

## **RECOMMENDATION OF THE COUNCIL ON RESOURCE<sup>1</sup> PRODUCTIVITY<sup>2</sup> [C(2008)40]**

THE COUNCIL,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;

Having regard to the Recommendation of the Council of 26 May 1972 on Guiding Principles concerning International Economic Aspects of Environmental Policies [C(72)128];

Having regard to the Recommendation of the Council of 28 September 1976 on a Comprehensive Waste Management Policy [C(76)155/FINAL];

Having regard to the Recommendation of the Council of 31 January 1991 on Environmental Indicators and Information [C(90)165/FINAL];

Having regard to Decision C(2001)107/FINAL of the Council (of 14 June 2001 and 25 February 2002, as amended by C(2004)20 and C(2005)141) Concerning the Control of Transboundary Movements of Wastes Destined for Recovery Operations;

Having regard to the Recommendation of the Council of 21 April 2004 on Material Flows and Resource Productivity [C(2004)79];

Having regard to Recommendation of the Council of 9 June 2004 on Environmentally Sound management of Waste [C(2004)100];

Having regard to the Communiqué of the OECD Council meeting at Ministerial level of 17<sup>th</sup> May 2001 which stated that "that OECD countries bear a special responsibility for leadership on sustainable development worldwide, historically and because of the weight they continue to have in the global economy and environment";

Having regard to the OECD's Environmental Strategy for the First Decade of the 21st Century endorsed by the OECD Council in May 2001;

Having taken note of OECD work on material flows and resource productivity, waste prevention and recycling, sustainable materials management, natural resource management, and trade and the environment;

Having taken note of international work on the 3Rs (Reduce, Reuse, and Recycle) steered by the G8, on sustainable resource management steered by the International Panel on Sustainable Resource Management and on energy efficiency steered by the International Energy Agency;

Considering the need for intensified efforts by OECD Member countries (both domestically and in the international context) to improve the productivity of natural resource use at all stages of the life-cycle of these resources (extraction, transposition, transportation, consumption, and disposal) so as to avoid waste of resources and reduce the associated negative environmental impacts;

---

<sup>1</sup> For the purposes of this Recommendation, the term "resource" is understood to include natural resources (and the materials and products derived therefrom) whose extraction, processing, use and disposal are internationally-significant, in both economic and environmental terms. The scope of the Recommendation is limited to minerals (metallic and non-metallic industrial minerals), and biomass. Energy resources (e.g. coal, oil, gas), water resources and fishery resources are excluded and are only covered to the extent that they are part of an integrated approach to the entire resource cycle.

<sup>2</sup> For the purposes of this Recommendation, the term "resource productivity" is understood to contain both a *quantitative* dimension (e.g. the quantity of output produced with a given input of natural resources) and a *qualitative* dimension (e.g. the environmental impacts per unit of output produced with a given natural resource input). Energy efficiency is excluded, although it is recognised that energy efficiency and resource productivity are interrelated.

Considering that increasing this productivity will also reduce demand pressure on natural resources more generally, thereby contributing to more secure supplies of natural resources for everyone;

Taking into account the close co-operation on environmental matters between OECD and other international organisations;

On the proposal of the Environment Policy Committee (EPOC):

**I. Recommends, with regard to the analysis of the material flows and their environmental impacts, that Member countries:**

Promote resource productivity by strengthening their capacity for analysing material flows and the associated environmental impacts, and work to improve measurement systems for material flows and resource productivity, drawing on the expertise of all relevant ministries and departments of government, research and other non-governmental organisations, on OECD guidance and experience on measurement and analysis of material flows and resource productivity and on other international work; and to this effect:

1. Improve the scientific knowledge concerning the environmental impacts and costs of resource use throughout the entire life cycle of materials and the products that embody them, from natural resource extraction and manufacturing to end of life management (as wastes, reusables and recyclables), including from resources that have been imported.
2. Upgrade the extent and quality of data on material flows within and among countries and the associated environmental impacts, giving particular attention to the availability and international comparability of data on physical trade flows, including flows of recyclable materials and waste, and selected material flows that are of economic and environmental importance.
3. Work to improve and use soundly based, relevant and internationally compatible material flow accounts that track natural resource stocks and flows and link them to critical environmental cycles.
4. Further develop and promote the use of indicators for the assessment of the efficiency of material resource use, having carefully considered the uses and purposes, practical arrangements, costs, benefits and statistical basis for such indicators, including:
  - indicators to measure resource productivity and decoupling of resource use from economic growth, at relevant macro, sectoral and/or micro levels, considering both: overview indicators for monitoring natural resource use, resource productivity and the associated environmental impacts; and specific and disaggregated indicators for monitoring resource use, resource productivity, 3R (Reduce, Reuse, and Recycle) related flows and the associated environmental impacts concerning particular resources, materials or activities;
  - indicators to inform about the availability, quality and deterioration of natural resource stocks, in particular renewable resource stocks;
  - indicators to track the flows and environmental impacts of materials, taking account of their entire life cycle from natural resource extraction and manufacturing to end of life management.
5. Co-operate with non-Member Economies to strengthen their capacity for analysis of material flows and the associated environmental impacts.
6. Share OECD guidance and experience on measurement and analysis of material flows and resource productivity with all relevant ministries and departments of government, research and other non-governmental organisations, and members of the private sector.

**II. Recommends, with regard to the policies concerning the improvement of resource productivity, that Member countries:**

Take appropriate actions to improve resource productivity and reduce negative environmental impacts of materials and product use, by encouraging environmentally effective and economically efficient uses of natural resources and materials at the macro, sectoral and micro levels and by involving all relevant ministries and departments of government as well as research and other non-governmental organisations. To this effect:

1. Consider the use of information about material flows and their environmental impacts for planning purposes, as appropriate in a national context, including, for instance, using such information for target setting, and share these experiences and best practices with other Member countries.
2. Promote integrated life-cycle-oriented approaches, such as 3R policies (Reduce, Reuse, and Recycle), sustainable materials management and sustainable manufacturing as an input to decision-making and to increasing coherence among policies.
3. Further develop and promote the use of new technologies and innovations aimed at improving resource productivity.
4. Encourage co-operation and sharing of best practices among enterprises.
5. Contribute to the establishment of framework conditions that improve resource productivity through economic instruments.
6. Co-operate to ensure that policy measures taken to improve resource productivity are efficient in economic terms, effective in environmental terms and equitable in social terms;
7. Co-operate with non-Member Economies to strengthen their capacity for developing and implementing policies concerning the improvement of resource productivity.

**III. Instructs the Environment Policy Committee:**

1. To review existing policies and practices and contribute to elaborating common principles and policy guidelines on resource productivity and sustainable materials management.
2. To strengthen its capacity for material flow analysis at the international level, with particular focus on key materials, on direct and indirect flows and their environmental impacts, including possible development of relevant databases in co-operation with other international organisations and non-Member Economies.
3. To further develop and where appropriate promote the use of material flow analysis, resource productivity indicators, and methods for assessing the environmental impacts of resource use.
4. To support Member countries' efforts in developing and implementing integrated policies for managing natural resource and materials throughout their life cycles, by facilitating the exchange of experience and best practices in the field of resource productivity, including sustainable materials management and sustainable manufacturing.
5. To assist non-Member Economies in developing and implementing policy frameworks and measurement systems that contribute to the achievement of the objectives of this recommendation both domestically and internationally.
6. To carry out these tasks in co-operation with other appropriate OECD bodies, other international organisations such as UNEP (including the Resource panel) and G8 (including the 3R initiative) and the private sector.
7. To report to the Council on progress achieved in implementing this Recommendation, within five years of its adoption.

## ANNEX

This annex describes the context and content of the preparations of the Recommendation of the Council on Resource Productivity endorsed by the Environment Policy Committee at its Meeting on 28-29 February 2008 and adopted by the OECD Council on 28 March 2008.

### 1. Context for the Recommendation

#### 1.1 Resource productivity

Improving resource productivity helps promote robust, healthy, equitable and sustainable future growth and prosperity. For the purposes of this document, the term “resource productivity” is therefore put in a welfare perspective and is understood to contain both a *quantitative* dimension (e.g. the quantity of output produced with a given input of natural resources) and a *qualitative* dimension (e.g. the environmental impacts per unit of output produced with a given natural resource input). The efficient management of resources contributes to economic growth and to the reduction of pressures on the environment.

