SUSTAINABLE DEVELOPMENT AND ENVIRONMENT: A RENEWED EFFORT IN THE OECD*

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Abstract. The importance of sustainable development has been clearly recognised by the OECD Council at Ministerial Level. The Communiqué of the 1998 Ministerial Meeting states that 'Ministers agreed that the achievement of sustainable development is a key priority for OECD countries. They encouraged the elaboration of the Organisation's strategy for wide-ranging efforts over the next three years in the areas of climate change, technological development, sustainability indicators, and the environmental impact of subsidies...'. Further, 'Ministers asked the OECD to enhance its dialogue with non-member countries in these areas and to engage them more actively, including through shared analyses and development of strategies for implementing sustainable development' (OECD, 1998d).

To help countries achieve the transition to sustainable development, a framework is required for the integration of economic, environmental and social policy. This was the main recommendation of the report in November 1997 to the OECD Secretary-General, Donald J. Johnston, of the High-Level Advisory Group on the Environment (OECD, 1997b). The OECD and its affiliates (including the International Energy Agency (IEA), the Nuclear Energy Agency (NEA), the Development Centre and the European Conference of Ministers of Transport (ECMT)) are well equipped with the broad, multidisciplinary expertise to assist Member governments in this task. Work on sustainable development encompasses the full range of activities of the Organisation: macro and micro-economic analysis; environmental policy; labour markets, education, health and social policies; agricultural and fisheries policies; energy policy; technology policy; regional, local and urban policies; and development co-operation. Activities with non-members add an essential global perspective. The challenge is to move beyond a sectoral approach to integrated policies, and to exploit potential synergies and interrelationships between this wide range of competencies. The aim is to move as far as possible towards the harmonisation and integration of policies within an overall economic framework.

Key words: environment, OECD, sustainable development

1. Key dimensions of sustainable development

In 1987, the World Commission on Environment and Development (the Brundtland Commission) defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. The concept of sustainability is derived from the scientific literature, where it characterises

^{*} The opinions expressed and arguments employed in this article are the sole responsibility of the author and do not necessarily reflect those of the OECD or of the governments of its Member countries

the management of a natural resource in a manner that is consistent with the preservation of its reproductive capacity. In the social sciences, sustainable development implies a focus on welfare considerations broader than just economic growth, on equity concerns, on the need for governments to address threats to the environment and natural resources (including the 'global commons', such as the climate system), and the maintenance of a cohesive social system. The emphasis is on the links between the key components of sustainability, namely the economic, social and environmental dimensions; on the need to balance these components when there are conflicts; and on ensuring that economic policy takes into account environmental and social policy concerns, and *vice versa*.

The need for an integrated approach to policy is evident in the area of human capital. One partial 'economic' approach, often used in the assessment of social insurance programmes, defines sustainability in narrow financial terms, i.e. that anticipated payments should be covered by contributions. A more comprehensive approach, however, takes into account other concerns, such as social expectations, the effectiveness of social programmes in meeting their objectives, and their efficiency and employment impacts. 'Balance' is the key for governments in achieving sustainability of social programmes: too little social expenditure may result in poverty and inadequate human capital formation, undermining long-term growth prospects; very high social expenditure could reduce incentives for private provision and for work.

At the same time, environmental and social problems have an economic dimension that must be brought to the centre of policy-making. Major causes of environmental degradation are due to 'externalities' and to the lack of well-defined property rights. Open access to many environmental resources means that economic agents lack the incentives to take the full costs of environmental degradation into account. Hence the importance of using economic instruments to 'get the price right'. The divergence between private and social costs which characterises the use of many environmental resources, such as water, means that the desired mix between environmental amenities and the production of goods is not achieved by the market mechanisms currently in place.

Improving the environment and social conditions normally entails opportunity costs, however. This argues for pursuing these policy goals at the lowest possible cost, for balancing environmental and social protection with economic priorities when these are in conflict, and for exploiting complementarities whenever possible. The overarching objective of sustainable development should be to maximise human welfare, and provide a sound economic, social and environmental base for future generations.

2. Horizontal programme on sustainable development

The OECD and its affiliates are developing and intensifying their 'horizontal', or inter-Directorate, work on sustainable development for the period between now and 2001. Four specific projects, which are briefly described below, are the initial focus. Other projects, for example on natural resources, and on the Organisation's activities with non-member countries, will also be undertaken in the next two years.

