

CONFERENCE PROCEEDINGS



Photo¹ European Parliament, Brussels

IMA-Europe 10th Anniversary Conference “Industrial Minerals: Growing with Europe”

*Under the Patronage of Mrs Marjo Matikainen-Kallström
Member of the European Parliament*

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Welcome Address

By Mr André J. Talmon
President, IMA-Europe

I would like to warmly welcome everybody to today's Conference, which is a very special event as IMA is celebrating its 10 years Anniversary this year.

The theme of our Conference is dedicated to the growth of the EU as seen by the Industrial Minerals sector

The conference exists of two parts: the morning session is dedicated to highlighting the economic aspects of the industrial minerals sector in the newly enlarged Europe. In the afternoon, there will be a debate on new legislative issues and their impact on the extractive industries sector.

We are extremely pleased to be able to offer this Conference today here in the European Parliament. I would therefore like to thank all the people who have made this possible, from within the European Parliament to the IMA Staff. And I wish especially to acknowledge the IMA staff for their dedication and efficiency during the whole year.

And finally, I do hope that by the end of this day you will all be convinced that the industrial minerals sector is far from becoming extinct in Europe, where it still plays and will continue to play an important role.

May I then now introduce Dr Michelle Wyart-Remy, IMA's Secretary General, who will make you acquainted with IMA's young history, which started in 1994 when we decided to move from one product association to a much larger representation of industrial minerals.



Adapting to change

Dr. Michelle Wyart-Remy
Secretary General
IMA-Europe

Ladies and Gentlemen,

When the President André Talmon asked me to open the Conference summarising for you IMA-Europe's 10 years of achievements, I wondered how to characterise these successful 10 years. A few words may summarise it: "adapting to change."

All this started with the signature of IMA's by-laws in December 1993. We cannot celebrate our 10 years without paying tribute to our founding President Jacques Pépin de Bonnerive and to our 4 founding members: the two companies and the two associations which joined forces under his leadership.

The industrial minerals industry acknowledged these pioneers' vision and rapidly IMA-Europe grew to stand as it is today with its eight member associations binding together industrial minerals producing companies from all the European countries where there is a significant industrial minerals production. These 180 companies employ some 40.000 employees who produce 100 million tonnes a year of industrial minerals for a value of 10 billion EUR.

In fact, the story dates back to the 70s - at the time when product legislation developed - EUROTALC was created as a response to an increasing public concern for product safety. The regulatory process was indeed launched in 1967 with the adoption of the Dangerous Substances Directive. It became reality in 1976 with the Marketing and Use Directive and since that time has never stopped expanding.

Product legislation is an area in which IMA-Europe had devoted extensive efforts since its origins to fulfil the obligations of the Existing Substances Regulation (93/793). We conscientiously filled in HEDSETS (harmonised electronic data sets) for the minerals we represented. Since then, we have known several success stories in this domain. Just to mention a few, we have developed harmonised safety data sheets, food additive specifications and a monitoring database for dioxins and dioxin-like PCBs in feed additives. More recently, we have been granted an exemption from registration in REACH.

The 80s were marked by an extensive regulatory activity in the area of workers protection. Two key framework Directives were adopted: the first one on the protection of workers from the risks related to exposure to chemicals, physical and biological agents at work (180/1107), the other one laying down minimum requirements on safety and health at work (89/391). A series of daughter Directives complemented the 80s' Directives, just to mention one: the Asbestos Directive (83/477). Obviously, workers protection legislation continued to progress over the 90s, so the protection of workers from exposure to carcinogens was adopted in 1994.

It was no surprise then that health and safety at work became one of the key priorities of the young IMA and has remained so till today. The industrial minerals sector may only be proud of the voluntary initiatives it launched in this domain: notably the epidemiological studies conducted on talc, kaolin, and silica sand workers' cohorts and the IMA dust monitoring protocol. Through all this IMA successfully contributed to the OEL debate at EU and national level.

Beginning of the 90s, echoing the Rio Summit, environmental protection and sustainable development were integrated in the Maastricht Treaty, while social dialogue became a reality in 1997 when the Amsterdam Treaty gave the citizen a central role in the legislative process. The first half of this decade saw the founding of both EUROSIL and IMA-Europe. At the end of the 90s, the European Commission Communication promoting sustainable development in the extractive industries definitely moved us into a new era.

Immediately integrating the new concepts, IMA-Europe committed to drafting the industrial minerals chapter of BAT (Best Available Techniques) for tailings and waste rock management in the extractive industry, an IMA Sustainable Development Charter was developed while we committed to the reporting of SDIs (Sustainable Development Indicators). IMA-Europe contributed with its colleague associations of the extractive industries sector to a Good Environmental Practice Guide. Finally, IMA's silica section is currently preparing a good practice document on dust prevention for respirable crystalline silica which could become the basis of a social dialogue agreement.

The new millennium saw the creation on the other side of the Atlantic of IMA-Europe's sister association: IMA-North America (IMA-NA). The exceptional vitality of our European organisation led indeed our American colleagues to copy IMA's model in all its details. On this side of the ocean, while the European industry as a whole faced major challenges, such as the New Industrial Policy, REACH, Enlargement, the extractive industry was confronted with an incredible number of regulatory developments and initiatives. To name a few: The Proposal for a Directive on the Management of Mining Waste COM (2003/319), the SCOEL SUM DOC 94 Final, the BAT for tailings & waste-rock management in the non-energy extractive industries, The Safe Operations of Mining Activities COM (2003/664), the Communication on the Promotion of Sustainable Development in the EU extractive industries COM (2000/265), Mining Activities under SEVESO II (2003/105), the EU sectoral social dialogue committees, etc.

The industrial minerals producers are used to controlling explosions in their operations. However, one might wonder whether they could survive another legislative "nuclear" attack should this happen in the rest of the decade. Hopefully, today's conference should give us some answers to this question.

To conclude, I would like to warmly thank all those who have made IMA what it is today for their steadily commitment and support.



European Industrial Policy - An Update -

Mr Patrick Hennessy

Director Directorate E
DG Enterprise
European Commission

INTRODUCTION

I am very grateful for your invitation to participate in your tenth anniversary conference, and in particular to update you on the Commission's work on industrial policy. In the time available I will draw out some of the key messages from recent Communications on industrial policy - including the most recent - 'Fostering structural change: an industrial policy for an enlarged Europe' which was adopted by the Commission on 20 April this year. I will then look at some of the policy issues which are of particular relevance to your sector, and finally touch on other related initiatives such as the thematic strategy on the sustainable use of natural resources and the chemicals policy, which I know are of interest to you.

EU INDUSTRIAL POLICY

I am sure I do not need to tell you of the importance of industry in Europe, or the vital contribution it makes to Europe's prosperity and overall standards of living, or of the specific role that your sector plays in providing much of the raw material used by the manufacturing and construction industries. Neither, I suspect, do I need to tell you that European industry faces major challenges - including the emergence of new global competitors, rapid technological developments, skills gaps, and increasing public expectations regarding consumer, environmental and health protection.

Situation

Analysis of the EU's economy over many years has identified a decline in the manufacturing industry's share of the economy - starting from the end of the 1950s - with reallocation of resources to the services sector. One of the main drivers behind this has been industry's higher productivity growth compared with services, which has led to a continuous transfer of jobs from industry to the services. Therefore, despite most industrial sectors recording job losses, they have also experienced an increase in both value added and labour productivity. This structural change of the European economy, with the reallocation of productive resources to the service sector, is considered essential, if Europe is to maintain its competitiveness and achieve sustainable growth.

However, there has been increasing concern expressed that this process is also leading to 'deindustrialisation'. This is defined as industrial decline in absolute terms, characterised by consecutive reductions in employment and production, caused by the relocation of industrial production to countries with lower costs and fewer regulatory constraints.

At the request of the European Council, the Commission carried out an analysis of the problem of deindustrialisation. The conclusion of this exercise, reported in recent Communications, was

that there is little evidence of widespread de-industrialisation. However, there appears to be a problem for some manufacturing sectors, such as shoes and textiles, which are more workforce than capital based and are subject to intense international competitive pressures.

More generally, however, there is evidence of an overall decline in the competitiveness of Europe's industry relative to that of our main competitors, and this, combined with increased international competition, threatens to impede the process of structural change to Europe's economy.

The analysis highlighted again problems identified previously such as weak sectoral specialisation, slow take up of Information Communication and Technology (ICT), skills shortage, and a regulatory environment that is perceived as not being business-friendly.

These all threaten the achievement of the goals set by the European Council of Lisbon of making the EU by 2010 'the most competitive and dynamic knowledge-based economy in the world'.

Response

Many of the measures required to improve the competitiveness of the industry need to be taken by the industry. However, European and National authorities also have a fundamental role to play.

The Commission has already launched a number of initiatives to improve the effectiveness of its competition policy including a programme of policy reforms in antitrust, merger and State aid. It has also adopted Communications on how to maximise the advantages of an enlarged Internal Market, how to foster industrial competitiveness, and how to promote research, innovation and entrepreneurship.

However, it is also clear that if EU industries are to compete in the global market place, they need a more supportive policy framework. This means ensuring that policies which impact on industrial competitiveness strike an appropriate balance between the economic, social and environmental objectives, in line with the principle of sustainable development. To achieve this requires:

- the systematic monitoring of developments and a review of the state of competitiveness of individual sectors.
- a thorough assessment of the economic, social and environmental impact of key legislative proposals; and
- a clear focus on research, innovation and entrepreneurship.

The Commission's Annual Policy Strategy for 2005 proposes an in-depth analysis of the raw materials sectors, to be followed by concrete proposals for measures to improve their competitiveness. Many of you will be aware that an analysis of the non-energy extractive industry has already started. A first working document was discussed by representatives of the Member States, the industry and other stakeholders at a meeting of the Raw Materials Supply Group in February. The paper was well received and is being developed further in light of stakeholders' comments.

In relation to assessing the impacts of new proposals, the Commission in collaboration with the Council and the European Parliament has improved its process of undertaking integrated impact assessments by placing special emphasis on strengthening their competitiveness aspect and, in cooperation with the Council, is devising a method for measuring the administrative burden on business. Stakeholder consultation is also an important aspect of this process and I will return to this a bit later.

On the question of research, the creation of the European Research Area in 2000 sought to provide an internal market for research and technology to counter fragmentation. An action plan is in place to increase investment in research and to achieve the objective agreed at the Barcelona European Council to increase R&D spending in Europe to 3% of GDP by 2010, whilst improving the quality of research and its appropriateness to the needs of the market.

An action plan on 'Innovation for Europe's competitiveness' will be presented by the Commission this summer. This will aim to put business at the heart of European innovation policy.

The March 2004 European Council invited the Commission to establish a high-level Group headed by the former Prime Minister of the Netherlands - Mr Wim Kok - to carry out an independent review to identify measures which together form a consistent strategy for the EU economies to achieve the Lisbon objectives and targets. The Group is to report to the Commission by November, to enable the review to contribute to the Spring 2005 European Council.

