

Tracking Europe's Natural Resource Consumption

A Consensus Statement on the Importance of National Material Flow Accounting

August 2006

Preamble

Providing for the well-being of a still growing world population within the limits of a finite planet is *the* key challenge for our future.

Many people still need more natural resources – just to meet basic needs. Yet, nature's life support systems are already overburdened. This ecological overshoot is deepening: soil erosion, deforestation, species extinction, CO₂ accumulation in the atmosphere and extreme weather events, stressed freshwater sources, fossil fuel constraints, destruction of the ozone layer and failing fisheries. They are all measurable effects of liquidating rather than stewarding natural capital.

If we want to maintain – and in many places improve – human well-being, society will have to learn to live on fewer resources, for example by reducing demand or by using resources much more efficiently.

Any resources we use will end up as waste, causing environmental problems such as climate change, air and water pollution, and the destruction of biodiversity. This is, however, not only an environmental concern: the overuse of resources is also a problem for economic stability, international security, social equity, international cooperation, and peaceful coexistence.

In the Lisbon Strategy and the renewed Sustainable Development Strategy, the European Union recognized that using resources more efficiently is crucial for the economic development of the EU, for the European environment, and for a positive role of the EU in the world.

Making the EU the most energy and resource efficient region in the world will drive forward innovation, create jobs, increase competitiveness and improve the state of the environment, as the President of the European Commission, Jose Manuel Barroso pointed out in a discussion with environmental organizations.¹

There will be no sustainable development in the EU without reducing human demand on natural resources through enhanced resource efficiency. Progress in industrialized countries therefore needs to be measured against the ability to increase resource productivity and decrease the demand of natural resources. To monitor if we are moving in the right direction, we need indicators of resource consumption and productivity. Such indicators depend on careful tracking of resource uptake by, stocks within and flows through our economies. As prices are unable to provide the necessary information, these indicators must be based on physical units. Physical accounts are a fundamental prerequisite for Europe to evaluate and manage the process to become the most resource and energy efficient region in the world – a region that maintains, rather than liquidates, natural capital.

¹ See: http://www.foeeurope.org/publications/2005/Green9_Barroso_thank_you_letter_April2005.pdf

Strengthen material flow accounting – vital for sustainability policy, research and communication

We believe that material flow accounting is an indispensable tool for understanding and managing material flows through our economies. Material flow accounting is the core information base for research and policy analysis related to natural resource use and resource productivity.

We fully support ongoing efforts for harmonisation of national material flow accounts and their underlying statistical data at the European level (lead by the Statistical Office of the European Communities, EUROSTAT) and the level of the OECD countries.²

Although we focus on different aspects of natural resource use and use different communication strategies, we emphasise that the establishment of a solid and harmonised data system on national material flows is of key importance for our work.

We underline that a robust and well documented statistical basis on material flows is essential for many core areas of sustainability science:

Carbon and greenhouse gas accounting

In order to implement effective climate treaties and allow evaluation of climate policies, robust and transparent greenhouse gas accounts are essential. Carbon is a significant portion of the material flow through the human economy. For effective decarbonization strategies, we also need information about non-carbon resource-flows in the human economy, as provided by material flow-based indicators, since many flows are associated with significant fossil fuel use. Material flow accounting allows to detect problem shifting between different resources, and thus provides a basis to combine climate and resource policies.

Ecological Footprints

Ecological Footprint accounts use data from material flow accounting as the basis for their analysis. Such accounts translate each material flow into the biologically productive areas needed to support these flows. In other words, they provide information about the environmental demand of the material flows and compare this demand against available biological capacity in a region or the world. Footprint accounts fundamentally depend on reliable and detailed mass flow statistics. Therefore, Footprint practitioners are in full support of detailed material flow accounting and agree with the importance of having mass balance indicators included in key indicator sets.

Environmental space

Informed by ecological limits, environmental space defines consumption targets for each category in the material flow accounts. Environmental space concepts are critical for setting goals and tracking progress towards a sustainable economy.

