

The Association of Geological Surveys of the European Union
(EuroGeoSurveys)
in their position as
custodians to their national natural resources
and
guardians of their terrestrial environment

present their contribution
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**Towards a European Strategy for the sustainable use of Natural
Resources**

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European Raw Materials Policy: The strategy of the unsustainable ...and how to tackle with the coming mineral shortage

1.- Introduction: Talking is not doing....

If one types in any web search program the words “Sustainable use of natural resources in Europe” we will find probably not surprisingly more than 280 000 hits that meet the requirement.

This means that it is a matter of wide concern and a great deal of organisations and initiatives are working of at least writing on the subject, *but it also means that it will be difficult to see the wood behind so many trees.*

A new proposal has been made, this time from the Commission with the paper drafted by the Unit A2 (Sustainable Resources) of the DG Environment “*Towards a European Strategy for the Sustainable Use of Natural Resources*” presented in a meeting with stakeholders on April 10th to which members of Eurogeosurveys were invited.

The aim of the discussion is to come out with a consultation document in the summer of 2002 and implement the conclusions of such document in 3 years.

The text below presents the opinion of Eurogeosurveys in the matter of “Sustainable use of mineral resources in Europe” and provides the basis for discussion of a series of proposals that should be included in the agenda of the Commission.

2.- Comments on the paper by Unit A2

Eurogeosurveys is more than happy with some of the preliminary requirements to be able to establish a resource strategy noted in point 3.

In particular in the case of mineral resources it is a must to estimate the materials and waste streams in the EU, including obviously imports and exports, as only reliable statistical data provides an accurate view of a particular industry and of its potential future.

In fact the Geological Surveys have been providing partly a general view not only of the materials flow, but also of the basic materials need of the industry using such raw materials with documents such as the “Panorama Minero” in Spain, the “Minerals Yearbook “ in the UK, or the partly EU financed “European Minerals Yearbook”.

Obtaining the material flow data requires of a continual financial effort and it is the key for a planned strategy in this matter.

It is also of great importance to review the efficiency of the policy measures and the impact of subsidies relating to natural resources and wastes, as in the case of mineral resources the EU policy is driving relentlessly towards a general

closure of the extraction activity in Europe on the basis of environmental impact and the global availability of mineral resources.

When Eurogeosurvey has expressed its opinion (See Eurogeosurveys Opinion n° 9) to the relevant Commission policy makers comparing the environmental impact of mining with that of agriculture, we have been told that such comparison were “political incorrect”.

But when resources are reviewed as a whole (Point 4 of the paper by Unit A2), we find that although in different box (Box 3 for minerals and Box 2 for soil and biological resources) we are both limited by the third dimension: **space**.

As all resources compete for land, there is a clear need to review the efficiency of a policy that has driven to increase the production of subsidised crops that Europe does not need, wasting 80% of the water (also in Box 2 of extinguishable resources) that we desperately need for other more peremptorial uses and polluting at the same time with pesticides and fertilisers more land that Europe will be able to reclaim in the next centuries.

The same policy that has stated more stringent norms and requirements for the opening and closure of mining operations which are trying to provide the materials flow system of the EU (thus its consuming industries) with enough raw materials to cope with an ever growing demand resulting from the economic growth and at the same time avoiding the need of foreign imports and in any case avoiding transferring our domestic problems to the rest of the world.

Regarding the classification of resources in point 4 of the report, we fail to understand that all minerals are recoverable resources and that “they become dispersed gradually, either by natural causes (leaching) or by human activities (mining and use)” as well that “In principle, recovery is possible, but requires a lot of energy, particularly if dispersion in the environment has taken place”.

We can understand that paper (a material that contains kaolin or limestone) can be recycled, that glass (made of silica sand and dolomite among others) can be recycled, that concrete (cement plus aggregate) can be recycled, even a brick (made from clay and sand) or cement (made of limestone and clay) can be recycled. But the raw materials once used to manufacture such products (Kaolin, silica, sand, aggregates, dolomite, limestone, etc) once extracted and used, can not be recovered today with the technology we now possess. The list of industrial minerals and rocks (IM&R) used in the EU industry would be too long to refer to in this text, the list of the products manufactured with them would be endless. A shortfall of the IM&R flow in the EU would result catastrophic.