2.1. CLIMATE CHANGE

This project aims to assist Member countries¹ to respond to the threat of climate change in an effective, efficient and equitable way. It addresses three main issues:

- clarification and implementation of the Kyoto Protocol and the UN Framework Convention on Climate Change. This will require assessing the design options of the new mechanisms and of the compliance system envisaged by the Protocol, as well as the domestic policy strategies for achieving emission reduction targets. The latter work will consider the reform of sectoral policies in the agriculture, transport and energy fields; the potential contribution of subsidies and fiscal policies; and the role of technologies to limit greenhouse gases.
- effects of achieving the Kyoto targets, including the quantification of the economic effects. Building on the significant experience of the OECD and IEA, one strand of work will focus on the development and use of models to explore the economic aspects of climate change. Quantitative analysis will be complemented by a general evaluation of the Kyoto agreement, including analysis of technical, social and political issues which are not easily addressed by models.
- moving beyond Kyoto to achieve the longer-term objective of stabilising concentrations
 of greenhouse gases. Here, the OECD's work will address how incentives may encourage
 the participation of developing countries, consistent with the principle of 'common but
 differentiated responsibilities' and in the context of wider priorities on sustainable development; the economic benefits of involving non-Annex I countries in a global trading
 scheme; and the scope for technology, and low-cost measures to reduce greenhouse gases.

2.2. THE IMPACT OF SUPPORT MEASURES, TAXES AND RESOURCE PRICING

'Getting prices right' is essential to enhance the allocation of resources in the light of economic, social and environmental considerations. Regulations, the use of tradable permits, the reform of direct and indirect support measures, and the levying of fees, charges and taxes are all instruments that can be used to achieve these objectives. While the OECD has undertaken considerable work on the levels and effects of support and tax incentives to various economic sectors, this project recognises the need for a co-ordinated and more integrated approach to pricing. The main objectives of the project are:

- to expand data gathering on support measures, environmental taxes and resource pricing methods, notably in agriculture, fisheries and energy.
- to develop further analytical tools to investigate how these policy measures interact with each other, with other policies and with country- and site-specific circumstances to affect the environment, the economy and employment, and to apply these tools in country reviews.
- to offer policy advice to countries on how to enhance the effectiveness of these policy measures, and to identify those areas where internationally concerted actions may alleviate the perceived political and economic consequences of acting alone.

This project will draw on activities carried out across a range of OECD directorates, the IEA and the ECMT. These include work on support to agriculture; work on how government transfers affect fishing capacity and activity; studies on the environmental effects of liberalising trade in fossil fuels; work on support to coal producers and on the environmental effects of liberalising the energy sector; work on indicators of support to different transport modes; work on incentive measures for the conservation and sustainable use of biodiversity; work on water pricing and on the use of tradable permits for water management; collecting comparable data on environmental taxes; and reviews of the cost-effectiveness of the pursuit of environmental objectives by individual countries, including the use of economic instruments.

2.3. TECHNOLOGY AND SUSTAINABLE DEVELOPMENT

Technology and innovation have a key role to play in uncoupling trends in economic growth from trends in environmental degradation and resource use. OECD Member and non-member countries have a shared interest in strengthening the development and diffusion of cleaner technologies and environmentally-sound products. Provided that prices are set appropriately, there may be opportunities to reap major cost savings, enhance efficiencies in resource use, reduce pollutant emissions and waste generation, and establish cleaner and safer workplaces. The primary aims of the project on technology and sustainable development are:

- to deepen understanding of the concepts of eco-efficiency and resource productivity, both in general and as applied to specific sectors and technologies.
- to understand how enterprises incorporate environmental objectives into their management strategies, and what signals are needed to stimulate investment in clean technologies.
- to recommend to Member countries policies which promote the development and use of environmentally-sustainable technologies.

This project will address a number of broad issues, including the contribution of technology to eco-efficiency and resource productivity; the identification of the main barriers to the development and use of clean technologies in enterprises; the role of governments in the development and diffusion of clean technologies; strategies to reduce barriers to use and diffusion which may stem from a lack of public understanding; and the role of development co-operation in helping developing countries to acquire and incorporate appropriate technologies. These issues will be further examined in a set of case studies of biotechnology, energy technology, and information technology.

2.4. MEASURING PERFORMANCE: INDICATORS OF SUSTAINABLE DEVELOPMENT

While the OECD has been in the forefront of the development of statistical and economic indicators, the emergence of the concept of sustainable development has intensified

the need for indicators which capture the links between the economic, social and environmental dimensions. The main objectives of the project on indicators of sustainable development are to:

- review progress towards establishing a common framework for the development of sustainable development indicators.
- explore how progress can be made on technical aspects of indicator development, such as physical and monetary measures and spatial scales.
- advance work on an integrated and practical set of indicators for policy analysis, including monitoring and evaluation.