Specific challenges for non-energy extractive industry

Turning now to look more specifically at the non-energy extractive industry.

Europe has a particularly diverse geology and a long history of mineral working. The extraction of sand and gravel or hard rock for use by the construction industry to build houses, schools and roads or industrial minerals such as kaolin, fluorite, silica and talc and metals such as lead, zinc and copper for use by the manufacturing industries provides both jobs and value added to the European economy. It has been estimated that collectively, the non-energy extractive industry within the EU25 generates approximately €13 billion of value added and provides in the region of 270,000 jobs. IMA members alone operate more than 650 mines and quarries throughout Europe, processing annually around 100 million tonnes of industrial minerals, and providing some 40,000 jobs.

Perhaps more importantly, without an active and successful extractive industry which is capable of providing an adequate supply of high quality raw materials, the much larger manufacturing and construction sectors which generate between them almost 40% of the total EU value added - that is €1800 billion - would be less able to compete in an ever growing global economy. The importance of the extractive industry therefore far exceeds its direct contribution to the EU economy.

The link between the extractive industry and downstream industries is therefore an important one. We are aware that for some manufacturing sectors, such as those producing glass and ceramics, the availability of virgin raw materials, such as sand and clays, is a major concern for their future sustainability. It is important therefore that the competitiveness of the downstream industries is not compromised unnecessarily by an inability to provide it with the basic raw materials it requires, in appropriate quantities, of suitable quality and at reasonable prices.

It is worth reflecting that this conference is particularly timely, coming as it does, less than two weeks after the accession into the Union of ten new Member States. This brings with it both challenges and opportunities for the extractive industry and the downstream sectors it serves. It extends the internal market to include an additional 75 million people. It also brings into the Union a number of countries with significant reserves of industrial and other minerals - and a very active extractive industry. Looking only at industrial minerals, Poland is an important producer of gypsum and feldspar; the Czech Republic of kaolin, bentonite and feldspar, while Slovakia is now the largest producer of magnesite in the EU and the fifth largest globally.

Issues such as the effects of globalisation and trade policies, the future availability of energy and raw materials, the impact of environmental policies, human resource issues such as the retention and development of skills, employment and the impact of technology are as relevant to the non-energy extractive industry as they are to other industrial sectors.

In addition, a key determinant of the success of the extractive industry is its ability to gain access to new resources. It is an unavoidable characteristic of the sector, that unlike almost all other forms of industry, the choice of location is largely set by geology, as minerals can only be worked where they are found. This can bring the industry into conflict with the other uses of land, such as urban development, high quality agricultural land and biodiversity.

We are assessing the land use and mineral planning policies of the EU25 States to examine the different legal frameworks within which the industry operates and determining the extent to

which provision is made for the long term availability of minerals in the different countries. The study seeks to identify good practice. The results will feed into the sectoral competitiveness assessment referred to earlier.

It is increasingly recognised that globalisation and the related issue of trade and investment flows, demands rapid reaction to changing market conditions and a far-seeing view of future developments in order to ensure the best possible marketing strategies and sound investment policies which will ensure long term viability. We recognise the particular significance of this for the extractive industry where the upfront investment required to find viable new resources and to bring a site on-stream, can be in the order of many millions of Euros, while the time required to recoup the initial outlay and make a profit, can be many years.

Regulation can bring with it added costs and administrative burdens. For the extractive industry, this relates in particular to regulations dealing with environmental protection and health and safety. However, while there are costs to the industry of meeting the requirements of such legislation, it also has to be recognised that much of this legislation also directly benefits the industry. For example, it helps to provide the public and public authorities with confidence that site operations can be properly controlled and safe and that the land will be rehabilitated to a beneficial use once extraction has ceased. This all helps to reduce the scale of opposition to proposals to open new sites or extend existing ones. Policies requiring more efficient uses of natural resources such as energy and water, also force companies to look in on themselves to identify means of improving efficiency. This can reduce both the environmental effects of the industry and in many cases save money.

Health and safety regulation is also essential to minimise the risk of injury or death - both to the workforce and to those living in the vicinity of sites. It is not possible to prevent all accidents, and the industry remains one of the more hazardous industrial sectors. However, one has only to compare the number of fatalities now with those of a few decades ago, or to look at the continuing situation in some non-EU countries, to clearly understand the importance of the regulatory framework. If the industry is to obtain and keep new recruits it is vital that companies develop and maintain a safe image.

However, as mentioned earlier, it is vital for the competitiveness of the industry that the level of regulation is proportionate to the risks posed. The Commission, Member States and industry all have a role to play here. Through consultation on new proposals and the preparation of an impact assessment it is possible to better understand the impacts of a proposal. We look to the active involvement of the extractive industry in this process. The current Proposal for a Directive for the Management of Waste from the Extractive Industry which is with Parliament and Council underwent three rounds of public consultation and meetings with experts from Member States, the industry and other interested stakeholders before being adopted by the Commission. I hope you agree that the proposal was better for this.



Speakers table, morning session: From left to right: Messrs Salmona, O'Driscoll, Talmon, Hennessy and Mrs Wyart-Remy.

The use of voluntary initiatives as an alternative to regulation has many benefits. It can be a more flexible approach to achieving real public policy goals. It also helps to improve the industry's public image. We are aware of the important initiatives the European Trade Associations and their members have taken forward. One such initiative involving the Commission, the non-energy extractive industry and other stakeholders resulted recently in the publication, for the first time, of a set of Sustainable Development Indicators for this sector. These provide a basis for improved dialogue between stakeholders and improve the transparency

of the industry. It is hoped that by continuing this exercise it will be possible to identify trends and to help identify where action is required. IMA together with other European Federations, are key contributors to this work and we are grateful for their involvement. However, there is more that industry can do in the way of voluntary initiatives, and it is encouraged to look for further opportunities.

Other initiatives

I would now like to say briefly something about the Thematic Strategy on the Sustainable Use of Natural Resources. This is an important strategy which originated from the 6th Environmental Action Programme. For those who are not aware of the initiative, it is one of seven thematic strategies launched through this Programme. Its aim is to identify policies and measures to achieve the decoupling of environmental impacts from economic growth. I am aware that the extractive industry trade federations are taking a very active interest in the work, but that there is some concern that the focus of the stakeholder discussions is too much on your sector. Your continued involvement is vital to ensure that the outcome of the stakeholder discussions accurately reflects the industry, both in terms of identifying the true nature and extent of the environmental impacts of mineral extraction, but also the large steps the industry has already taken in recent years to reduce these impacts. My Directorate is closely involved in the work, and always on hand to assist you where necessary.

Finally, I would like to say a little about the Commission's new chemicals policy (REACH) as I know that there is a good deal of concern about it from the many of the European federations. Indeed, a number of industrial sectors have grouped together to form the "REACH Alliance".

As I indicated earlier, impact assessments are now carried out for new proposals and this includes REACH. One will be initiated shortly to cover 'inorganics', which I understand is the area of greatest interest to you, and we look to the active participation of the industry. We will be meeting with representatives of the Alliance shortly to exchange information on the actions to be taken in the near future, so that we can discuss the different problems and determine what support we can offer.

Conclusion

In conclusion, the competitiveness of the EU manufacturing industry has come to the forefront of EU politics. It is recognised that industry needs a more supportive policy framework to help it compete on a global scale. Therefore European policies which impact on industrial competitiveness must contribute actively to that goal. The challenge is to ensure that the right balance is struck between the economic, social and environmental objectives, in line with sustainable development principles.

The Commission is committed to ensuring that unnecessary burdens are not placed on European industry, and that the full effects of measures which impact on the industry are assessed and taken into account before decisions are taken. Through an improved process of consultation and co-operation, we will continue to work closely with industry on all issues which matter to its competitiveness. This applies as much to the non-energy extractive industry as it does to the down-stream industries it supplies.

We look forward to continued close cooperation with IMA and the other European federations, and wish you continued success over the next ten years and beyond.

Thank you for your attention.



The economic importance of industrial minerals

Mike O'Driscoll

*Editor
Industrial Minerals Magazine (UK)*

The paper will outline the economic importance of industrial minerals and how they are relevant to the European economy. Reference will be made to the mine to market supply chain, and the wide range of end use markets and their relative value to the Europe's economy as a whole. It will be emphasised that without successful industrial minerals development, these markets would not perform economically and competitively. Recent trends and developments in the world trade of industrial minerals and the EU enlargement will be highlighted.

It is indeed an honour to be invited by IMA-Europe to present a paper at its 10th Anniversary Conference in Brussels. As the voice piece of the international industrial minerals industry, *Industrial Minerals* magazine has been reporting news and publishing in-depth features on the market since 1967. Often overlooked as perhaps the less glamorous side of the extractive minerals business, industrial minerals are rightly described as the "workhorse" of the mining industry.

The title of the paper given to me was "The economic importance of industrial minerals," another title considered was "The role of industrial minerals in the European economy". Perhaps the best way forward is to address the following:

1. What are industrial minerals?
2. Why are industrial minerals so important?
3. Why are industrial minerals important to the EU economy?
4. Challenging times ahead

1. What are industrial minerals?

Industrial minerals are defined as minerals mined and processed (either from natural sources or synthetically processed), for the value of their non-metallurgical properties which provides for their use in an extremely wide range of industrial and domestic applications. As a general rule, they can also be defined as being non-metallic, non-fuel minerals.

Obvious examples of naturally occurring industrial minerals include: clays, sand, talc, limestone, gypsum, pumice, potash.

Other examples of natural industrial minerals include minerals that also have a *metallurgical* as well as non-metallurgical value, such as:

- bauxite (aluminium metal + bauxite used in cements, abrasives, refractories & alumina source for many applications)
- chromite (chrome metal & ferrochrome alloy + foundry sand, chemicals, pigments)
- rutile (titanium metal + white pigment for paints, paper, plastics)
- zircon (zirconium metal + source of zirconia for ceramics, glass)

- manganese (manganese metal + source of manganese dioxide for batteries, pigments)
- stibnite (antimony metal + source of antimony trioxide used as flame retardant)
- quartz (silicon metal + source of silica in glass, ceramics, fillers).

There are also *synthetic* industrial minerals, which are manufactured from natural minerals. Synthetic minerals are often processed owing to the inferior characteristics and/or scarcity of their natural counterparts.

For example, mullite does occur naturally - in small quantities on the Isle of Mull for example - but commercial grades are produced by calcining certain bauxites and/or high alumina clays.

Corundum, is the natural mineral of alumina, but little is mined. Commercial grades of alumina are yielded from the Bayer processing of bauxite, and fused alumina from the electrofusing of bauxite or alumina.

Other synthetic industrial minerals include:

- silicon carbide - from quartz + petroleum coke
- fused minerals - by fusing the natural varieties, eg. fused alumina, fused magnesite,
- precipitated calcium carbonate - lime + carbon dioxide
- spinel - from magnesia (from magnesite) and alumina (from bauxite)
- soda ash - from the Solvay process, salt+limestone+coal+ammonia

Table 1 indicates a list of the main industrial minerals mined and traded.

