

## Delivering the sustainable use of natural resources:

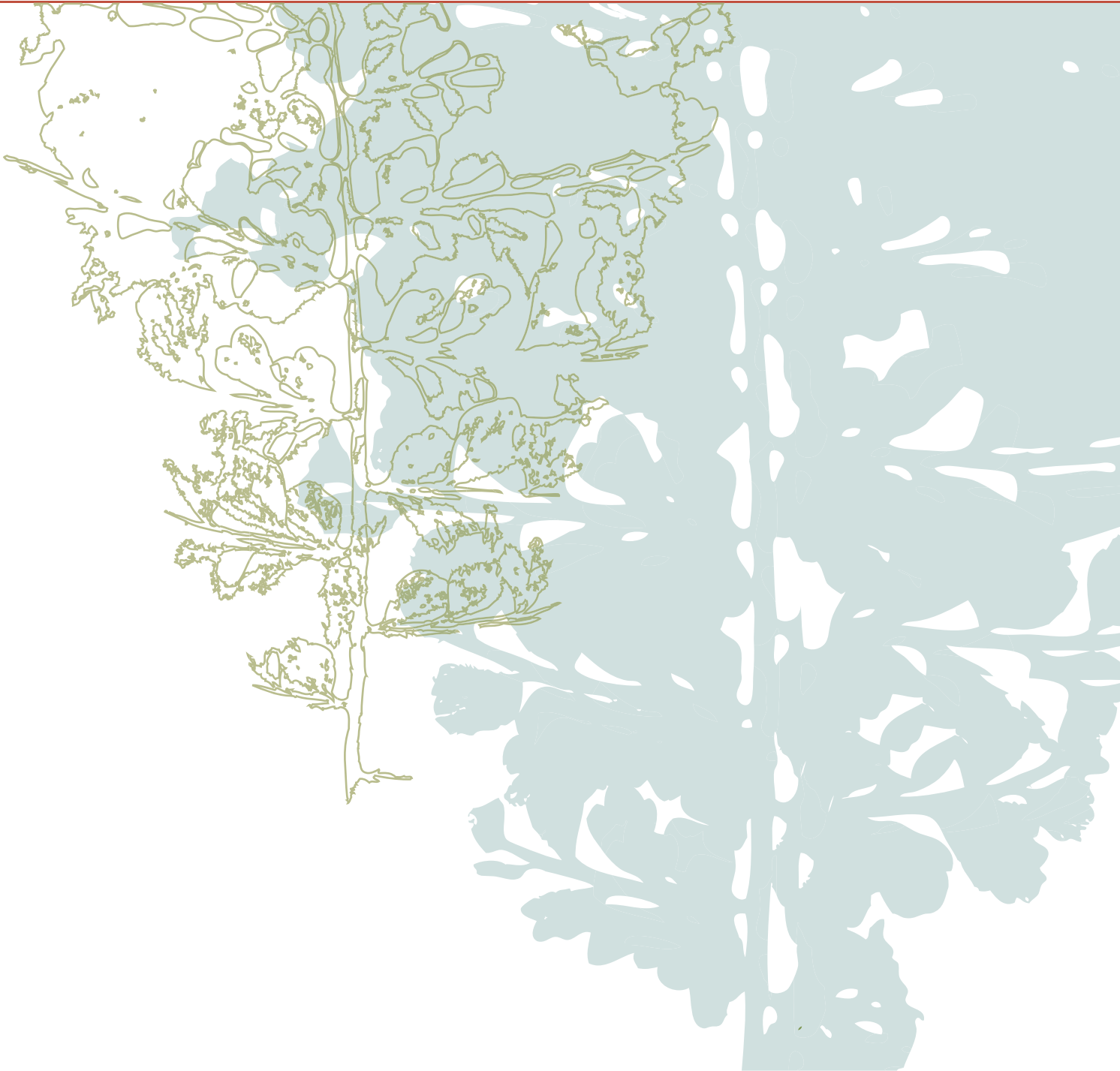
A contribution from the following members of the Network of Heads of European Environment Protection Agencies on the Thematic Strategy on the Sustainable Use of Natural Resources

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The Network of Heads of European Environment Protection Agencies is an informal grouping bringing together the heads of environment protection agencies and similar bodies across Europe to exchange views and experiences on issues of common interest to organisations involved in the practical day-to-day implementation of environmental policy





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## INTRODUCTION

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The Sixth Community Environment Action Programme (6th EAP) states that 'there is a limited capacity of the planet to meet the increasing demand for resources and to absorb the emissions and waste resulting from their use and there is evidence that the existing demand exceeds the carrying capacity of the environment in several cases.'