MIPS/LCA

Material flow accounts on the macro level and on the micro level must be based on a common and consistent conceptual and accounting framework. Robust national material flow information is essential as a reference dataset for analyses at the micro-level. At the same time, micro-analyses, such as material input per service unit (MIPS) and life-cycle assessment (LCA), can deliver information to improve macro data. Robust policy tools also need to consider possible rebound-effects on the macro level, induced by efficiency gains on the micro level.

² In 2004, the OECD has launched a programme to foster material flow accounting and record resource productivity.

Adopt “Total Material Consumption” (TMC) as an EU headline indicator

We strongly encourage the broad adoption of “Total Material Consumption (TMC)” as a comprehensive headline indicator on natural resource use on the European Union level.

We believe that TMC is a useful measure of total consumption of resources and therefore an important indicator for sustainable development. TMC helps answer some simple but crucial questions at the heart of sustainable development: Is the European Union reducing its resource dependence? Is it performing well in terms of eco-efficiency? Is it able to provide the same, or increased, well-being using fewer resources? Is the EU exporting environmental damage to other world regions via international trade?

TMC is already included as a “best-needed” headline indicator in the current set of sustainable development indicators developed by EUROSTAT, in order to monitor progress in the implementation of the renewed Sustainable Development Strategy of the EU.³ We acknowledge and appreciate this step. We encourage EUROSTAT to elevate TMC from a “best-needed” into a “best-available” indicator.

In order to reflect EU's concern about sustainable development, TMC should, at the Spring Summits, become one of the key headline indicators for measuring progress of the Lisbon Strategy, at the same level as GDP growth and unemployment.

We stress the particular importance of adequately considering aspects of international trade in national resource use indicators. In addition to natural resource extraction within the national territories, the TMC indicator includes imports and exports and their indirect material requirements. Taking these indirect material flows into account is important for considering the environmental impact which the EU transfers to other continents through international trade and is key to understanding Europe's global environmental responsibility.

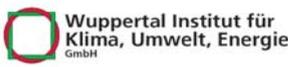
We acknowledge that research and data compilation to calculate TMC in the EU is ongoing and not yet complete. We emphasise that data quality and availability, in particular on unused domestic extraction (such as overburden from mining) and on indirect material flows of traded products is still poor for many countries. We therefore strongly encourage the European Union to make this research a top priority and to support the necessary research with adequate funding. It is possible and necessary to fill the research gaps that hold us back from fully calculating TMC.

We suggest that until solid data are available, the proxy indicator “Domestic Material Consumption (DMC)”, which does not include unused domestic extraction and indirect flows of traded products, may be used as interim indicator.⁴

3 Total Material Requirement (TMR), the major component of TMC, is another important indicator, which has been already reported by the European Environment Agency (EEA) for the EU and by various countries and, put in relation to GDP, is an important indicator to measure progress towards higher resource productivity.

4 To indicate material use for production, Direct Material Input (DMI), the major component of DMC, is another important indicator.

This consensus statement is signed by the following institutions
(in alphabetical order):

<p>Best Foot Foreward UK</p>  <p>Best Foot Forward</p>	<p>Charles University Environment Center Czech Republic</p> 
<p>Factor 10 Institute France</p>  <p>Factor Ten Institute</p>	<p>Friends of the Earth Europe Belgium</p>  <p>Friends of the Earth Europe</p>
<p>Global Footprint Network USA</p> 	<p>Sustainability Europe Research Institute Austria</p> 
<p>Wuppertal Institute for Climate, Environment and Energy Germany</p> 	<p>Oikon Ltd. - Institute for Applied Ecology Croatia</p> 
<p>EnviroCentre Ireland</p> 	<p>Finnish Society for Industrial Ecology Finland</p> 
<p>If your institution wants to sign this statement and take part in this initiative, please contact Stefan Giljum (stefan.giljum@seri.at) or Fritz Hinterberger (fritz.hinterberger@seri.at) at the Sustainable Europe Research Institute or representatives of any of the listed institutions.</p>	<p>Sponsored by Aachen Foundation Germany</p> 