2. Why are industrial minerals so important?

Why are industrial minerals so important? The answer is simple, but not always obvious. To quote the IMA-Europe slogan, the short answer is: "Your world is made of them"

Quite frankly, without industrial minerals, a vast range of everyday domestic and vital industrial products would just not exist. In an average 9-5 working day you will probably come into contact with at least 100 items that have been manufactured from industrial minerals.

A useful example is a quick examination of your home kitchen to see just how important industrial minerals are to our everyday environment.

Industrial minerals in your kitchen

Glass/glasses/ light bulbs	silica sand, limestone, soda ash, borates, feldspar, lithium
Ceramic tiles/mugs/ plates etc.	kaolin, feldspar, talc, wollastonite, borates, alumina, zirconia
Paint	TiO ₂ , kaolin, mica, talc, wollastonite, GCC, silica
Plastic "white goods" eg. fridge, washer	talc, GCC, kaolin, mica, wollastonite, flame retardants (ATH, Mg(OH) ₂)
Wooden flooring	treatment materials- borates, chromite
Drinking water	treatment materials- lime, zeolites
Wine/beer	diatomite, perlite filters
Salt	salt
Sugar	lime in processing
Detergents/soap	borates, soda ash, phosphates
Surfaces	marble, granite
Books	kaolin, talc, GCC, lime, TiO ₂ in paper

Oven glass	petalite, borates
Heating elements	fused magnesia insulators
Wallboard/plaster	gypsum, flame retardants
Metal pots/cutlery	mineral fluxes & refractories in smelting
Cat litter	sepiolite, bentonite, attapulgite

Certain industrial minerals may have one, two, or maybe up to ten domestic and/or industrial applications, others such as lime, may have over 50 uses. To try and bring some coherence to the industrial minerals markets, the main *consuming mineral market* sectors which require industrial minerals as raw materials are:

Abrasives	Drilling mud	Other Consumers
Absorbents	Electronics	Paint
Agricultural	Filtration	Pigments
Cement	Flame retardants	Plastics
Ceramics	Foundry	Paper
Chemicals	Glass	Refractories
Construction	Metallurgy	Synthetic fibres

Table 1. The main industrial minerals mined, traded, and used

alumina*	granite
calcined alumina*	gypsum
tabular alumina*	haematite
fused alumina*	halloysite
brown fused alumina*	hectorite
white fused alumina*	huntite-hydromagnesite
alumina trihydrate (aluminium trihydroxide)*	ilmenite
andalusite	iodine
antimony trioxide*	iron oxide
asbestos	kaolin
attapulgite	kyanite
baddaleyite	leucoxene
ball clays/plastic clays	lime*
barytes	limestone
basalt	lithium minerals (petalite, spodumene, lithium carbonate*)
bauxite	lithium carbonate*)
bentonite (fullers' earth - UK)	magnesite
white bentonite	caustic calcined magnesite/magnesia*
borates (borax, sodium borate* boric acid* etc.)	dead burned magnesite/magnesia*
brucite	fused magnesite/magnesia*
calcium carbonate	magnesium hydroxide*
precipitated calcium carbonate*	magnetite
fused calcia*	manganese
celestite	marble
chromite	mica
diatomite	sintered mullite*
dolomite	fused mullite*
emery	nepheline syenite
feldspar	nitrites
fluorspar	olivine
garnet	perlite
	phosphate
	potash

pumice	sulphur
pyrites	talc
pyrophyllite	titanium dioxide*
quartz	traprock
rare earth minerals (monazite, bastnaesite, leucoxene)	trona
rare earth oxides*	vermiculite
refractory clays (chamotte, flint clay, fireclay)	wollastonite
rutile	zeolites
synthetic rutile*	zircon
salt	zirconia*
saponite	fused zirconia*
scoria	
sepiolite	
silica sand	
fused silica*	
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fused spinel*	
slate	
soda ash*	
sodium sulphate	
staurolite	

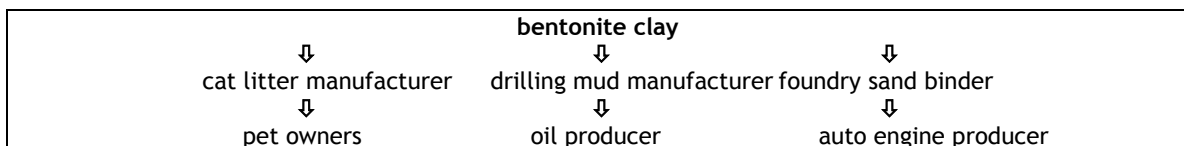
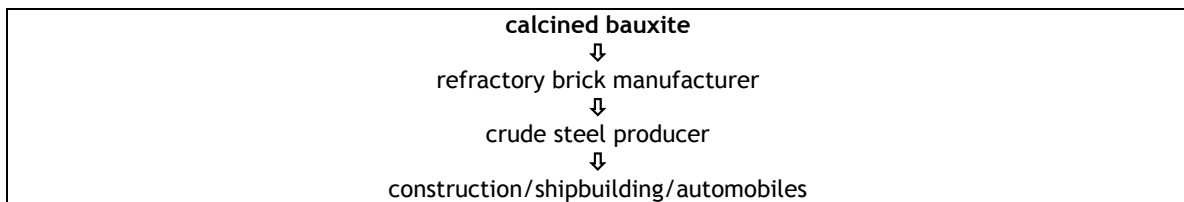
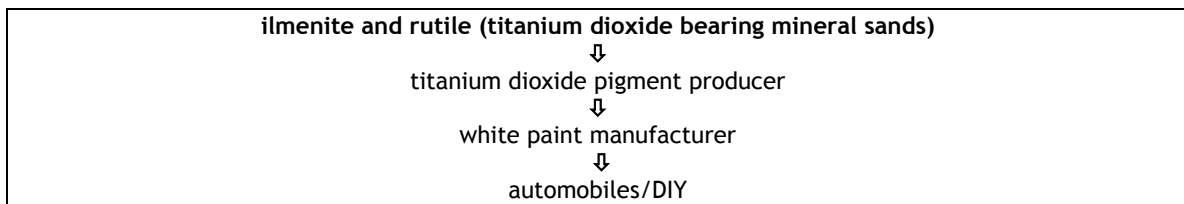
* these are "intermediate mineral products" or "synthetic minerals" produced from natural raw material minerals used as feedstock, eg:

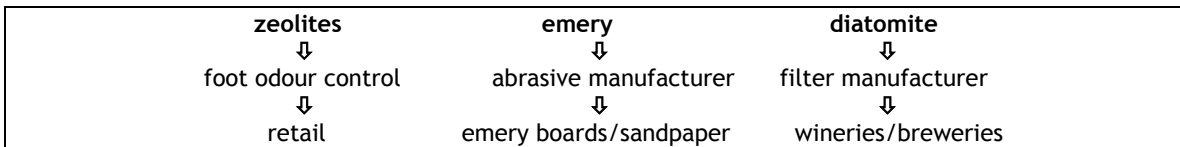
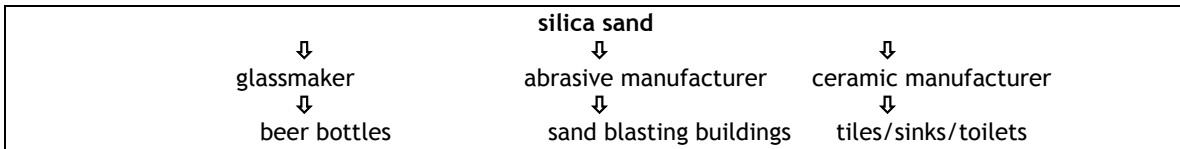
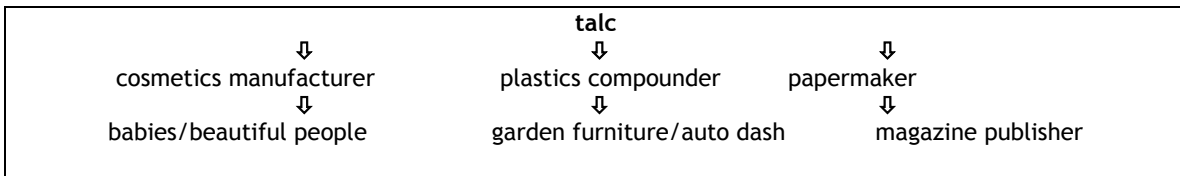
1. *mineral/chemical intermediate products eg. TiO₂ from ilmenite or rutile; rare earth oxides like CeO from bastnaesite*
2. *synthetic minerals eg. silicon carbide from silica sand and coke or brown fused alumina from abrasive grade bauxite*

These consuming markets represent some heavy industries responsible for some very important products fundamental to our modern lifestyle.

Other examples of industrial mineral use help illustrate that the minerals are often first consumed in the production of an *intermediate end product* that is then consumed in the manufacture of an *end product* that is then sold to an *end-use market*.

For example,





Once the widespread use and thus importance of industrial minerals is appreciated, it is then possible to understand the chief and overriding principle of the industrial minerals industry:

Mineral consuming market existence & its performance directly affects demand for mineral raw materials, i.e. industrial minerals

As an industrial minerals consultant once said:

“Without a market, an industrial mineral deposit is merely a geological curiosity”

So, no market demand = no mineral supply = no mineral development. Therefore, demand feeds back from the end-use market, to the end product, to the intermediate end product, and finally back to the mineral supplier.

Thus, the performance of the industrial minerals industry is inextricably linked to two related factors:

- centres of high population - the consumers
- their economy - the driver

These two factors will dictate demand in the consuming markets mentioned above, whose performance will directly influence the demand for industrial minerals.



Industrial minerals are not only important to us because of their uses, they are also responsible for employing people and services, and thus have value in that capacity.

The best way to see who is involved in the industrial minerals business is to examine the *mine to market supply chain*.

All industrial minerals are mined (surface and underground) and then undergo processing to refine the crude mineral ore into a processed grade or series or grades for sale to the market.

These are then transported from the source to another plant for further processing, or directly to the consuming markets. One can identify three broad sectors:

- supply sector
- logistics sector
- consuming market sector


Within each of these sectors are subsectors that have specific functions in the supply chain and employ certain types of businesses. The accompanying chart illustrates these sectors and subsectors, with examples of active companies and organisations, and the overall mine to market supply chain.

Take note of the influential direction of supply, from the top, and demand from the bottom. Other key notes to highlight are the activities and objectives of the main players in the industrial minerals market:

- **Mineral producers** seek to maintain current markets and diversify into new markets
- **Mineral producers/processors** seek to employ/develop new processing methods to produce superior products economically for new market applications
- **Traders and consuming market mineral buyers** seek to source low cost, high quality minerals & alternative/new suppliers
- **Freight/logistics** costs can amount to 50-70% of delivered cost of mineral to customer, therefore suppliers and customers strive to secure most cost effective and efficient logistics systems and companies

Just to make matters interesting, the mine to market supply route described in the chart will be tailor-made to suit different mineral types for different markets!