Industrial minerals and rocks are non-renewable resources and in most cases the location of its deposits is dictated by Nature. In such state of things, access to the land where such resources are is a major concern for the mining industry, as no mining project is feasible unless land can be obtained in equal terms with other competing users.

The paper of the Commission fails to assess this problem correctly as in point 6. **Review of the current situation and trends**, states that “(2) *Scarcity of resources, such as fossil fuels and metals, is not a major concern, since proven reserves are not diminishing or even growing (fossil fuels)..*”

We believe that if all resources are taken into consideration, particularly **Space**, there is a clear reduction trend in the availability of resources in Europe, due to the unbalance in the land access of the various stakeholders.

4.- Decoupling Economic Growth and Environmental Impact. Mining and Mineral Resources

Eurogeosurveys has carried out a review of the study which has triggered the alarms in the EU and which is the basis for the Commission concern and analysed those points featuring mineral resources and mining activity.

The study was carried out for the European Environment Agency (EEA) by the Wuppertal for Climate, Environment and Energy Institute and demonstrates the EU has failed to decouple economic growth from the intensified use of natural resources, thus increasing the burden on the global environment.

The 15 EU member states material requirements from 1985 to 1997 has increased almost as fast as the expansion of its economy, indicating that it is not improving the efficiency of its resource use.

The study puts forth a new aggregated indicator for overall pressures on the environment: **total material requirement (TMR)**. The TMR measures the mass turnover of all domestic and imported primary materials, except for air and water, that are extracted from nature to support human activities, including all resources required for industrial production, transport, energy and food supply. It indicates the extent of environmental impacts associated with resource extraction, materials and energy use, and generation of emissions and waste.

This first calculation of the TMR of the EU comprising both extraction from domestic sources and imports along with their hidden flows, that is, those extractions which are not used further but nevertheless burden the environment, such as extraction waste.

One fundamental conclusion of the study was that domestic extraction of resources within the EU declined from 1985 to 1997 by 13 %, proving that domestic extraction tends to use resources with higher resource efficiency.

Conversely, in the most recent period examined, requirements for resources from outside the EU increased by 11% from 1995 to 1997. Imported metals, minerals and agricultural products are associated with higher hidden flows per commodity than domestic production, indicating a relatively higher burden to the environment of foreign countries.

No significant decoupling of the TMR and gross domestic product (GDP) occurred during these three years. But the study notes that foreign TMR is significantly influenced by the high “demand for luxury and precious commodities” within the EU.

EU countries’ predominant material requirements are fossil fuels, metals and minerals. Extraction of biomass - raw materials from plants and crops - and erosion of agricultural soil are also significant factors in the EU’s resource demands. The EU’s material requirements have increased almost as fast as the economy has expanded.

Between 1995 and 1997, the most recent year for which calculations have been made, the TMR rose by 3% from 18.1 billion tonnes to 18.7 billion tonnes. The increase was due entirely to increased materials imports, particularly of precious metal ores, whose extraction creates large volumes of mining waste.

The TMR grew by the same percentage on a per capita basis. Consequently, in 1997 around 50 tonnes of materials were extracted from the Earth to support the lifestyle of each of the EU’s 373 million citizens. This compares with a TMR of 45 tonnes per head in 1988, when the EU counted 12 members and a lower population of 323 million.

The study is thus clearly backing the opinion expressed by Eurogeosurveys (Opinion n° 9. Minerals in Europe: the risks of outsourcing. 27/03/2000), later used in the “Communication from the Commission. Promoting sustainable development in the EU non-energy extractive industry” (Brussels 03/05/2000. COM(2000) 265), that mineral resources foreign outsourcing produces a heavier environmental impact than domestic extraction.

In Helsinki in July 1999, the environmental ministers of the EU agreed that a net reduction in the use of natural resources was needed to bring economic growth in line with the Earth’s carrying capacity.

