initiatives of the Green Parties in Germany and Ireland.

Greens/European Free Alliance at the European Parliament: Green New Deal for Europe

The 'Green New Deal for Europe' is the integrated policy approach that the [Greens/European Free Alliance \(EFA\)](#) in the European Parliament were putting forward as a solution to the crisis. They commissioned the report [Green New Deal for Europe: Towards Modernization in the face of Crisis](#), that was carried out by a research team at the [Wuppertal Institute for Climate, Environment and Energy](#), and presents the "ambition to contribute to the dissemination of ideas and research on the necessary transformation of the contemporary capitalism" (Schepelman et al, 2009, 3). The report gives an overview of the "economic recovery packages" introduced by governments around the globe. The authors show the economic and employment potential of a Green New Deal and that the EU has the possibility of leading the way. The report focuses primarily on how to 'green' immediate recovery activities in specific economic areas, and how to support the creation of framework conditions, which should initiate a dynamic for ecological modernisation and structural change. It also identifies key elements and sectors (energy, transportation, resource sectors) for the implementation of a Green New Deal.

Main objectives

The report identifies and defines the Green New Deal "as targeted state investment in activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems" (Schepelmann et al, 2009, 12). It identifies that even green growth can be

harmful, if it merely contributes to increasing, high level of natural resource. Therefore, 'green growth' needs to be more than a technology platform for eco-industries and envision a green modernisation of industry in the long run. The report argues that a Green New Deal requires structural change on all policy levels to achieve three objectives. It should (Schepelman et al 2009):

1. Break up unsustainable structures
2. Build up sustainable structures
3. Give the right mid- to long-term orientation.

Implementation

The report states that the target of a Green New Deal for Europe is to "*stimulate eco-innovation*" and meet the above mentioned objectives at the strategic level, at the level of individual EU policies and at the programming level (Schepelman et al, 2009):

Strategic level: EU SDS and Lisbon Strategy

At the strategic level, there is a lack of a long-term guiding vision of sustainable production and consumption patterns beyond low-carbon. The green parts of the Lisbon Strategy combined with the EU SDS contain elements which could be used as central building blocks of such a vision.

Policies: Common Agricultural Policy and Regional Policy

Major EU policies could boost the resource efficiency of EU industries. In particular, with the Cohesion Policy, the EU has a funding system dedicated to structural change which is already operating on a similar scale to the green stimulus in European recovery programmes. By combining national recovery programmes with EU Regional Funds, the EU Member States could create the necessary financial leverage to change production and consumption patterns.

Programmes for a Green New Deal

Short-term community support for a Green New Deal could be followed up through improvements at the programming level. The EU has a number of sophisticated innovation programmes which are already contributing to a greening of the EU economy (e.g. [ETAP](#), [CIP](#)). Different EU programmes affecting eco-innovation would have to converge and should be strengthened with the Cohesion Funds. Integrated schemes for using RTD, innovation and regional development programmes could be the financial foundation for developing.

The Green New Deal report, however, recognises the boundaries of a Green New Deal as it cannot include all the instruments needed for a 'green modernization'. Nevertheless, combined with a policy-mix for short-term economic stimulus, it can pave the way for a fundamental change in consumption and production patterns: "A Green New Deal can therefore be nothing more, but also nothing less, than a framework for political action to stimulate eco-innovation during the current election period from 2009-2014." (Schepelman et al, 2009, 43)

In the following, we would like to analyse how Consumption, Knowledge and Innovation (Technology), Employment and Education are understood in the restructuring of the economy in this report and which main objectives are being set in these fields on the way to a green economy in Europe. The opinion here are alone those of the authors, stemming from the Wuppertal Institute and do not necessarily reflect the views of the Green European Foundation.