Anatomy of the industrial minerals market by route of mineral from mine to market

 Route from mine to market ↓	↑	S U P P L Y	Route stage	Business type	Example
			↓	↑	D E M A N D
↓	↑	D E M A N D	Evaluation of market demand	Consultant/research org./prospector	Industrial Minerals
↓	↑	D E M A N D	Project feasibility	As above/engineering co.	Kilbourn Engineering/Babcock Eng.
↓	↑	D E M A N D	Project financing/Due diligence	Investment bank/consultant	Warrior International
↓	↑	D E M A N D	Project fruition	Producer/eng. Co.	Skardon Kaolin Co./ Kvaerner
↓	↑	D E M A N D	Mining/production	Mineral producer	RZM Cable Sands
↓	↑	D E M A N D	Processing	Producer/processor/ supplier of tech/equip	Grecian Magnesite/Microfine Minerals/Metso
↓	↑	D E M A N D	Sourcing/marketing	"trader"	Possehl/Coferal
↓	↑	D E M A N D	Delivery/freight ex- works	Trader/logistics Co.	Mineral Logistics
↓	↑	D E M A N D	Processing	Trader/processor/ supplier of tech/equip	TKmet/CMP/Eriez
↓	↑	D E M A N D	Inspection	Mineral inspector	Alfred H. Knight/ SGS
↓	↑	D E M A N D	Freight/shipping	Trader/logistics co./shipper	Hudig & Veder BV
↓	↑	D E M A N D	Inspection	Mineral inspector	Alfred H. Knight Ltd

↑	C S	Port handling	Stevedore co./logistics co.	Van Uden
		Processing	Trader/processor/supplier of tech/equip	Minelco Minerals/Eggerding/Larox
		Storage	Logistics co./warehousing co.	Northern Manuport
		Distribution/freight	Trader/logistics Co./shipper	b.v. Rebes
	M A R K E T	Direct mineral consumer	Mineral consumer	eg. glass - Pilkington eg. cat litter - Clorox eg. talc - Boots
		Intermediate product mineral consumer	Mineral consumer	eg. refractories - Vesuvius eg. TiO ₂ pigment - DuPont
		End market consumer	Mineral product consumer	eg. refractories for steel - Corus eg. TiO ₂ pigment for paint - Akzo Nobel

3. Why are industrial minerals important to the EU economy?

After understanding what industrial minerals are, why they are so important, the structure of the mine to market route, and who's involved, placing a value on industrial minerals is perhaps the final piece of the jigsaw in the overall market. And, can we place a value, or at least place in perspective the industry's value in the EU economy?

Aside from application, perhaps the main difference between metals and industrial minerals is their price. Industrial minerals are essentially high volume, low value commodities, whereas metals are the reverse, especially precious metals. See the accompanying table for a comparison of current prices:

Price comparison of metals and industrial minerals
US\$/tonne unless indicated

<i>Metals</i>		<i>Industrial minerals</i>	
Gold	392/oz	Salt	15-18
Silver	6.23/oz	Silica sand	14-25
Aluminium HG	1,645	Olivine	50-110
Copper A	2,760	Dead burned magnesia	140-210
Zinc	1,014	Zircon	400-490

This certainly gives the *perception* of the much higher value of metals over industrial minerals. Apart from the obvious difference in scale of value between the two sets of commodities, a key issue is the fact that unlike the metal markets whose prices are set by an exchange system (London Metal Exchange), no such facility operates for industrial minerals. In essence, the price of an industrial mineral shipment is negotiated between the buyer and seller.

Moreover, a range of factors come into play that can influence this negotiated price:

- source of mineral
- volume
- grade/end use - ie. quality of mineral, dictated by desired end use of the mineral (some minerals boast up to 50 or more grades for as many end uses, eg. limestone used in cement is much cheaper than limestone used in paper, by maybe \$150+/tonne)
- further processing required
- freight/shipping - can be 50-70% of final delivered cost of mineral
- port handling

- warehousing/storage
- mineral inspection
- insurance
- relationship of buyer & seller

For these reasons, industrial mineral prices quoted in *Industrial Minerals* and *Mineral PriceWatch* for example, will show a range of min.-max prices currently traded for certain grades.

Although not Europe, some figures on the value and volumes of metals and industrial minerals produced in the USA serve to show an interesting picture.

US metals & industrial minerals production volume & value 2003
tonnes;US\$/tonne

<i>Metals</i>			<i>Industrial minerals</i>		
	Volume	Value		Volume	Value
Aluminium	2.7m.	4,000m.	Crushed stone	1,490m.	8,600m.
Gold	266	2,900m.	Sand & gravel	1,158m.	6,366m.
Copper	1.1m.	2,000m.	Lime	18.2m.	1,017m.
Zinc	770,000	664m.	Soda ash	10.6m.	800m.

Source: USGS

These figures illustrate the huge volume of industrial minerals that are required by the USA's industries and population, and whose value is quite considerable and on a par, if not exceeding, that of the metals industries.

The population of the USA is 274m., while the current EU population is expected to rise from 370m. to 480m. with the recent Enlargement. Population centres, and particularly population growth, maintains and drives demand for industrial minerals. The EU is a huge powerhouse, not only for the production of industrial minerals, but in the consumption of industrial minerals, and stands to grow in the future (more on Enlargement later).

An examination of the EU production of industrial minerals is not covered in this paper, and this information is readily available elsewhere, eg. from the British Geological Survey, which has recently published *European Mineral Statistics 1998-2002* (see www.mineralsUK.com for more information).

However, it should be noted that the EU industrial minerals industry is a considerable producer of minerals both for the EU domestic market and for export markets. EU mineral suppliers account for a significant share of the world's production of industrial minerals. Some of the key commodities are highlighted below:

EU minerals production volume 2002 & share of world supply
tonnes

Aggregates*	2,520m.	-
Gypsum	28.2m.	28%
Salt	52.4m.	25%
Feldspar	7.3m.	52%
Magnesite	6m.	30%
Kaolin	5.7m.	27%
Potash	4.5m.	16%
Bentonite	3.7m.	31%
Talc	1.3m.	16%

* sand & gravel, and crushed rock
Source: BGS

These minerals underline the contribution that the EU industrial minerals industry makes to the EU economy.

Another marker, is the fact that many of the world's leading multinational industrial minerals players are of European origin and headquartered in Europe, eg. Imerys (France), SCR-Sibelco (Belgium), Omya AG (Switzerland), Carmeuse SA (Belgium), Lhoist Group (Belgium), Luzenac Group (France), S&B Industrial Minerals SA (Greece), Süd-Chemie AG (Germany), WBB Minerals (UK), and Treibacher AG (Austria) to name a few. There are also many single producers that are leaders in their fields located in the EU.



From left to right: Mr Catteau, Mr Stenneler, and Mrs Delfaux (1st row), and Messrs Vaux and Hieber (2nd row)

However, to get a really meaningful grasp of industrial minerals' contribution to the EU economy, it is surely necessary to focus on the EU consuming market sectors that rely on a consistent supply of industrial minerals. The value of these market sectors fundamentally underpins the role and importance of the EU industrial minerals industry.

It is beyond the scope of this paper to cover all consuming market sectors in any detail, but the following markets are highlighted and suffice to present the picture:

- Ceramics
- Chemicals
- Glass
- Paints
- Paper
- Plastics
- Refractories



Mr Grosspeter (Quarzwerte) and Mr Vidalis (S&B), Mr Andersen (Dankalk), Mrs Lumen (IMA), Ms Bardani (S&B) Dr Quill (Borax Europe), Mr Reuss (Omya Benelux), Mr Klapuch (Emcef), Mrs Brykman and Messrs Anciaux, Simpson and Bream (DG ENTR)

Consuming market	EU contribution	Industrial Mineral
Ceramics	<p>Sales: € 26,800m. Employs: 227,000 World share: 30% production Growth: tiles, 4%</p> <p>Source: Céramie-Unie 2001 data</p>	<p>baddaleyite ball clay borates celestite feldspar fluorspar halloysite kaolin limestone lithium minerals nepheline syenite petalite plastic clay quartz rare earths silica sand soda ash spodumene talc wollastonite zircon</p>
Chemicals	<p>Market value: € 457,000m. Output: € 527,000m. Employs: 1.7m. No. cies. : 25,000 Share of EU manufacturing ind. gross value: 12% Share of EU GDP: 2.4% Other: EU hosts 15 of world's top 30 companies Growth: 3%</p> <p>Source: CEFIC 2002 data</p>	<p>borates celestite chromite fluorspar iodine limestone lithium magnesia manganese nitrates phosphates pyrites rare earths salt soda ash sodium sulphate sulphur zirconia</p>
Glass	<p>Output: 28.8m. tonnes Market size: 28.2m. tonnes Employs: 175,701 Growth: flat glass, 3.5%</p> <p>Source: CPIV 2002 data</p>	<p>borates dolomite dolime feldspar fluorspar kaolin lime limestone lithium carbonate lithium minerals nepheline syenite petalite quartz rare earths silica sand soda ash sodium sulphate spodumene zircon</p>

Paints	<p>Paint sales: 5.4m. tonnes Paints mkt value: € 15,400m. Powder coating output: 360,000 tonnes Powder coating mkt size: 330,000 t Growth: 0.5%</p> <p>Source CEPE 2002 data</p>	<p>alumina trihydrate barytes bentonite brucite celestite chromite diatomite feldspar ground calcium carbonate gypsum huntite-hydromagnesite ilmenite iron oxide kaolin manganese mica ppt calcium carbonate quartz rutile silica sand talc wollastonite</p>
Paper	<p>Ann. turnover: € 400,000m. Output: 91m. tonnes Mkt. size: 82.3m. tonnes Employs: 250,000 Plants: 1,260 World share: 28% paper & board Growth: 1.5%</p> <p>CEPI 2002 data</p>	
Plastics	<p>Employs: >1m. Total sales: € 159,000m. Turnover: € 135,700m. Raw materials turnover: € 29,000m. Market size: 38.1m. EU per capita: 94.8kg Growth: 6% 2000-2002; 3% 2001-2002</p> <p>Source APME 2002/2000 data</p>	
Refractories	<p>Sales: € 3,000m. Employs: 27,000 people Growth: 2-3%</p> <p>Source: Céramie-Unie 2001 data</p>	<p>andalusite bauxite fused alumina alumina chromite dolomite graphite kyanite fused magnesia dead burned magnesia sintered mullite fused mullite olivine pyrophyllite refractory clays silica sand fused silica silicon carbide sillimanite sintered spinel fused spinel zircon fused zirconia</p>

Table: EU consuming markets & required industrial minerals

As can be seen, these consuming market sectors represent important slices of the overall EU economy, and their raw materials consumption is a prerequisite to their performance.

The point is that industrial minerals as critical raw materials support these market sectors and add value to the end products. Although current growth rates for these sectors are moderate,

and will follow the fortunes of the EU economy, the demand for these markets is consistent and will be long term.

