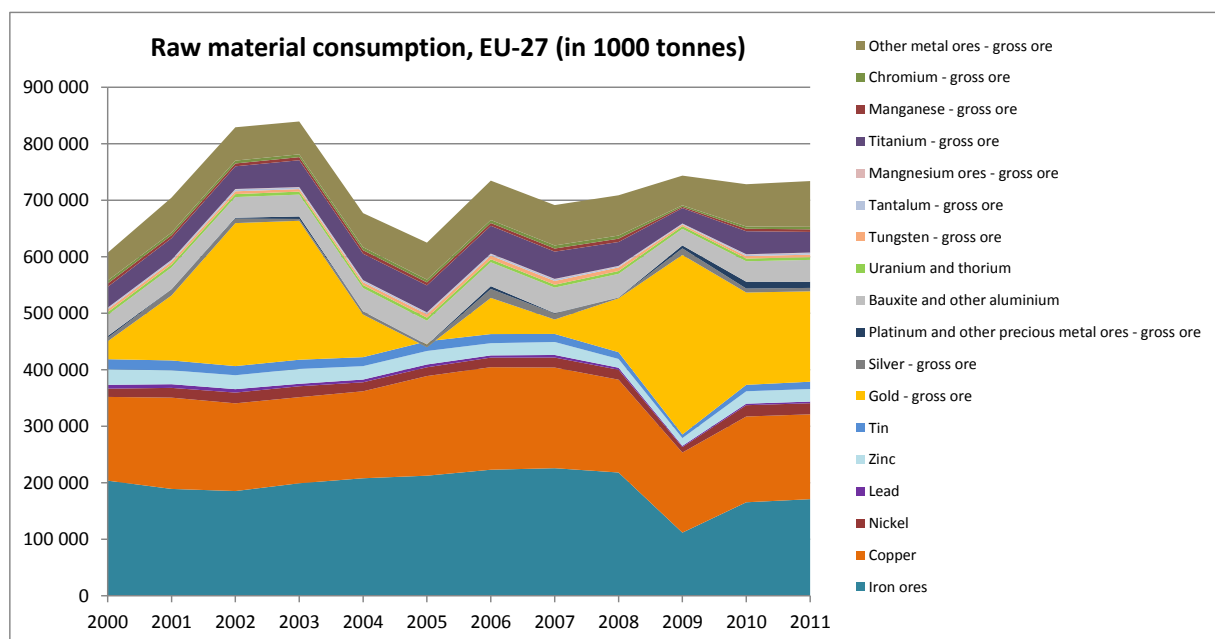




## Metals - The current situation and trends

Each year 600-800 Mt gross ore is extracted to produce metals for consumption in EU-27. This raw material consumption (RMC) is dominated by iron & steel, copper and gold (see Figure 1).



**Figure 1: Metal use in the EU-27 (Eurostat 2013)**

Steel is to a large extent (35% in the EU) used for the construction and maintenance of buildings and infrastructure, but also in machines, vehicles and many other products. The major current applications of copper are in electrical wires (about 60%), construction (e.g. roofing and plumbing) (about 25%) and industrial machinery (about 10%). Expansion and replacement of infrastructure, housing and commercial buildings, and the demand for vehicles, machinery and appliances are all linked to the economic growth. However, there is evidence that per capita requirements for steel stocks eventually saturate.

Most of the gold is used to produce jewelry (about 50%) and for investments such as coins and bars (about 40%). This is less linked to the economic growth than to other aspects of the economy. The use of gold in jewelry might be affected by changes in the income inequalities within a country. The use of coins and bars is driven by economic disruptions. Figure 1 illustrates that the net import of gold is sometimes large and sometimes negative. This is because fluctuations in central bank reserves, exchange traded funds and speculation make the gross imports and exports of gold vary significantly from one year to another.

Small but possibly increasing quantities of gold (10%) are used for its decorative and technical properties in electronic products, chemical industry, embroidery, etc. This use can be linked to economic growth as well as to the development of new technology and products.

## Targets and vision

The aim of our policy mix is to reduce the EU consumption of virgin metals by 80% measured by RMC. This requires a significant reduction particularly in the use of iron, copper and gold ores. The 80% target should be met without a significant increase in the use of other resources or other environmental impacts.

Our vision is to reach the target through a combination of increased recycling and reduced total use of metals. To avoid merely shifting to other material resources, the overall material-efficiency needs to increase.

## Policy instrument mix

The following instruments seem important to assess and possibly implement:

EU strategy for dematerialization: this is an official EU document that aims to pave the way for a material tax (see below) and other ambitious policy instruments. The development of the strategy should begin immediately and be ready by the year 2020.

Information campaigns: these aim to increase public acceptance of other policy instruments and also to influence the consumption behaviour.

Fora for communication: EU will co-fund fora for communication throughout the value chain of important products and materials, for example between recyclers and producers.

Research and development: this implies continued and strengthened funding for R&D aiming to increase material efficiency and recycling through improved technology and knowledge.

Local currencies for labour-based services: an expansion of the use of alternative currencies used for untaxed trade in local labour-based services. It aims to shift production and consumption from products to services. Accumulation of the local currency can be a non-material metric of personal success and contribute to values becoming less materialistic.

Green fiscal reform: this tax reform will gradually shift tax revenues from labour to emissions and the use of natural resources. In addition, a tax is imposed on all materials that are used in EU, regardless of whether they are produced here or imported. This reform will serve to increase the cost of materials compared to labour.

Policy package to stimulate leasing and sharing: this package aims to making leasing and sharing of products more convenient and less expensive. It includes public systems for sharing of products and public support for corresponding private systems.

Extended producer responsibility (EPR): this instrument implies an expansion of the EPR to all Member States and to additional product groups.

Advanced recycling centers: local or national governments invest in advanced recycling centers aiming to increase collection of waste for recycling and also to facilitate second-hand trade, repairs and redesign of used goods.

Standards for products: ISO or CEN standards for specific products and components that regulate the design to, for example, increase repairability and reuse of components; reduce the unnecessary use of material; and substitute metals for other materials when appropriate.