German Green Party: Green New Deal

The [German Green Party](#) has as well recognised the concept of a Green New Deal and it is trying to position the party towards the path of a green economy. They view the "greening of the economy" as the right approach for current and future challenges of climate change, environmental degradation and energy dependency. Moreover, the German Greens argue that strategies leading to higher investments in new environmental friendly technologies and investments in renewable energy, which have been tripled in the last 5 years in Germany, could strengthen the position of its economy in the world by guaranteeing its leading position in the relevant technologies and stabilising the further growth in the export-markets. ([Die Zeit, Green New Deal: Energiepolitik für Klima und Wirtschaft, 3](#))

Type and Timeframe

The [Heinrich Böll-Foundation](#), which is closely associated with the German Green Party, published together with the World Watch Institute a strategy paper, entitled "[Toward a Transatlantic Green New Deal: Tackling the Climate and Economic Crisis](#)" (French et al, 2009). The paper aims to refine national and international approaches to the restructuring of the economy and society.

Main Objectives

The aim of the approach is to combine a sustainable economic recovery with a transition to an environmental friendly and low-carbon economy: "The solution to current economic problems lies not in pushing 'shovel-ready' programs like more road building or in simply restarting the engine of consumption, but rather in laying the foundations for a fundamental green transformation". (French et al, 2009, 5)

In this framework the report emphasises:

- *Restructuring of the four key sectors to modern economies*: energy, transportation, buildings and basic materials such as steel, aluminium, cement, and paper, which imply high energy usage and high green-house gas emissions. "Their environmental footprint radiates far beyond their confines to other sectors, determining the degree to which the overall economy is sustainable". (French et al, 2009, 10)
- *Building a green public Infrastructure*: which implies a 'smart grid' that is fully capable of integrating renewably-produced electricity; a reliable network for future fleets of plug-in vehicles; a modernized public transportation system; and a functioning system for recovering and handling scrap materials needed to boost energy-efficient secondary production of steel, aluminium and paper.
- *"Leapfrogging"*: integration of most sophisticated clean technologies and management strategies across multiple economic sectors and within a short period.
- *Turning the Digital Revolution into a Green Revolution*: Emphasising the role of information technology for the dematerialisation of our economy and for the potential of creating new jobs and less pollution.
- *Creating more green jobs*: the 'green economy' as driver for job creating in building a low-carbon global economy.

Irish Green Party: Green New Deal

At its [Convention in Wexford in 2009](#), the [Irish Green Party](#) presented its vision of how to get Ireland's economy restarted - 'A Green New Deal - Getting Ireland Back On track'. It is important to note that the Irish Green Party is a coalition partner of the current Irish Government. The Green New Deal outlined is supposed to create 10,000 jobs in 2009 alone and should stimulate billions of investment in green energy and clean technology (Green New Deal Policy Document, 2009, 2).

Main objectives

The key objectives of the Green New Deal of the Irish Green Party are (Green New Deal Policy Document, 2009: (i) job creation, (ii) reduction of CO2 emissions, and (iii) the use of alternative energy sources. In order to reach these objectives, the focus is put on the following areas: energy, energy efficiency, transport, water and waste, food and agriculture, schools, tourism, green Business and innovation, urban planning, and regulation and finance

In the following, we would like to analyse how Technology, Employment and Education are understood in the restructuring of the economy by this strategy. Consumption is not being here explicitly tackled.

Implementation

The Green New Deal in Ireland plans for 2010 different reforms how to restructure the economy. Regarding implementation instruments, one can distinguish between 'hard policy instruments' (e.g. law, regulations) and 'soft policy instruments':

Hard policy instruments

- **Laws**: introduction of radical new planning legislation to protect the economy and communities from unfavourable and opportunistic developments;
- **Institutions**: establishment of a new transport authority to begin reforming the public transport system;
- **Regulations**: introduction of further reforms in energy regulation to provide more incentives for green energy development and investment.

Soft policy instruments

This category of implementation instruments contains different markets-based instruments, such as levies on landfill for using that money to invest in recycling and waste reduction, reform of the taxation system, providing incentives to a shift to low-carbon economy through a carbon levy and lower taxes for environmental goods and services, reform of the financial regulatory system towards a more sustainable model.