The European Commission has since published its communication 'Towards a Thematic Strategy on Sustainable Use of Natural Resources'. Given the broad importance of this strategy for sustainable development in Europe and other world regions, a group of members of the Network of Heads of European Environment Protection Agencies (EPA Network) prepared this paper in support of the Thematic Strategy on Sustainable Use of Natural Resources <sup>(1)</sup>.

The published Communication 'Towards a Thematic Strategy on the Sustainable Use of Natural Resources' deals with a policy field which is still in development. As yet, this field is not particularly mature as it does not have established targets and instruments and its scope is still quite broad. The wide interpretation of **natural resources** as given in the Communication

on the Resources Strategy would theoretically embrace all environmental policies. In order to reduce the complexity of the issue, it would be useful to focus the strategy on just a few key elements. We propose not to focus on those traditional and well-established environmental themes and policy areas which are adequately covered by the other priority areas of the 6th EAP, such as water and air. Rather, we suggest the resources strategy focus on the use of renewable and non-renewable materials and land use.

In our opinion, protection of the natural environment and observance of ecological limits are necessary conditions for a well-functioning economy and society. European EPAs already play a significant role in tackling unsustainable resource use through their regulatory, advisory and educational work and the research and policy analysis they carry out. This paper draws on this work in identifying both the key challenges ahead and the role the EPA Network can play to deliver sustainable resource use.

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<sup>(1)</sup> A paper by the Commission entitled 'Thematic Strategy on Sustainable Use of Natural Resources' was published in December 2005. Hereafter this document is referred to as the Resources Strategy.

## WHAT ARE THE CURRENT GLOBAL TRENDS?

The projected global population growth of 50 % over the next 50 years <sup>(2)</sup> will put significant pressure on the future environment. The majority of this population growth will take place in developing countries. The expansion in population will lead to an increased demand of more goods and services consequently increasing the pressure on global resource use <sup>(3)</sup>.

*Per capita* economic growth in developing countries will further increase this pressure, as economic growth is generally associated with an increase in resource use. Even though there are trends to **decouple** resource use and economic growth in mature economies, this is not the case for developing countries. Most of these countries are before or in a phase of early industrialisation. Here the building of infrastructures and heavy industry place a high demand on resources.

Countries such as China and India are currently experiencing rapid economic growth. Others will follow, claiming their equal right to material well-being. As these countries are likely to adapt their consumption patterns to those of industrialised countries, the pressure on global resource use will continue to increase.

However, globalised western lifestyle is not world-compatible, as even the current environmental burden is not sustainable.

Population in Europe is stagnating. The driving factor for resource use is primarily economic growth. Continuing economic growth means that **resource productivity** has to increase constantly even when only constant resource use levels are to be maintained. A 2 % growth rate per year for example, needs a doubling of resource productivity every 35 years.

Even though some relative decoupling of growth and resource consumption is emerging, there is still an absolute increase of environmental pressure <sup>(4)</sup>. With the growing trend towards a globalised economy, competition for resources is likely to increase progressively over time. This brings a consequential risk of geopolitical instability as competing interests seek to capitalise on key global resources. Through the development of the Resources Strategy the EU has an opportunity to encourage a global approach to resource conservation and management.

<sup>(2)</sup> World Population Prospects, Highlights — The 2004 Revision, United Nations, New York, 2005.

<sup>(3)</sup> For detailed information about the current global state and trends of resource use see the Millennium Ecosystem Assessment reports (<http://www.millenniumassessment.org/en/Products.aspx?>).

<sup>(4)</sup> EEA: 'Sustainable use and management of natural resources', draft, 31 January 2005.

## WHAT ARE THE OUTCOMES WE WANT TO ACHIEVE?

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If we are to preserve the basis of existence for future generations it is important to reduce the total resource use. Therefore we should establish quantitative targets at least for raw material consumption and land use. These areas are interconnected also with several other areas, e.g. energy use, so targets are not independent of each other but should still be set for each area. The targets should not be reached by exporting environmental pressure.

