



## Energy and construction: important drivers of resource use

**Better and more efficient management** of materials is an important EU policy goal. New research has analysed what drives resource use and the productive use of materials across Europe and indicated that energy efficiency and construction of buildings and roads are the main policy areas to address.

The need for more efficient use of natural resources is reflected in current EU policies, such as the Thematic Strategy on the Sustainable Use of Natural Resources<sup>1</sup> and the EU Raw Materials Initiative<sup>2</sup>. In addition, the EU's Thematic Strategy on the Prevention and Recycling of Waste aims to help Europe become a recycling society that seeks to avoid waste and uses the latter as a resource. A report was recently published on the implementation of this strategy<sup>3</sup>. However, forecasts of the future demand for raw materials are uncertain and policy needs a better understanding of resource use dynamics to be effective.

The research was commissioned by the EU<sup>4</sup> to analyse the drivers of resource use and material productivity across Europe. Drivers are factors that will lead to changes in resource consumption in an economy. The study is one of a few to take the approach of using the method of Material Flows Analysis, which examines the material exchanges between an economy and the environment.

The study identified 33 drivers most likely to influence material consumption for the EU-15 for the period 1980-2000 and for the EU-27 (to include new Member States) for the period 1992-2000. It analysed the relationship between the drivers and consumption and productivity across the different nations.

For the EU-15, the most influential driver on domestic material consumption was the bloc's share in imports. Alongside an increase of one per cent in import share consumption, there was an increase of 0.225 per cent in consumption of materials. Energy consumption per capita was also important, and an increase of one per cent was accompanied by a 0.177 per cent increase in consumption.

The impact of energy consumption is greater for EU-27 than for EU-15 (a one per cent increase is accompanied by a 0.4 per cent increase in material consumption). This probably reflects the energy mix in the EU-27, which has a greater share of fossil energy sources, mainly coal, than the EU-15 which has a greater percentage of nuclear power (e.g. France and Italy) and hydropower (e.g. Scandinavian Member States and Austria).

Material productivity, which reflects the efficient use of materials, appears to fall with an increased share of employment in the manufacturing sector in EU-15. On the other hand, higher imports accompany an increase in productivity, perhaps because a high proportion of foreign trade means greater competition, which leads companies to seek more efficient use of resources and energy. In the EU-27, the share of employment in the manufacturing sector is the most influential driver, causing a decrease in material productivity

Energy use, imports and manufacture are clearly influential in resource use and productivity. Alongside these main drivers, the research indicates the importance of drivers connected to construction and transport, which also have strong links to importing and employment in the manufacturing sector. Energy, construction and transport are major areas of public policy and the findings suggest that cooperative approaches with stakeholder involvement in these areas could improve efficient resource use. However, further research is needed on the impacts of international trade and on the impacts at a country-specific and industry-specific level.

1. See: <http://ec.europa.eu/environment/natres/index.htm>
2. See: [http://ec.europa.eu/enterprise/policies/raw-materials/index\\_en.htm](http://ec.europa.eu/enterprise/policies/raw-materials/index_en.htm)
3. See: <http://ec.europa.eu/environment/waste/strategy.htm>
4. This research was conducted as part of the project 'The links between the environment and competitiveness' (Project ENV.G.1/ETU/2007/0041) commissioned by the European Commission. See: [http://ec.europa.eu/environment/enveco/economics\\_policy/pdf/exec\\_summary\\_comp.pdf](http://ec.europa.eu/environment/enveco/economics_policy/pdf/exec_summary_comp.pdf)

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