Similarities between the initiatives and strategies on the different political levels

The 'double crisis' of, on the one hand, the severe financial and economic crisis and, on the other hand, the challenges to combat climate change, to a questioning of prevailing growth approaches and systems of our economy. Common to all efforts in this context is a growing belief that the economic growth engine cannot be based on causing continuously more costs than benefits in terms of ecological and social aspects. As [section one of this QR shows](#), this thinking is not new, but the crisis situation seems to spur strategies and initiatives that questions conventional growth approaches and suggest ways of better linking economic growth with sustainable development.

This QR could only provide a first overview and description of the various strategies and initiatives that link economic growth and sustainable development on the international, EU and national level. Generally, one can cluster them into in three major groups: (1) Green New Deal or initiatives that aim to establish a 'green economy', (2) strategies and initiatives that aim to foster better measurement and indicators on the progress of society by going beyond GDP calculation methods and (3) a final group of initiatives that aims toward building a more 'sustainable economy', i.e. not only to 'green' the economy, but to build a sustainable market where prosperity derives from innovation and where the

key input to growth would be knowledge; therefore, a more inclusive approach towards the three pillars of sustainable development is applied here in contrast to the greening of economy, where particularly societal aspects seems to be marginalised.

First group of initiatives: Green New Deal and 'green economy'

In the first group, one can cluster we can cluster the initiative at international level, i.e. UNEP Green Economy Initiative and UNEP Global Green New Deal and the OECD green growth strategy; at the national level, the Green New Deal initiatives arising from the green parties in Europe. At the European level, there is no coherent strategic orientation for greening the economy, despite the 'EU 2020' strategy, aimed as successor of the Lisbon Strategy.

The similarities for the Green New Deal and 'green economy' initiatives are based on following criteria:

- *Background:* all of them arise from the current financial and economic crisis, contributing efforts to green the economy as targeted state investments –especially through the economic stimulus packages - in activities which produce goods and services to prevent, limit, minimise or correct environmental damage.
- *Their objective* can be summarised as follows: (1) reduction of CO₂ emissions, (2) enhancement of energy security through use of alternative energy sources, (3) creation of new engines of growth through eco-technologies and eco-innovation.
- *Time horizon:* one needs to distinguish here between (a) UNEP' Green Economy Initiative and OECD's Green Growth strategy, both of which are more long-term oriented and (b) the Green New Deal initiatives on the different levels which have more short-term orientation. The latter address short-term intervention, such as the greening of the stimulus packages which should be adjusted in the future to more long-term orientation through proper strategies. Especially the Green New Deal initiatives from the Green Parties are based on the election periods. However, many of them recognise this short-term orientation and complement this, like at the OECD level, through green growth strategies which will be published in 2010.
- *Horizontal integration* in the Green New Deals is taking place to some extent as a restructuring of the economy requires an integrated approach of different key sectors of the economy (e.g. transport, construction, energy, education, etc.), that cause high energy usages and high GHG emissions. Therefore, horizontal integration is a necessity in the process of shifting the economy towards a more low-carbon economy.
- *Implementation instruments:* The instruments can be distinguished in addressing long-term and short-term goals. The short-term goals are to be seen as part of the Economic Recovery Programs in the countries and the medium- to long-term goals are concentrated on reforms in enabling a structural change of the economy. Depending on the implementation level, the instruments can be classified into four groups, as follows:
 - sectorally targeted fiscal stimulus and reform to financial regulatory systems towards a more sustainable model (instruments: taxes, levies and incentives),
 - policy reforms to enable the green investments within domestic economies (at the domestic level: new resource-efficiency standards for products, new planning legislation protecting the economy from unfavourable and opportunistic developments, at the European level: the Common agricultural policy (CAP) or the Regional Policy are being emphasised in their transformative power to a greener economy, at the international level: reforms to international policy architectures and international coordination to enable and support national initiatives in areas such as trade aid, global carbon market and global market for ecosystems);
 - at the strategic level: green growth strategies at national and international level; and
 - establishment of institutional arrangements as diverse authorities or agencies to begin reforming the different key economic sectors.
- *Social aspects* are being differently considered in the Green New Deal initiatives, but they mainly focus on the potentials of generating green jobs through the greening of economic sectors. Sectors offering growth opportunities for jobs are mostly renewable energy sectors (wind power, solar power) and the sectors where increasingly energy-end-use efficiency investments will flow (combined heat and power, household appliances building, urban public transit, etc). In the UNEP's Green New Deal, poverty reduction remains a central goal. The Heinrich-Böll-Stiftung Green New Deal report for the German Green Party considers a whole restructuring of the economy which will have as well impacts on the societal changes, but no further evaluation of these impacts is being provided. The Wuppertal-Institute Study on Green New Deal for Europe demonstrates that green recovery programmes have larger job creation potential than programmes based on measures to increase household consumption. In Green New Deal, education plays an important role in providing the necessary qualification and skill for the "green jobs" through all initiatives. No further implications towards a societal change of values or more demand-driven changes are being questioned (in contrast to the 'smart economy' approach which goes deeper on the social aspects by aiming at empowering social inclusion through higher knowledge.)
- *Consumption aspects* are being as well differently approached. Generally, at the EU strategic level, there is a lack of guiding vision for a systemic adoption of production and consumption patterns. (Though a change is envisioned through the new strategy "EU 2020", which goes further than most Green New Deal initiatives go, see below).