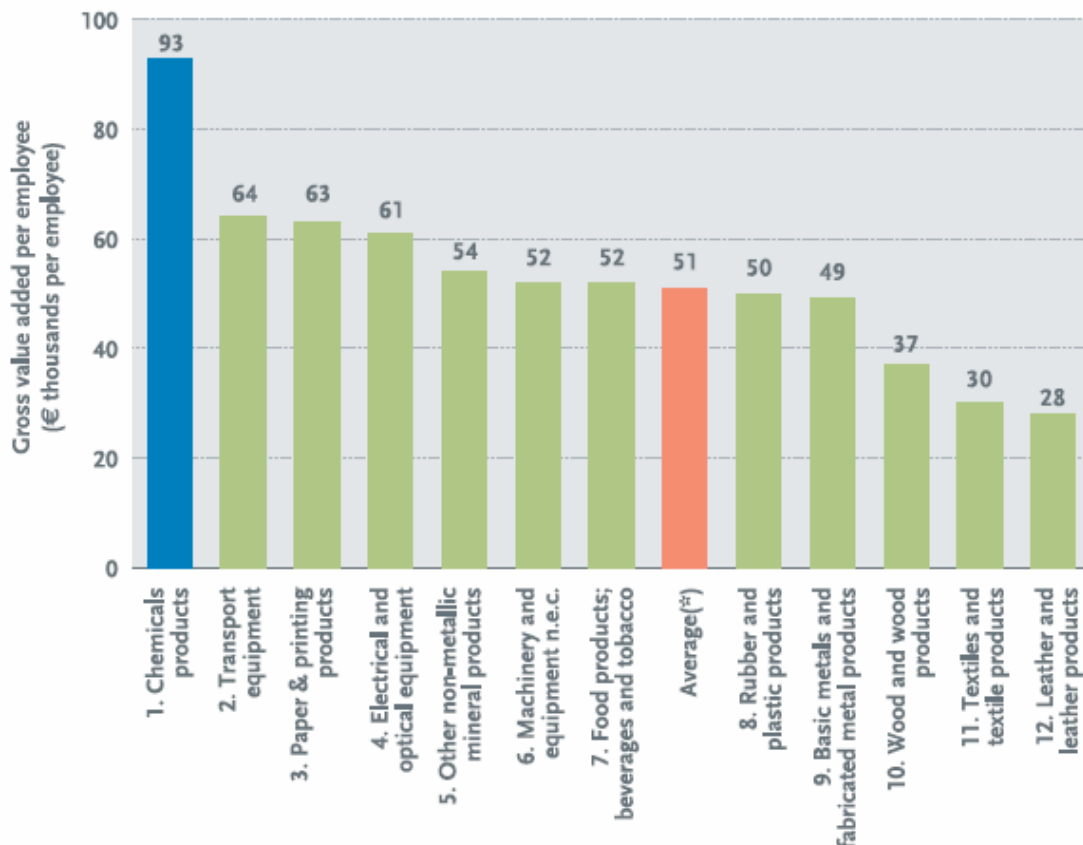
Trying to get a handle on the precise value of industrial minerals to an economy is not always easy. The BGS has published information on how it estimates the contribution of industrial minerals to the UK economy, and serves as a useful example of an EU country as a minerals consumer.

In 2001, some 290m. tonnes of industrial minerals were extracted from the UK (not including marine aggregates). The value of the minerals industry may be measured in terms of its contribution to national Gross Value Added (GVA). In 2001, mining and quarrying of minerals contributed £25,665m. (2.9%; €38,497m.) to the UK's total GVA of £885,000m. (€1,327,500m.). The BGS found that "while the contribution of mineral extraction itself appears to be modest, manufacturing and construction, which are heavily dependent on minerals and metals, together contributed a further £100,000m. (11%; €150,000m.) to the GVA in 2001."

The GVA per employee in the UK's non-energy mineral extractive industry in 2001 was £54,583 (€81,874). This was found to be not only higher than in other primary industry, but also significantly higher than the average for UK manufacturing as a whole, which was £36,587 (€54,880).

The chart below, from CEFIC, which also measures industry sectors according to GVA per employee, helps illustrate the place of industrial minerals, along with the chemicals, paper, plastics, and other sectors in the EU economy.

EU industrial sectors' GVA per employee in the EU economy 2001
Source: CEFIC/Eurostat 2001



"Chemicals" clearly covers an expansive range of products, some of which do not rely on industrial minerals as raw materials. However, it is perhaps one of the most significant consuming market sectors owing not only to the huge amount of chemical products that *do* use industrial minerals, but also because the "chemicals" product tag has been deemed appropriate to a range of products that perhaps might not strictly be considered as chemicals *per se* - see below for a list of products that are represented by CEFIC and each have their own trade association under the CEFIC umbrella:

- Agriculture
- Colourants
- Detergents
- Paints
- Plastics
- Adhesives
- Amorphous silica
- Electofused minerals
- Soda ash
- Sulphuric acid
- Organoclays
- Sodium sulphate
- Titanium dioxide
- Zinc oxide

4. Changing times

In conclusion, having examined why industrial minerals are clearly so crucial to the EU economy, it is worth highlighting some current and future trends and developments that will impact and shape the role of industrial minerals in the EU economy of the future.

a) Enlargement

At midnight on 30 April the EU formally and officially accepted ten new Member States into the fold. Enlargement Day on 1 May 2004 concluded several years of tough negotiations. Enlargement is one of the most important opportunities for the EU as it begins the 21st century. The fifth enlargement of the EU, in terms of its size, to include 8 Central and East European countries alongside Malta and Cyprus is an unprecedented step in the Union's history.

The new Member States are: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

Enlargement will increase the EU's aggregate population from 378m. to 450m. people - second only to China and India, and 160m. more than that of the USA. Germany continues to be the biggest member, with 82.5m. inhabitants. Malta is the smallest, with 387,000.

Perhaps the hottest of all issues have to do with the economic disparity between the current and the new Member States. The per capita GDP of Poland, the biggest accession country, is ten times less than that of Luxembourg. According to 2002 data, the accession states' combined GDP was around 4.8% of the total wealth of EU-15. In other words, the combined GDP of the existing 15 EU members is some €9m.m., while the accession states muster just €500,000m.. The wealth gap is likely to create tensions over financial issues in the short run.

With regard to the impact on industrial minerals it is too early to say, but there are several issues to keep track of:

1. Enlarged population = expanded markets for industrial minerals in general
2. Demand for modern products: certain countries' markets are demanding "western" standard manufactured products = will drive existing EU mineral producers, and prompt new Member State producers to develop and supply required grades to manufacturing plants.
3. New sources developed: potential to develop new mineral deposits within new Member States to supply EU markets, possible reduction of reliance on imports.

4. Shift in manufacturing: potential increase in shift of manufacturing plants to areas of cheaper labour - could influence development of mineral deposits and supply bases.

b) Industrial mineral trade trends

For the last decade or so, the EU has been subject to increasing volumes of low cost imports of industrial minerals mainly from China, but also Russia, Ukraine, Czech Republic, Slovakia, Slovenia, Hungary, and Poland. Some mineral imports, especially from China have been subject to anti-dumping duties, which remain in place for certain minerals, eg. magnesite.

Clearly, for certain countries like the Czech Republic, Slovakia, Slovenia, Hungary, and Poland, their accession to the EU will lift any such duties, and will be welcome by the mineral suppliers of those countries (but perhaps not by those of other EU countries, but that is another debate).

Until the last quarter of 2003, Chinese mineral imports continued to pressurise, and in some cases force out of business, EU mineral producers. Over the last few months, that has all changed, and is down to two interlinked factors:

1. Dramatic increase in freight rates
2. China's growing economy

China's rapidly growing economy is a powerhouse monster. The domestic markets are gobbling up unprecedented volumes of raw materials, iron and steel, non-ferrous metals, cement, glass, ceramics, and above all, energy.

The net result is that there is a shortage of vessels for shipments of Chinese minerals to Europe, and the cost of doing so has gone through the roof. Little respite is expected before the end of the year, and conditions are expected to remain tight for the next 2-3 years at least.

In China itself, shortages and increased costs for power have left many mineral operations on rationed power supply, if any at all. Internal freight problems abound with rail freight prioritised for coal/coke shipments to power plants, and a crackdown on truckload restrictions.

All this means that for the last few months there has been a shortage of minerals from China, and those that have secured some imports, have done so at increased prices. Certain EU mineral consumers are already feeling the pinch and are desperately seeking solutions.

The upshot is that the market climate has never been better for EU mineral producers, and especially those in the new Member States, to take advantage of the opportunity of plugging the gap left by unfulfilled supply contracts from China. Some established producers are already regaining customers they had lost to Chinese material years ago. Other players are looking to reassess the development of mineral deposits within the EU.

c) New markets

Finally, some mention should be made of new markets on the horizon for EU mineral producers. Industrial mineral producers, especially those that have historically served heavy industry mineral consumers that are either maturing or use less raw materials owing to efficiencies and technological improvements, are always seeking to diversify and pursue new market sectors.

Two examples include fuel cells and nanomaterials.

Fuel cells

The rapid development of fuel cell technology is already being seen as offering one of the most exciting opportunities to achieve clean sources of energy. Fuel cells have a wide range of applications such as in industrial, municipal, and residential sectors. But perhaps their highest profile has been in transportation applications (automobiles, buses) and in "portable power" (miniature fuel cells in mobile phones, laptops, pagers, and video recorders).

Chemical companies, manufacturers, and governments alike are taking an active interest in this new technology. But equally so are materials suppliers who are positioning themselves to gain an early competitive edge in this emerging market. With the fuel cell market estimated to reach some \$3,000m. by 2005, followed by a forecast dramatic rise in 2010, little wonder that material suppliers are expecting this sector to be the next big consumer market for their products.

Applications in fuel cells are anticipated for a range of materials that include industrial minerals, in particular borates, zirconia, lithium, graphite, and zeolites. Other materials include ceramics, metals (nickel, platinum), thermosets, thermoplastics, elastomers, and nanofibers.

Nanomaterials

The nano revolution is growing apace in the minerals business with clays and filler minerals subject to processing developments to create commercial grades of nanosize minerals (having a particle size ranging between 1 and 100 nanometres (nm), one nanometre is one billionth of one metre, or 10^{-9} metres).

Minerals currently being developed in this field include clays, talc, titanium dioxide, and calcium carbonate.

Nanomaterials are already seeing use in everyday domestic and commercial applications, and consumption of some 100-150,000 tonnes of nanomaterials is expected by 2006. They have chemical, mechanical, and physical properties superior to those of larger particles owing to their extremely fine crystal size and large surface area.

The potential for new applications and market areas being prised open by this new generation of mineral products is indeed heady stuff, both in terms of the applications themselves and the potential value of the market. Early December 2003 saw President Bush of the USA sign the 21st Century Nanotechnology Research and Development Act which authorises an impressive \$3,700m. over four years for research and development. In 2003, the EU and Switzerland were estimated to have spent \$650m. during the year on nanotechnology research.