The project will draw on work carried out in various OECD directorates on environmental indicators, sectoral indicators, and sustainable consumption indicators; on indicators of human capital, health outcomes, and other social indicators; on conventional economic indicators; on agri-environment indicators; on indicators covering demographic, economic, social and environment aspects for sub-national areas; and on energy-environment indicators.

3. Presenting the results

The various strands of work under the horizontal programme on sustainable development will be drawn together and presented to the OECD Ministerial Council Meeting in 2001. A number of intermediate reports will be produced, including an integrated progress report to the OECD Ministerial Council Meeting in May 1999. A key objective is to provide, in a consistent manner across the OECD and its affiliates, policy analysis and concrete and pragmatic recommendations to be used as:

- objective and high quality analytical inputs to ongoing international processes of economic importance, of which perhaps the most important are the continuing negotiations on climate change.
- a point of departure for strengthened co-operation with non-member countries, focusing perhaps on a few key aspects of global importance.
- a basis for peer reviews of national policies towards sustainable development in a number of Member countries, drawing on economic, environmental, energy, and social and educational reviews.
- a means of throwing further light on the environmental interface with important sectoral policies in such key areas as agriculture and fisheries, energy and transport.

4. Working with non-member countries

Another aspect of OECD work on sustainable development will involve increasing co-operation with non-member countries. As discussed in the OECD's publication *The World in 2020: Towards a New Global Age* (OECD, 1997a), the 'Big Five' – Brazil,

China, India, Indonesia and Russia – along with the United States, Japan and Germany, could disproportionately shape future global environmental trends. Together these countries already account for more than half of the world's population, and of its economic output, carbon emissions and forests.

Looking ahead to 2020, a large shift in economic weight from the OECD area towards non-OECD economies is in prospect. This shift has the potential to promote sustainable development if economic growth can be decoupled as far as possible from pollution generation and resource consumption. This could occur, for example, through a shift of production from 'materials-based' manufacturing to 'knowledge-based' services; through development and diffusion of cleaner technologies; by the alleviation of poverty and its associated environmental effects; by the achievement of more sustainable patterns of agriculture and the sound management of natural resources; and by the generation of additional wealth to finance environmental improvement. However, to the extent that this potential is not realised, overall resource consumption and pollution will increase.

Thus, non-OECD countries are likely to account for a growing share of the world's environmental challenges. For example, a high growth scenario could see a doubling of greenhouse gas emissions from 1992 to 2020. Unless action is taken, the non-OECD area could account for three-quarters of the increase in emissions, with the Big Five accounting for 40 per cent of the rise. Non-OECD economies may also add to environmental pressures regionally, nationally and locally. This may occur through rising volumes of hazardous and other wastes, the concentration of populations in 'mega-cities', more intensive agriculture, timber and fisheries exploitation, and growing demands for fresh water resources. There are already indications that these pressures could heighten insecurity and conflict within and between countries.

The Organisation's co-operation with non-OECD economies on sustainable development will take the form of strengthened policy dialogue activities, particularly with the 'Big Five', placing initial emphasis on their national sustainable development priorities. The aim would be to create the confidence required for deepening co-operation on global challenges, such as climate change; to continue research and improved quantitative measures of sustainable development through use of modelling and indicators; and to examine mechanisms to facilitate the diffusion of cleaner technologies in non-OECD economies.

Policy co-ordination in development co-operation is geared to OECD's Partnership Strategy for the 21st Century (OECD, 1996b). Adopted by the Development Assistance Committee (DAC) in May 1996, the strategy incorporates long-range goals for economic well-being, social development and environmental sustainability. It recognises that developing countries have an even more unforgiving margin of error than OECD countries in balancing these goals. More exchange of experience on how best to achieve this integrated balance is needed. The Partnership Strategy seeks to help developing countries to play their part both in responding to global sustainability problems, and in building their own human, institutional and financial capacities. The political choice and public policy management needed to promote sustainable development put a premium on good governance, effective participation, and conflict management. Advancing global strategic goals for sustainable development will be the future focus of the Organisation's development co-operation work.