### RAW MATERIAL CONSUMPTION

Raw material extraction and use is always associated with demands for material, energy and land and with the generation of waste and emission of pollutants. Sufficient and equitable access to natural resources constitutes a basic human right, which calls for an acceleration of the shift towards sustainable consumption, and where appropriate, for a de-linking of economic growth and environmental degradation. The reduction target 'factor 10' was first published in 1994 by the Factor 10 Club <sup>(5)</sup> and met with considerable international recognition both by business and industry (for example, by the World Business Council for Sustainable Development, WBCSD) and on government level <sup>(6)</sup>. The target entered the political agenda — with a first

highlight at the Earth Summit +5 (New York, June 1997). Soon after, an EU initiative was proposed on a progressive path towards eco-efficiency in industrialised countries through a reduction of resource use of: 25 % in 2010, 75 % in 2030 (Factor 4), 90 % in 2050 (Factor 10). UNEP, which also recognises the consumption of resources to be a key problem, addresses a tenfold reduction target in resource consumption in its report titled 'Global Environment Outlook 2000'.

Further we support a fast decoupling of raw material consumption and economic activities. On the long run a significant decrease of raw material consumption, in the line with the idea of a factor 10 reduction target, has to be achieved. We suggest defining EU wide and country specific targets, and the implementation of tools to monitor and report progress for raw material consumption which coincide with these goals. These targets should also include the environmental impacts of raw material extraction and transport.

<sup>(5)</sup> See 'Factor 10 Declaration' — Factor 10 Club, Carnoules, France 1994; the Club is formed by concerned politicians, scientists and businessmen.

<sup>(6)</sup> The Austrian government introduced a factor ten goal in its 1995 environmental program, the Japanese Government decided in 2001 to make factor 10 part of the strategic national planning. The Italian Environmental Action Strategy for Sustainable Development also mentions the targets proposed by the EU Eco-Efficiency Initiative.

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## LAND USE

Considering the long term sustainability of land use, one of the most critical issues is the change of use from 'natural' land-use categories, such as forests and wetlands, to semi-natural, such as croplands; or, even worse, from forests, wetlands and croplands to settlements and transportation infrastructures. In addition to the permanent and irreversible loss of fertile soils such change leads to further environmental impacts, such as land fragmentation, interruption of the water economy, biodiversity reduction and micro climate modification.

Further environmental impacts of urban sprawl and growth of transport infrastructure include the fragmentation of landscapes (recreation, wildlife habitat), an increased need for transport, fuels and heating energy for buildings, as well as more noise and emissions of air pollutants

and greenhouse gases. The permanent increase in the number of buildings and the enlargement of infrastructure leads to an increase in energy consumption <sup>(7)</sup>.

Consideration also needs to be given to the potential threat to vulnerable coastal areas and associated river flood plains, as a consequence of sea level rise due to climate change progressive loss of available land may become a major issue.

We support a significant net decrease of additional land use for settlement and transportation. In the long run, net land use increase for non-biospheric activity should be reduced to zero, as space on earth is neither regenerable nor substitutable. The time frame in which this is necessary and possible depends heavily on the current regional situation. Therefore region specific targets should be set <sup>(8)</sup>.

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<sup>(7)</sup> In addition the running costs of entertainment and rebuilding of infrastructure tend to become a heavy burden on public budgets.

<sup>(8)</sup> Recent data indicates Germany has a land use rate for settlement and transportation of 93 ha/day. Germany's goal is 30 ha/day in 2020, this is reduction by factor 4 compared to 1996. The German Advisory Council on the Environment proposes 0 ha/day in 2050.

## WHAT NEEDS TO BE DONE?

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We suggest the following fundamental principles which should underpin the EU Resources Strategy:

- the consumption of a resource should not exceed its regeneration and recycling rate or the rate at which all functions can be substituted;
- the long-term release of substances should not exceed the tolerance limit of environmental media and their assimilation capability;
- hazards and unreasonable risks for humankind and the environment due to anthropogenic influences must be avoided;
- the time scale of anthropogenic interference with the environment must be in a balanced relation to the response time needed by the environment in order to stabilise itself.