Improving resource productivity helps reduce, in a cost-efficient way, the negative environmental impacts associated with the production, use and end of life management of natural resources, and avoid situations where valuable materials contained in waste are disposed of and ultimately lost for the economy. This is important to ensure that the consumption of resources and their associated impacts do not exceed the carrying capacity of the environment and to break the linkages between economic growth and resource use. Improved resource productivity will in many cases also lead to greater energy and water efficiency. These issues have long been on the agenda of OECD countries.

Improving resource productivity will also indirectly reduce demand pressures on natural resources in the context of the global economy. This is particularly important in a world where the prices of many natural resources are rising fast, amid growing demands; and where there are often concerns about the long-term security of supply of these natural resources. Supply of natural resources is a legitimate strategic concern for governments and businesses alike. Efficient management of environmental and economic impacts associated with using these resources will increase their long-term availability (and quality) for everyone, including by reducing pressures on primary resource stocks.

#### 1.2 Developments since 2003

First, this Council Recommendation responds to the particular interest in resource productivity and sustainable resource management expressed at international level (e.g. G8 summits, OECD Council, EU Environment Ministers, UNEP, BIAC). It has to be seen in the context of ongoing international debates and initiatives concerning sustainable resource management, resource productivity and the circular economy. Examples of such initiatives include:

- the G8 Science and Technology Action Plan for Sustainable Development and the G8 request for OECD to work on material flows and resource productivity (G8 summit, Evian, June 2003; G8 Environment Ministers, Paris, April 2003).
- the 3R initiative (Reduce, Reuse, and Recycle) endorsed by the Heads of State and Government of G8 countries at their 2004 Summit in Sea Island. The 3R initiative was officially launched at a 3R ministerial meeting (Tokyo, April 2005). It is supported with G8 Senior Officials Meetings (Tokyo, March 2006; Bonn, October 2007), and promoted under the G8 presidencies of Germany and Japan in 2007 and 2008.
- the International Panel on Sustainable Resource Management (Resource Panel) established by UNEP. The Panel was officially launched in 2007 (Budapest, November 2007). It is expected to tackle resource efficiency challenges for both renewable and non-renewable resources from a life-cycle perspective, as well as addressing their cross-cutting socio-economic issues. The overall objective is to provide independent scientific assessment on environmental impacts due to the use of resources over the full life cycle.

- the EU Thematic strategy on the sustainable use of natural resources (adopted in 2005) and the renewed EU sustainable development strategy.

Secondly, the OECD Council *Recommendation on Material Flows and Resource Productivity*, (adopted in April 2004), recognised the need for concerted efforts by Member countries to improve information on material flows and to establish common measurement systems and indicators. Since then, OECD countries have been working with the OECD Secretariat to develop harmonised guidance on how to measure material flows and resource productivity and how to develop related indicators taking account of country's special circumstances<sup>1</sup>. Among the outputs are a series of guidance documents, an inventory of country activities and a pilot data set.

Thirdly, many countries have included resource productivity issues in their sustainable development strategies or environmental plans, have established programmes on sustainable production and consumption, stewardship programmes for materials and natural resources, and integrated waste and materials management such as the 3Rs or circular economy approaches. While differing as regards their level of ambition and their specific focus, these programmes and policies all share (i) the need to move towards policies and measures that build on an integrated approach to natural resource and materials management and that consider the full resource cycle; (ii) the need for greater efficiency in the way natural resources and materials are used in the economy; (iii) the recognition that a life cycle approach is needed to maximise the net benefits from natural resource and materials use.

## 2. The Council Recommendation

### 2.1 Foundations

The Council Recommendation builds on:

- (i) OECD work on<sup>2</sup>:
  - Material flows and resource productivity (e.g. relating to the 2004 Council Recommendation on Material Flows and Resource Productivity).
  - Waste prevention and management (e.g. various Council Decisions and Recommendations on transboundary movements of waste, waste prevention, extended producer responsibility, environmentally sound management of waste, sustainable materials management).
  - The implementation of the OECD environmental strategy.
  - Country environmental performance reviews.
  - Trade in recyclable materials.
  - Sustainable development and natural resource management (e.g. the 2001 report "Sustainable development – Critical issues").
- (ii) Related recent events:
  - the Heiligendamm (June 2007) Summit of Heads of State and Government of G8 countries.
  - the Tokyo (26-27 September 2007) OECD-Japan seminar on "Material flows and resource productivity: from knowledge to policy".
  - the Bonn (4-6 October 2007) G8 Senior Officials Meeting on the 3R initiative "International Progress in Reduce, Reuse, Recycle (3R)".
  - the Budapest (8-10 November 2007) launch of the International Panel on Sustainable Resource Management.