5. Engaging stakeholders in partnership

Broadening the range of actors who share responsibility for implementing policies to achieve sustainability is crucial. Governments, and inter-governmental organisations like the OECD, need to engage a range of stakeholders in developing policies that will have a wide measure of public acceptance. The OECD works closely with its business and trade union advisory committees (BIAC and TUAC) and engages in dialogue with other constituents of civil society, including environmental organisations and consumer groups. Business and industry strongly influence the pace and the direction of economic development, including technology development and diffusion. Civil society is important, because progress in confronting the challenges of sustainable development will require a broad public understanding of, and wide participation in, addressing them. Both business and civil society are, for instance, well placed to advise governments on policies to encourage innovation and stimulate investment in new, cleaner technology and processes. At the meeting of OECD Environment Ministers in Paris in April 1998 (see below), a constructive multi-stakeholder discussion of several key issues took place involving business, labour, environmental citizens' organisations (ECOs) and Ministers. The OECD has also recently established a Round Table on Sustainable Development to enhance co-operation with other international organisations and non-governmental organisations.

6. The environment programme

The OECD Environment Directorate, and the Environment Policy Committee (EPOC) which it supports, has been working on environmental policy issues for over 25 years. It is a principal contributor to the horizontal projects outlined above, and acts as co-ordinator within the OECD secretariat for those on climate change and on the impacts of support measures etc. The Directorate has a substantial work programme of its own, which is designed to respond to the *Shared Goals for Action* (OECD, 1998c) agreed upon by Environment Ministers of OECD countries when they met in Paris in April 1998. Ministers agreed upon four major goals:

- to promote strong national policies and effective regulatory structures on the protection of the natural environment and human health;
- to promote an integrated policy approach which encourages coherence among economic, environmental and social policies;
- to strengthen international co-operation in meeting global and regional environmental commitments;
- to strongly support participation, transparency, information and accountability in environmental policy-making at all levels.

The Environment Directorate work programme for the 1999–2000 biennium has twelve main activities, which are consistent with these goals as well as with the strategic priorities of the Organisation, including the high priority attached to work on sustainable development. Three of the activities are entirely new, and are of a cross-cutting nature. The first is an

Environmental Outlook and Strategy, which aims to establish a conceptual and quantitative foundation for the environment pillar of the OECD's programme on sustainable development, including quantitative projections and qualitative assessments of environmental developments in OECD Member countries. It will identify gaps between current trends and those required for 'environmentally sustainable development', focusing on specific sectors and types of environmental problem. The draft Strategy is intended for discussion at the next EPOC Ministerial meeting in 2001.

A second cross-cutting activity is on *Sustainable Consumption Patterns*. The aim here is to support OECD Member countries in their efforts to promote and achieve more sustainable patterns of consumption, and to support and influence the international work programme being co-ordinated by UN Commission on Sustainable Development on sustainable consumption. The new activity, which will focus strongly on demand-management, builds on several years of work on this subject in the OECD.

The third new cross-cutting project, which is founded upon recent work on Eco-efficiency, deals with *Increasing Resource Efficiency*, an issue which is of growing importance for OECD and non-OECD countries as they try to develop approaches to managing both renewable and non-renewable resources more sustainably. It was an issue singled out by the Secretary-General's High-Level Advisory Group on the Environment, as well as by Environment Ministers in their *Shared Goals for Action*.

The rest of the programme builds upon past and continuing activities on a range of topics. Work on *economic and environmental policy integration* is designed to help promote the compatibility and mutual reinforcement of economic and environmental policies by: identifying market and intervention failures and how to remove them; analysing policy instruments for achieving environmental objectives at least cost; and developing tools and strategies for integrating economic and environmental policies (in particular in sectors such as agriculture, or tax policy). It is at the core of the Environment Programme of the OECD, and has been the subject of extensive work over many years, notably in the areas of the use of economic instruments, such as environmental taxes and charges, and the impact of subsidies on the environment.

Other parts of the work programme deal with many of the most difficult policy challenges faced by OECD member countries: *climate change*, where the Environment Programme is contributing a major element towards the horizontal programme on sustainable development mentioned above, and is supporting the development of policy in Annex I parties to the UN FCCC with wide-ranging analysis; the promotion of *environmentally sustainable transport* (see boxed section below); and, the *management of transfrontier movements of waste*.

An important element of the programme also focuses on *chemicals and biotechnology*, specifically the prevention and reduction of risks to health and the environment from chemicals, the harmonisation of policies and regulations relating to chemicals, and the promotion of integrated approaches to chemical testing, data and management. There are several OECD instruments, or Council Acts, dealing with chemicals and waste management (as well as other subjects), which Member countries are committed to implement.