Common to the Green New Deal initiatives is that they refer primarily to unsustainable patterns of energy consumption in different sectors of the economy such as transport, construction, energy, public procurement. In the energy sector, it is criticised that many governments still subsidise fossil fuel consumption which leads to increased GHG emissions. In the construction sectors, more sustainable consumption of energy should be promoted through modernising inefficient buildings through current building technology and government regulations on building standards and pass building permits. The role of governments in the Green New Deals is perceived as very important in its role of pushing towards more sustainable consumption patterns. This can be achieved through sustainable public procurement (strategic consumption).

- *Engine of growth* in the GND should be restructured through higher Eco-Technologies, modernisation of Eco-Industries and more Eco- Innovation for transforming our economy towards a more sustainable model. It is assumed, that these investments once winning floor through different framework of incentives, could lead to an increasing potential for growth and jobs, with less resource usage and less GHG. Not only green technologies but as well further investments in information technology should be promoted, as they are perceived as drivers in increasing resource-efficiency and in dematerialisation of services.
- *Differences in institutions*: taking a closer look at the institutions responsible for the Green New Deal and 'green economy' strategies/initiatives, one can distinguish three groups: mostly they are being elaborated from research institutes and are no policy documents (e.g. Wuppertal Institute, Heinrich-Böll-Foundations); the second group comprise the Green New Deals deriving from policy-makers at the domestic level, e.g. Green Party in Ireland; and the third group from the international organization such as UNEP and OECD.

Second group of initiatives: measurements going beyond GDP

In the second group of initiatives towards better measurements of progress in our societies, we have classified three recent prominent initiatives, which express a new generation of statistics on the various dimensions of well-being. This group includes: the OECD's 'Global Project of Measuring Progress of Societies' at the international level, the Communication of the European Commission on 'GDP and Beyond', and at the national level the mandate given by French President Nicolas Sarkozy to the Commission on the Measurement of Economic Performance and Social Progress, chaired by Joseph Stiglitz.