Market applications for nanominerals include: wood preservation, marine antifouling, thermoplastics, permanent coatings, environmental catalysts, abrasion-resistant coatings, sunscreens, deodorants, oral care, glass polishing, and semiconductor polishing.



The mineral industry in Europe - the example of Imerys -

By Thierry Salmona
Executive Vice-President
Imerys Specialty Minerals

Good morning ladies and gentlemen,

I will first introduce Imerys for those of you who are not totally acquainted with the company. It has changed quite a bit in the past five years. It may be interesting to hear about what the company is today. Next, I will talk about the challenges currently faced by the EU, as our sector, including Imerys faces the same kind of challenges at a smaller scale. It is interesting to see how these issues are experienced and dealt with at industry level and to come to some conclusion.

About Imerys

Imerys was created in 1880 out of the active assets of the Rothschild Bank in Mining. Among the most important milestones in the company's history were the following: in **1974**, the acquisition of the French company Huguenot Fenal, an event which marked its entry into the clay roof tiles market; in **1985**, when we entered the industrial mineral business with the acquisition of DAMREC; and then in **the early 1990s**, we put strong development emphasis on industrial minerals and acquired significant positions in white pigments, calcium carbonates but also minerals for refractories.

1999 was key milestone, when the new management team decided to refocus the business portfolio on Minerals Processing exclusively with the acquisition of ECC (English China Clays, one of the foremost specialists in industrial minerals) and the correlating divestment of Copperweld (Metals Processing in the US). Since then, Imerys continued to strengthen its value creating growth strategy through both an active acquisition momentum (approx.50 acquisitions since 1999) and dynamic internal development.

It is not easy to describe what exactly is Imerys' business. We nevertheless work hard to help analysts, financial markets, customers, to better understand our business model. In a nutshell, we explain that, from minerals we mine, we develop solutions to improve overall customer product performance and manufacturing efficiency. This definition is not specific to Imerys but to many companies working in industrial minerals.

To be a bit more specific, we think that our key competitive advantages are the following:

- access to scarce mineral resources (first barrier to entry in our business),
- industrial know-how and expertise
- and comprehensive knowledge of end-markets which is equally important and means, direct access to customers.

This was an enormous change in philosophy that occurred in the late nineties. The company moved from a purely mining company to a true marketing company. Marketing and sales skills became as important as pure technical skills for Imerys' managers. A balanced profile is clearly now indispensable for a brilliant career within the Group.

What we do is familiar to most of you. We have minerals; kaolin and calcium carbonates are the biggest minerals in terms of quantity, used in paint, paper, plastics, but also pharmaceuticals. We have feldspar, rare clays and kaolin for the ceramic industry, used in tableware, sanitary ware, ceramics, floor tiles. We have calcined clays, andalusite and bauxite for the refractory market, which goes in furnace walls, steelworks, glass works etc.; some fused alumina that goes to the abrasive market for moulds, saws, and abrasive paper. We have natural and synthetic graphite that is used in the mobile energy market for batteries; we have non-polluting lubricants, and, as everyone knows, the new applications of fuel cells and battery cells in mobile phones; In building materials, we have red clay of which we make bricks and tiles. These are the most advanced part in the downstream market, as here we produce finished products. Growth has been extremely sustainable in the past despite the major market downturn we have experienced in 2001 and 2002.

Imerys is organized into four business groups, Pigments for Paper, Refractories & Abrasives, Building Materials and Specialty Minerals which are very well balanced and can cope with all market conditions

What is very interesting is the growth model used by the company based on both external growth and internal growth. For external growth through geographic expansion, we try to acquire companies that do exactly the same as our company in different countries. We also try to acquire companies operating the same minerals in new markets, or to acquire companies dealing with new minerals. As an example, Imerys was originally present in tableware but not in sanitaryware. The acquisition of ECC gave us a foot in the sanitary ware market. It is the same with the acquisition of Treibacher, which allowed us to enter a new market in minerals for abrasives.

In addition to the external growth efforts, internal growth counts for one third of overall growth. Internal growth is carried out through modernisation and rationalisation - every year carries a lot of restructuring, improvement, regrouping and sometimes closing facilities-, selective capacity increase and new product development. We now put very strong emphasis on new product development. In the business group of Specialty Minerals, we are currently developing new products accounting for a large percentage of the future forecasted growth. So much for Imerys, and I hope I transmitted to you my enthusiasm regarding the company.

Imerys and some major European challenges

Imerys, like the other IMA members, needs to face several major European challenges. Sustainable development is one of these, and I will give you a couple of examples what Imerys did in this area.

Sustainable Development

The first example originated from a crisis and is one where Imerys actually made money. The UK government created a **climate change levy** with a potential cost impact for Imerys of about £ 2 million per year, which is very significant for the operations. We thought this was particularly unfair because we have been acting for a long time in the direction of the Kyoto protocol even before this protocol was in sight and have been able since 1990 to constantly decrease CO₂ emissions (see chart). We considered it therefore extremely unfair to be taxed on that. Our reaction was first to negotiate in liaison with the ceramic industry to put all the very high energy consuming devices under the IPPC Part A standard (IPPC stands for Industry Pollution Protection and Control). This is the highest possible standard one can obtain in the UK. Consequently, some of our devices and facilities now fall under this standard, resulting in a reduced rate. On the one hand we do something for the environment and on the other we save a little tax money.

The UK government also introduced a **trading scheme** in line with what the EC proposed, whereby authorisation certificates for emissions could be bought. Imerys along with BP were among the first to buy these certificates. The improvement of CO₂ consumption was then built into a case, and supported by a new brochure to open dialogue with the government. How can

the government help? Well by reducing taxes. As a result, the 2004 tax bill carries an article that the high energy consuming industries will benefit from a reduced rate. The tax bill was voted in 2004 and is currently filed to the European Commission.

Another example is the **Heathland Project**, in Cornwall, UK. We had a huge tip that was ugly, called Caerloggas Downs. We used 20 million tonnes of soil and mining waste to improve its shape and we re-cultivated it, creating 15 km² of heathland. This way, we succeeded in transforming a former mining liability into a tourist asset, and as such helped the local communities. There are a large number of such examples within the company. We have now put together a global sustainable development strategy in this regard.

Another example concerns **risk management and controlling**, introduced in the French law. It is called the new regulation for financial safety. The law provides that the Chairman of the Advisory Board must sign a report on all the risks that can occur within a company together with all the measures the company is required to take.

We started to make a full inventory of all these risks and decided on the strategic risks that put the company in danger and we built in an entire programme to overcome these risks. We did it in a very pragmatic way. It protects the company to the level needed without putting the entire operational activities in jeopardy. We all need to keep our operational employees motivated, without drowning them in paperwork.

Competitiveness. I looked at indicators stemming from the Lissabon's strategy in Europe, but is very difficult to find an example of how we cope with these indicators and evaluate ourselves. One indicator is however very simple to grasp: In the last three years, in spite of declining sales (coming from declining markets, restructuring, declining dollar value - we sell 26% in dollars) we were successful in increasing the company's performance (see chart), which means the company has been working heavily on company's internal competitiveness and productivity.

How was this done? Systematic factory benchmarking to put in place best practices in every factory; concentration of production in most profitable operations (there has been restructuring and redundancies), turn around and discontinuation of loss-making activities (e.g. the dimension stone activity), strategic pricing for value:- a universal problem we have is that minerals are rocks, so consequently, people tend not to understand why they should be expensive. A customer who produces plastic film, thinks that their products should be extremely inexpensive because they are basically only resin, water and rock. In his mind the rock should be the cheapest part of the deal. It is therefore a difficult task to explain that these products are sophisticated products and not purely mine commodities. We focus on value added market segments because that is where we feel we can do business, utilising our R&D and innovation capabilities.

Innovation. We have been introducing innovation in every business group of the company. It is hard to imagine that you can have innovation in building materials, but we have. For example roof tiles are not breaking any longer from frost because the body is now non-porous. Imerys also invented, 10 years ago, an individual support (kiln furniture) to prevent the deformation risk that exists during firing of clay roof tile. This new technology is now the industry standard. We also have a self-insulated brick, a rectified horizontal brick (the only one on the market), as well as photovoltaic roof tiles. In Specialty Minerals, we have clays that are minimising cracks for the sanitary ware industry, bone china-like bodies without bone, new graphite for lithium batteries for computers and mobile phones, and we have new pigments. In Pigments for Paper we have special pigments for inkjet printer, jet printers, for luxury magazines, and we have new kaolin for printing on light paper. These are small innovations improving the products of our customers. The same is true for refractory and abrasives.

Beyond these small innovations, we are trying to find more fundamental innovations (see consultant matrix) **Process novelty [knowledge]** from minor changes to totally new products

via simulating all the minerals, etc. That goes from an extension of existing markets to totally new applications. This project goes rather in one or the other direction. We are trying to work with the group PMGI (Performance Minerals Global Initiative) in charge of creating new products for new applications based on all minerals that the company could acquire down the road.

Concentration

Another element very important to the European Commission and in the European Union is concentration. This is a touchy item. In the industrial minerals industry it is easy to see that we have many challenges ahead:

- 1) access to resources is extremely (and increasingly) expensive,
- 2) we need to develop increasingly sophisticated technologies,
- 3) environmental constraints are greater and greater,
- 4) communities where we operate are increasingly demanding,
- 5) our customers are increasingly demanding (more service, type of specification, innovation, etc.,
- 6) and hence consistency - people would like to pay for a product that is just mined from the ground and that is consistent as a chemical.

All these challenges initiate a size and scale effect in the industry. The question is: "Does the future belong to global players that have the capacity to implement these technologies ?

Enlargement

I looked at three minerals familiar to us: clays, kaolin and feldspar. The growth of production between 1998 and 2002 in European Union (15) has been 1.3 % per year on average and in the new Member States 8.5% on average (6-7 times more growth!). This sounds like an opportunity and room for improvement. The quality is not yet matching what the rest of Europe is doing, and there are more opportunities for technological transfer, quality improvement and for the industry in general because there are abundant mineral resources over there.

In the western countries, we have a significant share of the market, but in the new Member States, our share is much smaller, and thus there is a lot of opportunity for growth. Imerys has facilities in the Czech Republic (fused alumina, bodies), Slovenia, Hungary (kill furniture).

As a conclusion, I would like to stress again that the environment is increasingly challenging for us- all stakeholders have increasing expectations - customers, shareholders, employees, communities -, increasing demand for technical excellence, for perfect service, for risk control, for health and safety, and all this makes our business more challenging and exciting.

My conviction is that few companies will be able to meet all these challenges and therefore there will be changes in the industry as there has been in the past.

Reflecting about that, I thought about a poem by Rudyard Kipling about how difficult it is to be a man. I tried to mimic it:

*If you can dig large holes and reclaim them too
If you use energy and reject no CO₂
If you develop your sales and reduce pollution
If you reduce your costs and increase innovation
If you take risks and protect everyone else against
If you increase your taxes as well as your gains
If you increase productivity and still maintain hope
You'll be a mining company in Europe*

I strongly advice you to go back to the original which is a far better poem. Thank you very much!