Globalisation is one of the central issues being addressed across the Organisation, and the environment programme plays an important part in helping to examine the links between the

globalisation of trade and investment, and the environment. This, and many other aspects of the work, calls for the active engagement of non-member countries in policy analysis and dialogue. As part of this, the OECD Environment Directorate provides the secretariat for the Environmental Action Programme (EAP) Task Force of the Environment for Europe process, which focuses on encouraging the integration of environmental concerns into the economic restructuring process in the Central and Eastern European Countries and in the Newly Independent States of the former Soviet Union (NIS).

A final, but essential part of the work programme deals with *environmental data and indicators* – the OECD regularly publishes a core set of environmental indicators – and measurement of performance, with a programme of *Environmental Performance Reviews* of all the OECD countries nearing the completion of its first cycle. These 'peer reviews', in which other OECD Member countries as well as the Secretariat are actively involved, have also been undertaken for several non-member countries in central and Eastern Europe, and most recently for Russia.

There are clearly both structural and sectoral elements in this work programme, which are closely interrelated. The project on Environmentally Sustainable Transport has developed criteria for environmental sustainability in a key sector, as well as elaborating scenarios for the future. It provides a good illustration of the kind of integrated policy analysis being undertaken in the OECD, and is explained in greater detail in the boxed section which follows.

As the OECD looks ahead to the new millennium, environment and sustainable development policy issues are at the forefront of its policy agenda, and it aims to bring its wide-ranging inter-disciplinary skills to bear on some of the major challenges now facing both developed and developing countries.

Environmentally sustainable transport

Efficient transport systems are essential for the functioning of modern industrialised economies. Access to people, goods and services is essential for social and economic welfare. The great advances made in mobility in recent years have not, however, happened without negative effects on people and the environment. Various studies by the OECD on the state of the environment in Member countries have concluded that both passenger and goods transport are increasingly contributing to a range of environmental problems with long-term and wide-ranging impacts at the local, regional and global level (OECD, 1995; 1998a). These include noise, habitat-disrupting land use, air pollutant emissions and the increasing use of fossil fuels by motor vehicles, as well as growing environmental impacts from air traffic. The environmental effects caused by the transport sector are increasing faster than any other sector of the economy, due to the high growth rates of transport activity.

This was the starting point for the work of the OECD Environment Policy Committee's Task Force on Transport, which since 1994 has been running a project

on Environmentally Sustainable Transport (EST). Unlike conventional approaches to transport system development, the EST project started with a vision and a series of criteria for environmentally sustainable transport in 2030. Teams from eight countries undertook six case studies (Sweden, the Netherlands, Germany, the Quebec-Windsor corridor in Canada, the greater Oslo region and the Alpine region comprising parts of France, Switzerland and Austria) to describe how an environmentally desirable future might be achieved. The project is being undertaken in four phases:

- Phase 1: a review of relevant activities of Member countries and the development of the definition and criteria for EST (OECD, 1996a);
- Phase 2: the identification of the gap between current and projected trends and the EST criteria through scenario-development. During this phase participants have constructed a 'business-as-usual' (BAU) trend scenario and three scenarios consistent with the EST criteria (OECD, 1998b);
- Phase 3: the 'back-casting' phase. This involves the identification of packages of policy
 instruments whose implementation would achieve the EST scenarios constructed during the previous phase; this phase will also involve the assessment of the social and
 economic implications of the BAU and EST scenarios; and,
- Phase 4: will involve refining the criteria for achieving EST and the development of policy guidelines.

It is increasingly clear that current transport systems are not environmentally, socially or economically sustainable over the long term. Likely advances in technology will not be sufficient to overcome increased environmental impacts stemming from growing transport demand. Projecting current 'business as usual' trends, transport in 2030 for many OECD countries will have reduced polluting emissions, except for carbon dioxide, where it will be moving away from, rather than towards, environmental sustainability. Extrapolating current estimates of unaccounted costs, transport in 2030 is likely to place a significant economic and social burden on society.

Consequently, the ecological requirements for a sustainable transport system imply that the movement of people and goods are provided in an environmentally, socially and economically sustainable way – mobility for communication and enabling social contacts as well as access to goods and services needs to be considered as means rather than an end in itself. Environmentally sustainable mobility will require changes in behaviour and new innovative approaches at all levels of society and in all sectors of the economy. An important prerequisite for realising an EST system in the long term is to take into account ecological limits and to prevent and minimise pollution and resource use.