- *Background*: What has been driving the different initiatives is the realization of a large and growing gap between what official statistics tell about "progress" and the feeling of ordinary people of what is understood by progress. Economic indicators, such as GDP, were not designed to be comprehensive measures of well-being; it measures only the macroeconomic activity of a country. Despite this fact, it has come to be regarded as a proxy indicator for overall societal development and progress in general. As such it offers problematic incentives to the policy-maker to use GDP as the solely indicator for showing progress in our societies.
- *Goal*: All these initiatives aim to develop more inclusive indicators that provide a more reliable knowledge base for better public debate and policy -making. This should be achieved by realizing the potential and limitation of the GDP as an indicator, developing indicators for quality-of-life and sustainable development. Important to mention is that the initiatives are geographically based on the international level. They put very much forward the question of what is being perceived from the public as progress, and how "quality-of-life" can be better captured by taking in consideration all different dimensions that influence it.
- *Implementation*: All the initiatives derive from policy-makers and international organisations. The report of the Stiglitz Commission on the Measurement of Economic Performance and Social Progress, the Communication of the EU Commission on 'GDP and beyond', and the OECD Global Project of Measuring Progress of Societies are about measurement rather than policies, thus it does not discuss how best the societies could advantage through collective actions in the pursuit of various goals.

Third group of initiatives: towards a 'sustainable economy'

The third group comprises the Irish policy strategy ("Building Ireland's Smart Economy"), the report of the UK Sustainable Development Commission ("Prosperity without Growth"), the Austrian initiative "Growth in Transition" and the proposed strategy "EU 2020". This categorisation is not based on the type of document, but on how they understand sustainable growth: namely, as a guarantee for prosperity, stability, by respecting the ecological limits and promoting social cohesion.

- *Background*: These strategies and initiatives distinguish themselves from the first group of the Green New Deal initiatives as they address long-term structural changes of the economy and put at their core the concept of a "smart green economy". They refer to a broader picture of a 'sustainable economy', compared to the greening initiatives, by reflecting on the integration of social, human, physical and environmental capital in the restructuring of the economy.
- *Objective*: at the core of these strategies and initiatives stands the concept of the 'smart economy' which combines the successful elements of the enterprise economy and the innovation or 'ideas' economy while promoting a

high-quality environment, improving energy security and promoting social cohesion. The smart economy is a 'sustainable economy' in that it recognises the inter-related challenges of climate change and energy security and promotes social cohesion. The emphasis is being put on 'smart' as there is an interrelation between the greening and the building of a knowledge-based economy and a knowledgeable workforce that can make an economy even more productive.

- *Engine of growth* should be based not only on greening the economy through new technologies for producing less resource usage and less GHG, but as well on restructuring the growth engine towards more investments on knowledge. A key feature of this approach is building the innovation or 'ideas' component of the economy through the utilisation of human capital - the knowledge, skills and creativity of people - and its ability and effectiveness in translating ideas into valuable processes, products and services, which means to put education, research, innovation and creativity at the core of the development.
- *Social aspects* in the strategies and initiatives are being focused on empowering people with new skills and thus providing more social inclusion. Higher education is being seen here as a key driver to avoid long-term unemployment (social exclusion) and to help shifting the economy towards a more knowledge-based one.

To conclude, this QR provides information on the different strategies and initiatives activities on linking sustainable development and economic growth. One can see that the linkages of environment, economy, society and the related question of what kind of growth should be approaches in order to achieve sustainable development in the future, are becoming more and more relevant at the different political levels. More concrete measures at the strategic level and high-level political commitment are needed in the future so as to achieve a meaningful implementation of these strategies and initiatives.

Notes

¹ All these initiatives will be described in detail in the following sections of this QR.

² "Well-being" is understood as expectations and levels of satisfaction of individuals; how they spend their time; their paid and unpaid work; their health and education; the relations they have with other people; their political voice; and their participation to public life (OECD, 2009b, 2).

³ Material living standards (income, consumption and wealth); Health; Education; Personal activities including work; Political voice and governance; Social connections and relationships; Environment (present and future conditions); Insecurity, of an economic as well as a physical nature.

⁴ 21,000 smart meters will be placed in Irish homes as a test project prior to the roll out of the new smart grid to every home in the country.

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