Accordingly, the decoupling of economic growth and resource use is one of the objectives of the EU’s current (6th) Environmental Action Programme towards a more environmentally sustainable development..

Eurogeosurveys finds that although in general there is significant room for improvement, as the EU has made only limited progress towards improving the efficiency of its resource use - its so-called material productivity, domestic mineral resources extraction is by far much more efficient in Europe than elsewhere in the world.

5.- Mineral Resources in Europe

Eurogeosurveys believes that the mining industry in Europe is facing rough times due to:

- Lack of social perception of the need of mineral resources in the so called State of Welfare.
- Bad public image resulting from severe damages to the environment in punctual cases.
- Permanent conflict with environmental-prone authorities and organisations due to the wrong approach to the equilibrium between nature and human resources need.
- Difficulties to access mineral resources due to competing activities and other land uses.
- Legal jungle with environmental and mining legislation and national and regional competencies.
- Global availability of resources.

Although there are no reliable statistics, there are in the EU more than 60 000 non-energy mining exploitations, but the number is reducing every year. Total direct employment in this mining industry in the EU might round up to 300 000 employers, making a total dependant citizens around 1,2 million.

The total saleable material production can be estimated in 8 000 Mt (although total material extraction might reach 20 000 Mt).

Only the aggregates sector produces around 3000 Mt pa, but again statistics are seldom accurate.

According to the World Resources Institute (<http://www.wri.org/wri/>) (Fig 1), fossil fuels and the hidden material flows associated with them make up a large percentage -- between 26 and 46 percent -- of the total materials used in the most industrialized countries.

The graph also shows that for the case of Germany and the Netherlands, metals, industrial and constructions minerals, represent 33 and 27 t per capita (39,7% and 34,6% of the total material consumption), very close to the fossil fuel consumption (39 and 25 t per capita respectively).

Total population of the EU 15 was in 2000 376,5 Million, assuming an average of 30t per capita of minerals consumption, the mineral consumption of the EU15 was in that year 11 295Mt.

We are thus talking about a basic sector that feeds 35% of the materials needed by the EU industry and which provides a permanent employment to 300 000 citizens of the EU, whose population needs around 30t per capita to maintain its standard of living.