This thinking led to a sustainable transport system being defined in the EST project as one where 'transportation does not endanger public health or ecosystems and meets needs for access, consistent with: (a) use of renewable resources below their rates of regeneration; and, (b) use of non-renewable resources below the rates of development of renewable substitutes.'

Six criteria were developed during the first phase of the EST project as being the minimum number required to address the wide range of transport impacts. These criteria were selected so that local, regional and global concerns could be addressed. The indicators related to these impacts are: emissions of carbon dioxide, nitrogen oxides and volatile organic compounds, carcinogenic particulate matter, noise and land use.

A VISION OF EST IN 2030

An environmentally sustainable transport system in 2030 will, by definition, meet all six of the EST project criteria. In building a vision of such a system, two alternative pathways were explored: the first focused on reaching the EST criteria solely through technological means, while the second primarily used demand-side management measures. A final EST scenario was developed by combining some of the most promising currently existing and tested technological features of the 'technology scenario' with the more politically acceptable features of the 'demand-side management scenario'. In the final EST scenario, transport in 2030 is characterised by the following (see Figures 1 and 2):

- a significant decrease in car ownership and use, with many cars running on hybridelectric engines;
- a focus on reducing long-distance passenger travel and on much greater use of nonmotorised means for short distance trips, together with investment in supporting infrastructure;

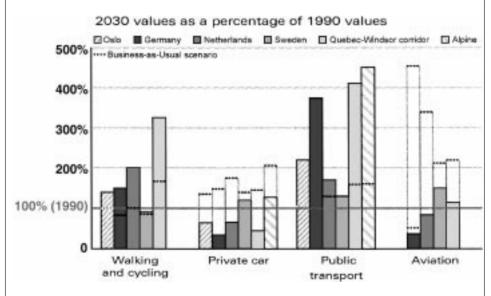


Figure 1. EST3 Combination Scenario for Passenger Transport. Situation in 2030 compared to the expected trend ('Business-as-usual').

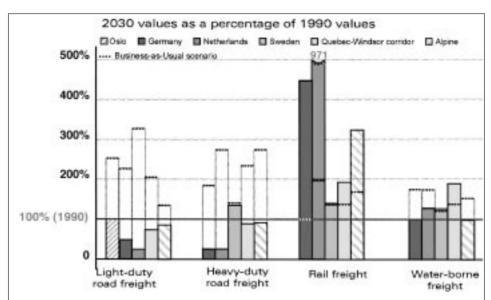


Figure 2. EST3 Combination Scenario for Freight Transport. Situation in 2030 compared to the expected trend ('Business-as-usual').

- a significant decrease in longer-distance freight movements, with hydrogen widely used as a fuel both directly and in fuel cells;
- all-electric rail systems, with increase in high speed modes, efficiency and capacity;
- more efficient and less polluting inland and coastal shipping vessels hydrogen may also be used as a fuel;
- substantial reductions in long-distance air travel; aircraft in use are more efficient conventional types; and rigid airships may also be used for specific purposes.

Generally, transport in 2030 is characterised by a major shift from less sustainable to more sustainable modes accompanied by a relative decrease in transport activity:

- electric power for transport is generated with much greater efficiency than at present, using a high proportion of renewable fuels.
- relatively small changes in the form of settlements have been implemented in order to reduce the need for movement of people and freight.
- greater use is made of telecommunications to avoid passenger travel and the movement of goods.
- regionalisation of production occurs to avoid long distance freight movement; volume of goods transport is reduced; there is a greater focus on service provision.
- continuing public education campaigns are implemented to help support lower levels
 of travel, and to lead to more environmentally sustainable consumption patterns in
 general.

The studies showed that the EST criteria are very unlikely to be met by technology alone. Achieving environmentally sustainable transport will require greater emphasis on demand-side than supply-side measures: around one-third of the effort necessary to meet the EST criteria will come from technology, and two-thirds from demand-side management and a shift towards more sustainable transport modes. As many countries develop mid- to long-term policy strategies for transport, this finding may be significant for their policy-making.

The EST project has revealed a substantial gap between the conditions likely to come about as a result of current and projected future transport trends, on the one hand, and those which would imply the achievement of environmentally sustainable transport on the other. Moving towards such a transport system is one of the principal transport policy challenges facing many OECD countries at the beginning of the 21st century.

Notes

¹ OECD has 29 Member countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States. The European Commission also participates in its own right.

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