Major Mining Accidents and EU Environmental Policies

By Mr Timo Mäkelä

Director Directorate G
DG Environment, European Commission

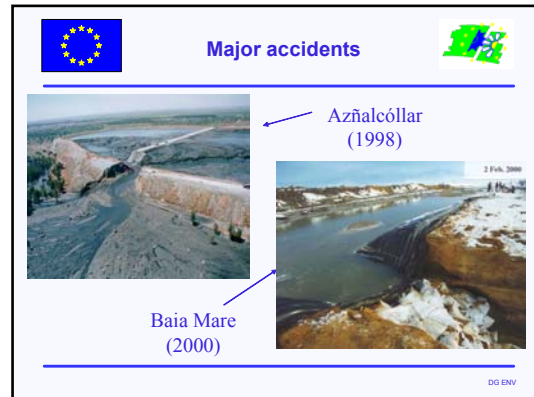
Introduction

First, I would like to congratulate IMA on their 10th Anniversary, which is certainly a milestone event. I am pleased that the theme of the conference is "Industrial Minerals growing with Europe", which refers to a sustainable development of the sector and means that industrial minerals play and will continue to play an important role in Europe. The EC recognises that environmental protection is an essential part of your activities and there has been a constructive dialogue with DG Environment on recent issues. In my presentation, I will address the past, present and the future, and issues to be aware of.

THE PAST: Two major accidents with significant environmental effects and involving mining waste have triggered EU action:

The first one happened in Azñalcóllar, Andalucia, in 1998: Following a dam burst, 2 million m³ of tailings from mineral processing and 4 million m³ of water contaminated with heavy metals were released into the Guadiamar river - About 4500 ha close to the Doñana natural park were polluted.

The second one happened in Baia Mare, Romania, in 2000: Following a tailings pond burst, about 100.000 m³ of waste water containing up to 120 tonnes of cyanide and heavy metals were released into tributaries of the Danube river, causing acute transboundary pollution.



Other major accidents in the past with large human, environmental and material casualties were the collapse of a heap of inert waste from a coal mine in Aberfan (Wales) in 1966, and the failure of a fluorite tailings dam in Stava (Trento, Italy) in 1985.

These major mining accidents increased public awareness of environmental and safety hazards of mining activities and highlighted the need for a review of EU environmental policy in this area. This is particularly important in view of the enlarged EU.

Commission commitments

A first Communication was issued by the Commission on "Promoting Sustainable Development in the EU Non-energy Extractive Industry" (COM(2000)265 Final). It highlighted that "One essential requirement for achieving sustainable development is the integration of

environmental concerns into every stage of an operation from planning stage, to operational, site restoration and aftercare."

The Commission Communication on 'Safe operation of mining activities' reviewed the two major accidents and EU legislation applying on mining waste and identified 3 priority actions:

1. Revision of the Seveso II Directive to include certain mining activities;
2. a Best Available Techniques (BAT) document on the management of waste-rock and tailings;
3. a legislative proposal on the management of mining waste.

The European Parliament, by its Resolution of 19 June 2001, welcomed this Communication and strongly supported the case for a Directive on waste from extractive industries.

The 6th Environmental Action Programme (EAP) calls for the development of measures on mining waste and for the promotion of sustainable management of extractive industries with a view to reduce their environmental impact.

Amendment of Seveso II (Directive 2003/105/EC)



Council Directive 96/61/EC on the control of major-accident hazards involving dangerous substances (Seveso II Directive) excluded extractive activities from its scope.

European Parliament (EP) and Council Directive 2003/105/EC, adopted on 16/12/2003, has amended the Seveso II Directive by, *inter alia*, incorporating in its scope chemical and thermal processing operations of minerals, as well as tailings disposal facilities (tailings ponds or dams), involving dangerous substances.

BAT Reference Document (BREF)

This document has been prepared under the auspices of the IPPC bureau of JRC (Seville) with the assistance of a Working Group of representatives from Member States, Industry, and NGOs.

The BREF covers, *inter alia*, the following industrial minerals: barytes, borates, feldspar, fluorspar, kaolin, limestone, phosphate, strontium, talc, and potash. The work was completed in March 2004. A formal adoption of the BREF is forthcoming. It is to be used in connection with the implementation of the future directive on extractive waste.



BAT Reference Document (BREF)

- **Scope:** Management of tailings and waste-rock for
 - ◆ 14 metals
 - ◆ 10 industrial minerals
 - ◆ coal, oil shale
- **Purpose:**
 - > Help prevent accidents related to tailings dams
 - > Optimise "day-to-day" performance of tailings and waste-rock management by being a guide for
 - ◆ authorities
 - ◆ industry
 - ◆ interested public

DG ENV

Proposed Directive on extractive waste

Extractive activities generate waste (such as tailings, waste-rock, overburden or topsoil) which involves large volumes (around 29% of total waste in the EU annually) and may have significant environmental and health effects, especially in case of accidents.

The Commission's proposal for a directive on the management of waste from the extractive industries (COM(2003)319 of 2.6.2003) provides for measures that are proportionate to the risks involved and covering the planning, licensing, operation



Proposed directive on extractive waste

- Covers all **waste from extraction and processing of mineral resources**
- Aims at
 - > preventing or reducing **environmental and health effects** from management of waste facilities throughout their life-cycle.
 - > preventing **major accidents** or minimising their consequences
- Measures are to be based on **BAT**
- **Stand-alone** Directive to ensure legal clarity

DG ENV

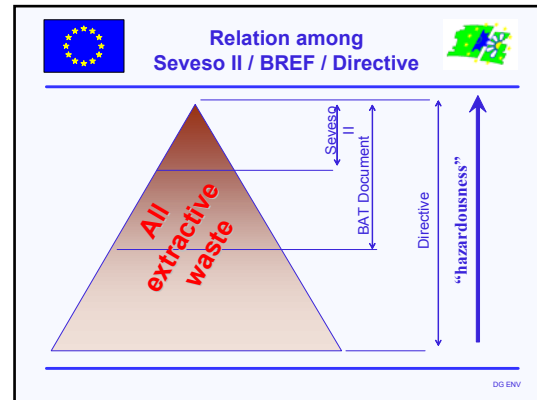
and eventual closure of waste facilities (heaps and tailings ponds). Emphasis is put on stability and on the prevention of water and soil pollution. Major-accident hazards will be covered for facilities other than those covered by the amended Seveso II Directive. The proposal is currently going through the Co-decision process: the 1st reading in the EP was completed end of March 2004, and discussions in the Council working party started in February 2004.

Relation among SEVESO II / BREF / Directive

The three initiatives together will provide a comprehensive and coherent framework for the safe management of waste from extractive operations and will promote sustainability of the sector.

Further information can be found on the Commission website:

<http://europa.eu.int/comm/environment/waste/mining.htm>.



Let us now turn to the future and look at what you should be aware of and follow very closely. I hereby refer to the 6th Environmental Action Programme (EAP) published two years ago. As a policy guided document, it provides a basis for the EC's activities and actions. Amongst others, the EC will need to come up with thematic strategies for the next 10 years on eight to ten important environmental issues. Those relevant to your activities are the following:

1) The Thematic strategy on waste prevention and recycling

The modernisation of the legal framework on waste would include giving waste legislation a greater focus on environmental impacts as well as clarifying certain definitions. *Note that there will be no fundamental review of the definition of waste.*

A common approach to the prevention of waste generation will be developed, i.e. by asking Member States to clearly include waste prevention in their waste plans and by adopting a recommendation on prevention instruments.

Concerning new ways to promote the recycling of waste, the material-based approach outlined in the Communication "Towards a Thematic Strategy on the prevention and recycling of waste" (COM(2003)301 of 27.05.2003) does not target mineral waste (priority will be given to paper & board, plastics & rubber waste prevention).

One waste flow for which there are substantial demands for an EU directive is construction and demolition waste (C&DW: 22% of total waste). However, this is a rather "local waste" as it is costly to move these low value materials over long distances and intervention at EU level would need to be well justified. Furthermore, the implementation of the Landfill Directive should have a positive effect on the development of recycling of C&DW.

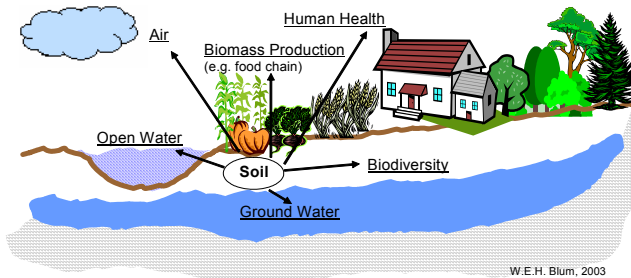
The Communication "Towards a Thematic Strategy" emphasises the importance of using economic instruments such as landfill taxes. Although it is not likely that the Council would reach unanimity on a proposal for an EU tax, the Commission will continue to encourage member states to develop such instruments.

Note: The development of this strategy happens under my responsibility and should be delivered by April 2005). There are links to your industry and you should therefore be sensitive about it. Although your sector will not be in the spotlight, there will be pressures on you as operators to reduce the generation of waste.

2) Thematic Strategy on the Sustainable Use of Natural Resources

This strategy aims at setting a framework that allows economic growth without further damage to the environment. The primary concern is the environmental impacts resulting from resource use. It makes use of a life cycle approach to the impacts of resources use (extraction, products, recycling and waste). The Council conclusions of March 2003 call for "overall and sector-specific decoupling objectives."

Key features of Thematic Strategies:
Holistic - integrated – cross sectoral approach



The first EC Communication "Towards a Thematic Strategy" (COM(2003)572, 1.10.2003) was welcomed by the European Council, European Parliament, the European Economic and Social Committee (EESC), the COREPER (CoR), and NGOs such as the European Environmental Bureau (EEB).

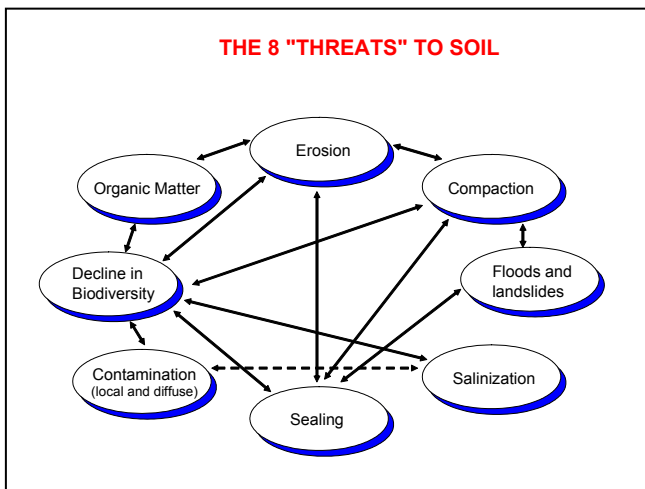
The Thematic Strategy on the Sustainable Use of Natural Resources should set the general orientation for other initiatives (waste, products etc.).

Sectors are asked which possibilities they see to reduce impacts and which policies they need to support this (via 2 Working Groups).