The challenge of sustainable resource use concerns diverse fields of policies (e.g. agriculture, fisheries, products, manufacturing, land use planning and research) and requires the co-ordinated use of different instruments. Therefore we welcome the Commission's emphasis on establishing close linkages between the Resources Strategy and the other thematic strategies, including those on the Prevention and Recycling of Waste and Soil Protection, and the Integrated Product Policy Initiative. It is important to elaborate these linkages in the near future.

EU policy measures must reorient production and consumption patterns and make structural changes to the economy.

The task is to reduce the consumption of natural resources by the European economy. This goal aims at consumption in Europe as well as consumption generated outside Europe. Therefore we reaffirm the importance of giving strong consideration to the global impacts of European resource use.

Many aspects of sustainable resource use are not well understood and additional research is needed to optimise the approach. However, existing knowledge is sufficient to support stronger progress.

Specific recommendations pertaining to the core elements of the Resources Strategy include the following:



## GATHER KNOWLEDGE

We highlight the fact that the quality of global data on material flows and resource inventories remains poor and a role for the Resources Strategy should be to improve material flow methodologies, enhance current reporting and promote global standardisation.

It is necessary for environmental management and eco-design to develop a publicly available and consistent set of basic data on the environmental impacts caused by most important commodities such as fuels, metals or biomass during their whole life-cycle (i.e. extraction, production, use and waste management). The German EPA, for example, has established a database for the collection, maintenance and exchange of so-called 'process oriented basic data': <http://www.probas.umweltbundesamt.de>. It would be beneficial to gather and review the existing data in the EU and consider enhancing the German database to an EU database.

Therefore the capacity within Eurostat should be established to collect, generate, review and provide data and information on resource use on a macro level (EU and EU Member States) and on a micro level (commodities). The additional requirements should not lead to an increased reporting burden for the countries.

To assess the sustainability of production processes, products, lifestyles and the related material flows, it is necessary to define standards

that indicate whether or not certain material flows conform to basic requirements for sustainability. Therefore we have agreed that the environmental impact of existing consumption and production patterns and alternatives should be examined through appropriate scenarios, in order to identify the measures and actions to be undertaken by various players and stakeholders <sup>(9)</sup>. These scenarios should take new technologies into account, such as biotechnology and nanotechnology, in order to establish any possible positive or negative effects on natural resources.

Further it is also important to evaluate EU internal macro-economic consequences of fiscal and legislative changes that shift burdens from labour to natural resources.

Technical and economically viable potential for reduced resource use need to be taken into account in setting practicable targets.

<sup>(9)</sup> The following demand areas could be taken into consideration: 'construction and housing', 'mobility', 'nutrition', and 'communication and information'.

## WHAT NEEDS TO BE DONE?

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### ASSESS POLICY

To assess whether measures for achieving the goals were successful or not, a small set of indicators and associated targets should be specified. In addition, area-specific targets should also be established and integrated into an overall strategy to bring targets and measures together. Demand areas such as 'housing', 'mobility', 'nutrition' and 'communication and information' are the most relevant.

### CHANGE ECONOMIC FRAMEWORKS

If ecological interests are taken into account as well as the introduction of external costs, including global issues in raw material and product prices, the reform of fiscal policies and economic indicators are likely to contribute to a more sustainable use of natural resources.

The Resources Strategy should also consider the scope for removing those subsidies which have been demonstrated to be environmentally harmful, especially in sectors such as agriculture, transport, energy and fishing.

### USE PUBLIC PROCUREMENT

An important tool for reorienting consumption patterns is public procurement. We propose that the EU procurement policy is realigned to give preference to products and services with optimised resource consumption <sup>(10)</sup>.

### SUPPORT TECHNOLOGY AND KNOWLEDGE TRANSFER

There are not only large differences in resource use efficiency between the EU and developing countries but also between EU Member States. Therefore we consider that (intra-EU) technology and knowledge transfer is necessary to identify and implement best-practices and to improve efficiency of the more resource-demanding economies; the same considerations apply within the United Nations and other global initiatives. Partnerships for more sustainable raw material extraction and processing should be encouraged and enforced, especially in developing countries e.g. through the use of cleaner technologies <sup>(11)</sup>. The use of sustainably produced commodities in developed countries should be promoted,

<sup>(10)</sup> The Handbook on green public procurement explains how public purchasers can integrate environmental considerations into public procurement procedures (<http://europa.eu.int/comm/environment/gpp/guidelines.htm#handbook>).