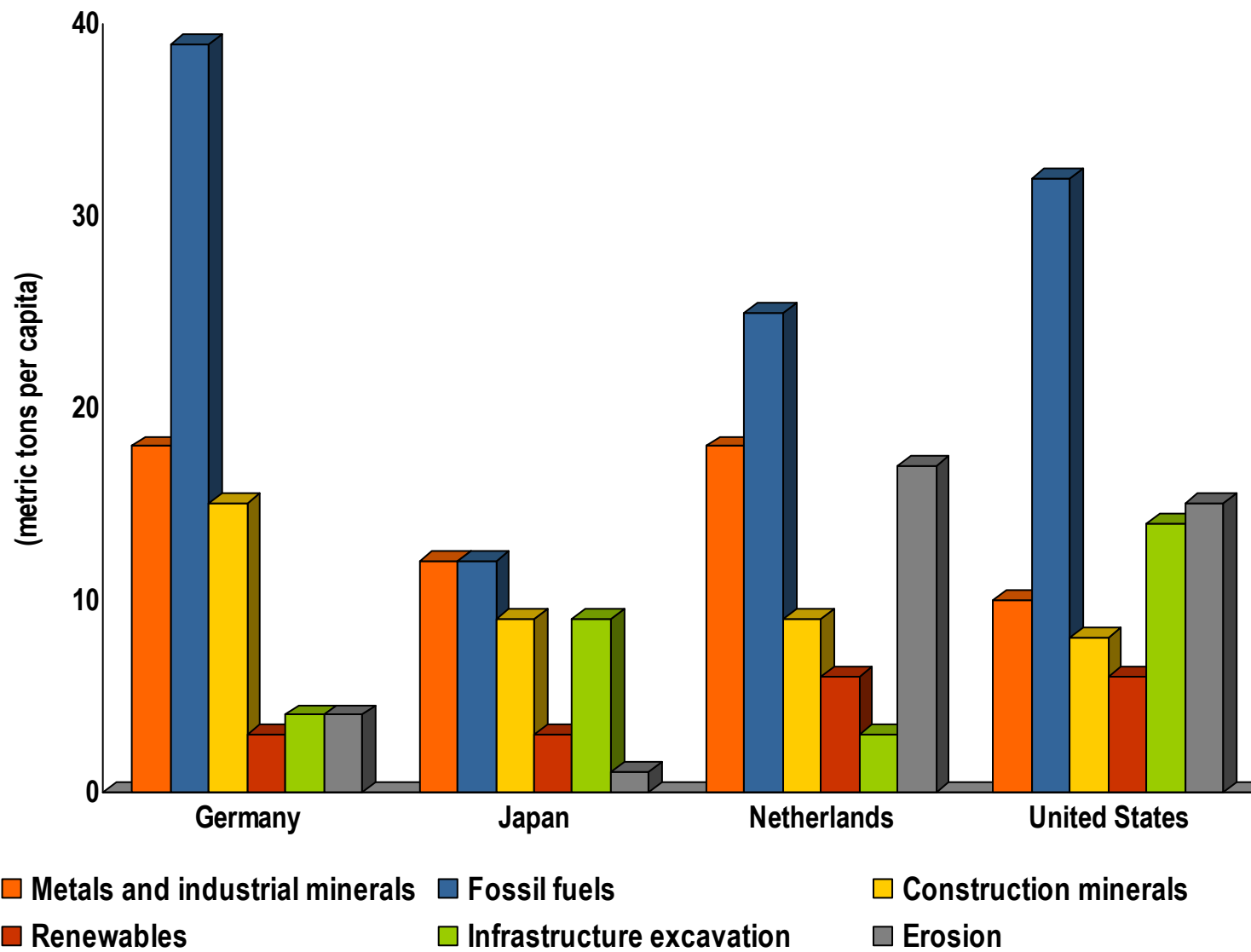


Fig. 1. Primary Contributions to the Total Material Requirements of selected industrial economies. 1991

6.- Eurogeosurveys approach to the sustainable use of land and natural resources

Eurogeosurveys supports an European Mining Industry based on several policies which should be implemented:

- Develop an EU policy to preserve the equilibrium between rational exploitation of resources and nature conservation and biodiversity: It is possible and can be done. Include financial aids for land reclaiming and mining heritage projects.
- Legal harmonisation in the EU of environmental protection and mining legislation: all stakeholders must move in the same legal framework. Establishment of EU Codes.
- Policies to avoid unnecessary and costly imports of mineral raw materials from abroad: we must not export our environmental problems to countries which do not have the knowledge or the money to cope with them. Protection of the EU mineral resources against foreign dumping to avoid mine closure and job losses.
- Policies to make a real an full-cost accounting of the different alternatives to mineral extraction when competing for space: The full costs and benefits, economic and ecological, of actual and alternative land-uses, including international or interregional impacts; to raise awareness of the scale of the external costs of many common land-use practices, and the scope for major financial savings by adopting alternatives. Full costs accounting must never forget that mineral resources are natural occurring and sites can not be changed.
- Policies and financial resources allocated for long-term monitoring: Europe has the best legislation, but national authorities lacks the financial resources to put their laws in force. Costed options for long-term monitoring of the impacts with full-cost accounting should be carried out, to learn from former or future land-use changes. If a back analysis was done on some land use schemes over Europe and the resulting total costs for that EU member, we would be extremely surprised with the findings.
- Accreditation Schemes: Identification of elements suitable for incorporation into an eventual Sustainable Mineral Exploitation accreditation scheme to inform local communities, companies, governments, trading partners and consumers about the sustainability of their resource-use. Establishment of Best practice

To fully understand the need of mineral resources and the compatibility of an European Mineral Industry with an Europe of the Biodiversity and an Europe of the Welfare which can be sustainable and globally a guideline, the basic policy must be based on:

- Reliable statistics
- Mineral flow studies
- Close co-operation with the mining industry

The Eurogeosurveys are ready to cooperate with their knowledge in the achievement of the objectives expressed in this document.