---

1 Work supported with a series of meetings hosted by Member countries (the 2007 OECD-Japan seminar, the 2006 OECD Rome workshop, the 2005 OECD Berlin Workshop and the 2004 OECD Helsinki Workshop) and organised by the OECD Working Group on Environmental Information and Outlooks (WGEIO) in co-operation with the OECD Working Group on Waste Prevention and Recycling (WGWPR).

2 Informal consultations also took place: i) with selected material flows experts and natural resource economists; ii) with some members of the Working Group on Environmental Information and Outlooks (WGEIO) and the Working Group on Waste Prevention and Recycling (WGWPR) at an informal joint meeting (Tokyo, 28 September 2007); iii) within the Secretariat.

The text is related to: OECD work with sustainable production and manufacturing (DSTI), innovation and the environment (ENV, DSTI), energy efficiency (IEA), and water (ENV, TAD, DCD, DAF). The experience of BIAC members in the field of resource productivity is also related, as is the forthcoming work by the UNEP Resource Panel and work in the European Union further to the renewed EU sustainable development strategy and the Communication on the mid-term review of the 6th Community Environment Action programme.

## 2.2 Objectives

The objective of this Council Recommendation is to support Member countries' efforts to improve resource productivity considering the entire resource cycle, with a view to reducing negative effects on the environment and preventing natural resource degradation. It outlines a broad vision on:

- How to improve knowledge (scientific knowledge, information) and analytical capacity concerning material flows and resource productivity at national, international and global levels, including their economic and environmental implications, and how to disseminate knowledge by means of information.
- How to reduce, in a cost-efficient manner, the negative environmental impacts associated with the use of natural resources and materials, and to avoid waste of resources, at all stages of their life cycle (extraction, processing, use and eventual disposal, including re-use, recovery, recycling, re-manufacturing and end of life management), taking into account the diversity of countries as regards their geographical and socio-economic context and their endowment in natural resources.
- How to effectively and efficiently integrate measures concerning natural resource and materials management, such as the 3Rs, sustainable materials management, circular economy programmes;

The adoption of this recommendation by the OECD Council also provides a contribution by OECD countries, as a group, to ongoing international debates and initiatives concerning sustainable resource management, resource productivity and the circular economy; and signal the political will and leadership of OECD countries in these areas.

## 2.3 Scope and definitions<sup>3</sup>

This Council Recommendation applies to the policies and measures that are needed to improve resource productivity now and in the future, and to the knowledge that is needed to inform such policies and measures. The focus is on the environmental management of natural resources and materials, and on the areas and policies that are not yet adequately covered under well-established activities in OECD or other international organisations.

For the purposes of this Council Recommendation, the term "resource" is understood to include natural resources (and the materials and products derived therefrom) whose extraction, processing, use and disposal are internationally-significant, in both economic and environmental terms. The scope of the Recommendation is limited to minerals (metallic and non-metallic industrial minerals) and biomass, and on the implications of their production and use for energy, water and land use. Energy resources (e.g. coal, oil, gas) and water resources are only covered to the extent that they are part of an integrated approach to the entire resource cycle.

For the purposes of this Council Recommendation "resource productivity" is placed in a welfare perspective, and is understood to contain both a *quantitative* and *qualitative* dimensions. Energy, water and fishery resources are explicitly excluded, although it is recognised that, for instance, energy efficiency and resource productivity are interrelated<sup>4</sup>.

---

3 The concept of resource productivity parallels the ones of labour and capital productivity (see definitions by the OECD Directorate on Science, Technology and Industry and the Statistics Directorate, and their use within, inter alia, the OECD work on sustainable development and OECD work on material flows and resource productivity). For the purposes of this Council Recommendation, it is understood to contain both a *quantitative* dimension (e.g. the quantity of output produced with a given input of natural resources) and a *qualitative* dimension (e.g. the environmental impacts per unit of output produced with a given natural resource input).

4 Plan of Action on Global Energy Security adopted by the Heads of State and Government of G8 countries at their 2006 Summit.