<sup>(11)</sup> For example, via the global Zero Emissions Research and Initiatives (ZERI <http://www.zeri.org/>). Other important initiatives are carried out by UNEP and UNIDO, e.g. the UNEP Mediterranean Action Plan (UNEP/MAP) which pro-actively promotes best available techniques (BAT) and best environment practices (BEP) in non EU Mediterranean countries.

together with the collection and exchange of existing information on best practices. Promoting best available techniques (as per the IPPC Directive) beyond the EU could also be beneficial.

## CHANGE ACCOUNTABILITY OF OWNERSHIP AND USE

Some natural resources are subject to the problem that no rights of ownership and use are defined and that open, unrestricted access (at no charge) to the use of these resources leads to their degradation through excessive use. This is particularly relevant for biotic resources. The assignment of rights of use generally enables a reduction in resource consumption to a permanently environmentally compatible level. In addition there is also a need for sustainable resource management to become an aspect of economic systems that recognises the need for global equity in the use of resources. This will require developed nations to reduce and limit their consumption of resources. Fishing quotas are a good example for this approach. But the example also shows that the approach can only work if the limits are set strictly enough to protect the regeneration capacity of the resource in question.

## RAISE AWARENESS

No specific communication concept exists addressing the resources issue. However, there are several communication initiatives which address relevant aspects. Major environmental issues such as climate change or loss of biodiversity in relation to the excessive use of natural resources do not have a sufficiently high profile or value in the public consciousness.

An improved and stronger communication towards all stakeholders and the general public underlining the societal benefits stemming from a more efficient use of natural resources is seen as a pivotal approach, accompanied by information dissemination on good practices.

Public awareness and a suitable label have for example helped to spur the use of sustainably produced timber. Yet, there is no similar awareness campaign or readily available information about the production of copper for electrical appliances or platinum for catalytic converters.

Communication should also include awareness raising activities for life style issues. Current trends, where the consumption and buying of products is promoted to rekindle a weak economy, are not helpful for a long term strategy of resource use reduction.

## WHAT SHOULD THE POTENTIAL NEXT STEPS BE?

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Potential next steps:

- work from the outset to support the development and objectives of the One Stop Shop and the International Panel <sup>(12)</sup> on the sustainable use of natural resources;
- evaluate and establish a consistent role for the EPA Network members in the development of both national and sectoral action plans;
- initiate best practice networks and partnerships among EU agencies and with other non-European environmental agencies in the communication of the objectives, methodologies, indicators and targets relating to the Thematic Strategy as a contribution to the development of global networks to support the sustainable use of natural resources;
- further refine strategies, specify indicators and propose technical, legal, and economic instruments for examining and managing main stream material flows.

<sup>(12)</sup> Explanatory note: The One Stop Shop aims to provide a single point for access to information on natural resource issues to support policy making on natural resource issues. The International Panel on the Sustainable Use of Natural Resources will help to ensure that EU policies are based on a sound knowledge of the international environmental consequences of resources extraction and use during their whole life cycles. This panel will be established in cooperation with UNEP.

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## GLOSSARY

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The resources and sustainability debate is characterised by certain key words which are, however, not always used in the same sense. We will define our use of some key terms here.

- **Decouple (resource consumption from economic growth):** This means that economic growth is independent from resource consumption. So we have economic growth without an increase in resource consumption. Relative decoupling: The rate of increase in resource consumption is no longer proportional to the rate of economic growth, but there is still an increase in resource consumption.
- **Natural resources:** All components of nature that offer direct benefits for humankind; e.g. raw materials, land, genetic resources. Natural resources also include services which nature indirectly provides for humankind, e.g. the absorption of emissions (sink function) and the maintaining of ecological biogeochemical systems.
- **Resource productivity:** Efficiency with which energy and materials are used throughout the economy, i.e. the value added per unit of resource input. For example, GDP divided by total energy consumption. Different ways of calculating or defining resource consumption are possible. A suitable calculation is vital; however, easily available figures are often not adequate. Sometimes just the weight of the raw material is used — with the obvious disadvantage of not distinguishing between gold and clay.



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