The conclusions of the work so far are that the sector is not facing a lack or depletion of resources and there is an emphasis on the life cycle approach.

3) Thematic Strategy on Soil

Soil is a cross-cutting issue linking water protection, waste management, planning policy, agricultural production, transport infrastructure etc. The Soil Thematic Strategy attempts to link these issues in a coherent and sustainable framework. The approach will therefore become holistic and cross-sectoral and look at impacts in a wider sense (see slide) as these are varying per region. The proposal is expected mid 2005. The extractive industry is potentially concerned by the Strategy because it needs to access the subsoil in order to extract the materials and minerals to do its business. It therefore needs to be sensitive to it. The Strategy is about the long-term sustainable protection of soils taking into account the economic development of society.



The Commission Communication of April 2002 (Towards a Thematic Strategy on soil protection) highlighted eight main threats to soil protection.

The extractive industry may be locally contributing to magnifying some of these threats, for instance the decline in biodiversity, erosion and local contamination. There is a need to address and inverse these soil threats and the extractive industry can be a partner to regulators.

Conclusion

These are the regulatory developments and challenges you may expect in the months ahead. Seen as a whole, the initiatives addressing mining wastes will provide a comprehensive framework for the sound management of such materials across the EU. Furthermore, the strategies that are currently being developed on waste prevention and recycling, sustainable use of resources and on soil, should give a further boost to sustainable development in the extractive sector. Please be aware that we want to work together with industry. We recognise your role in Europe and your need as an industry to flourish in the European economy.



The New Chemicals Policy (REACH)

- an MEP's views on the upcoming
Parliamentary debate

by Elly Plooij- van Gorsel

*Member of the European Parliament
Rapporteur on REACH in the Industry Committee*

Ladies and gentlemen, Mr President Talmon, Mrs Secretary-General Wyart-Remy,

Let me first congratulate you with your 10th anniversary and I am proud you celebrate that here in the temple of democracy, the European Parliament!

Thank you very much for inviting me here this afternoon to comment on the Parliamentary debate on the new chemicals policy. The European Commission has launched its final proposal on Registration, Evaluation, Authorisation and restriction of Chemical Substances (REACH) in October 2003. Ever since, there has been a fierce debate within Parliament whether the EP's Environment committee or the Industry committee should deal with this legislative proposal. At first, our Conference of Presidents referred REACH to the Environment committee but the Industry committee contested this decision, as did the Legal Affairs Committee. The result of this 'intraparliamentary competition' is that the Environment committee now has to work together with Industry and Legal Affairs on the REACH proposal in the so-called 'enhanced Hughes-procedure'. Next to that, other Parliamentary committees will deliver an opinion.

Why then did the Industry committee contest the Presidents' decision in the first place?

In this House, Chemicals' legislation has always been referred to the ENVI committee, as a rule. However, the REACH proposal is all about industrial policy. The chemicals industry is *the* key manufacturing industry in Europe. There are over 25,000 chemical companies in Europe, the majority of which are small and medium sized enterprises (SMEs). REACH however does not merely affect the chemicals industry, but also their **downstream users**. I don't need to tell you this of course, as the **minerals industry** is one of many downstream users of chemical products. In short, the entire European industrial spectrum is affected! The REACH proposal has consequences for production methods as well as choice in raw materials and intermediates. Ladies and gentlemen, in my two terms as MEP I have never seen a legislative proposal which affects industry more than this one. It is therefore an improvement that the Environment committee has to work together with Industry and Legal Affairs. I am glad about this because this way, industry and consumers are **guaranteed** that Parliament will respond to the Commission proposal with a **balanced view**. The Member States also deal with REACH in both the Competitiveness and the Environment Council. Industry concerns are therefore well taken into account.

I am very happy that on behalf of the Industry committee I have been appointed rapporteur on REACH. In February I have produced a Working Document which is supported by all main political Groups in the Industry committee.

I welcome the Commission's proposal as it simplifies current chemicals' legislation which constitutes today of more than 40 Directives. These Directives are sometimes contradicting each other so some clarification is needed. One must be a well-trained lawyer to make any sense of the labyrinth of rules, so you can imagine the difficulties for entrepreneurs who actually have to deal with the legislation. **Simplification** of the rules will therefore benefit the many SMEs that constitute 98% of European chemicals manufacturers and end users. **Harmonisation** of the rules themselves and implementation of them will lead to a much needed level-playing-field in Europe. However, the Commission pretends to protect human health and the environment whilst maintaining competitiveness and innovation with REACH. **In my view, the equilibrium in the proposal leans too much towards environmental protection to the disadvantage of competitiveness.** With my Working Document, I aim to restore that equilibrium. The registration requirements are in its current form too heavy a burden for European companies to comply with and remain competitive at the same time. Therefore, if not amended, **REACH will certainly lead to major job losses throughout the entire industrial spectrum.** As legislator and Liberal, I am compelled to remind the Commission of the Lisbon objectives to keep industrial activity and jobs within the EU.

So in which areas can we find room for improvement?

Prioritisation

The answer to that question lies, firstly, within the scope of REACH. According to the proposal, producers and importers need to register a substance when it enters the European market in a volume of 1 tonne per year or more. Based on this, industry will make a cost benefit analysis to decide whether to produce or import the substance at all. For many substances and products, the costs of registering and testing will turn out too high. Thus products will leave the market. SMEs in particular will be confronted with a reduced supply of substances. This could result in a withdrawal of end products SMEs specialise in, which inevitably leads to job losses. I agree with the Commission's objective to identify chemicals that pose a risk for consumers. However, the proposed methodology is not proportionate to the objective. Registering chemicals based on the volume of import or production means that some 30,000 substances need to be registered at a foreseen Agency. We know for a fact that the majority of these substances are harmless. Sheer logic implies that we should concentrate on chemicals we either do not have sufficient knowledge of or which pose a real risk. **A risk-based approach instead of a volume-based approach would be far more workable and effective.** Risk for consumers is not related to volume, but related to the extent a dangerous chemical can be released. Intentional release should therefore be the focus, instead of tonnage.

We also have to look carefully not to reverse the intended simplification of rules by making new rules which overlap with existing ones. This is also relevant for industrial minerals. The industry would like to exclude minerals, ores and concentrates from the scope of REACH, otherwise it would overlap current EU environmental legislation. This is something that should be examined and addressed by the Industry committee.

A central role for the Agency

Despite the simplification of rules, REACH still lacks workability due to a dispersion of responsibilities to various entities. The Agency (to be established in Helsinki) will be responsible for registration. Evaluation however is foreseen as the competence of Member States. This might very well lead to a distortion of the internal market as Member States could measure with different sets of data requirements. Moreover, there will be a risk that our ten

new Members will not have the expertise in time to perform this task. I therefore believe that the European Chemicals Agency should not only have powers at registration level, but also at all decision-making levels in REACH, including the evaluation level which the proposal leaves largely in the hands of Member States.

Furthermore, membership of the Agency's expert committees should be based on expertise rather than on nationality. A single European body with independent experts and transparent procedures is the biggest guarantor of a level playing field in Europe.

Relocation of jobs

Ladies and gentlemen, we have to be cautious not to scare productive European companies away from Europe by issuing severe legislation. If the scope of the proposal will not be reduced, European companies will shift their production from Europe to other parts of the world, most notably China. During the Mission with Parliament's China delegation in March of this year I spoke to CEOs of several European companies in Shanghai, among these three leading chemical companies. What became crystal clear is that the Chinese authorities are already anticipating on the implications of REACH. China fears the EU will turn into a 'Fortress Europe' and is already setting up a central lab, funded by the government, where tests on chemicals will be conducted. Hence companies can fulfil registration and test requirements very quickly, and to lower costs than European companies. In the EU, industry must bear the costs itself. This way, companies in China remain more competitive compared to their European counterparts. European CEOs anticipate on the new conditions in Europe and China as well and have announced they won't hesitate to relocate production activities to China if conditions there are more favourable. An unnecessary transposition of jobs out of the EU is not what European policy makers should strive for in my view, which is why I have argued for amending the REACH proposal in such a way that industry will be able to work with it effectively.

Next steps

This being said, how will the discussion in Parliament develop, taking elections and enlargement into account?

I explained earlier that three Parliamentary committees are working on REACH. These committees have agreed that no decisions will be taken during the current legislature. I think that is a wise decision, as the REACH proposal has a huge impact on European industry and this should not have been rushed through in one reading. So my Working Document is a base for the next ITRE committee to work from. They either take it or leave it. And I think they will take it, as it already received support from the main political Groups.

The Industry Committee has requested the Commission to come up with three Impact Assessments: on the supply chain, innovation and the situation after enlargement of the Union. The Commission will present these results to the ITRE in autumn.

I think that the future MEPs, especially those from accession countries, will have to bear employment in mind. I trust that keeping European industrial expertise and jobs within an enlarged Europe will dominate the discussion on the legislature to come.

Thank you for your attention.



European Social Dialogue

The View of the Unions

By Jean-Pierre Klapuch
Deputy Secretary General
EMCEF

Ladies and Gentlemen,

First of all, I would like to thank IMA for having invited EMCEF to this conference.

EMCEF is the "European Mine, Chemical and Energy worker's Federation" and represents the employees in this sector. EMCEF is a young organization which was created in 1996. It has however a long union history in the mining, energy or chemical sector. EMCEF is the sole organisation which represents the whole mining sector, including both the underground and open-pit mines. For all sectors, we represent today 2.5 to 3 million employees from 32 European countries. We pursue a rightful place for social aspects in European policy-making. Too often we notice that this aspect is avoided or comes last in the decision-making processes. We all know that the social consequences of several European decisions - either through Directives or other regulations - often have disastrous consequences for the workforce.

In the mining sector, there are many cases where consultation of the employees does not take place. One concrete example is the Raw Material Supply Group (RMSG) on which EMCEF only participates since two to three years.

Faced with all these challenges, what attitude should we adopt? There have been a number of tools, such as the Safety & Health Committee for Mines and Other Extractive Industries (SHCMOEI), which disappeared with the ECSC (European Coal & Steel Community) Treaty. We still do not know how the integration will be carried out in the Advisory Committee for Health & Safety at Work, even though it has been promised to us that our specificity would be taken into account.

Today, our sector has nevertheless a useful and effective tool at its disposal: sectoral social dialogue. I want to thank DG Employment & Social Affairs for their role in the creation of this forum. We have indeed been quite active since the Commission Communication in 1998 and the disappearance of the ECSC Treaty, to formalise this social dialogue. Today it has become a reality: the Committee is operational and it is with great interest that we supported IMA' participation in this Committee.

Today, the Committee is constituted of EMCEF representing the work force and four employers' organisations representing the mining sector: EURACOAL (solid fuel), APEP (potash), EUROMINES (mines & metals) and, of course, IMA-Europe (industrial minerals).

In EMCEF, we consider social dialogue as an essential element for the success of our extractive industries. Our problems are so vast and diversified and we have so many attacks to face, both on the economic and on the environmental level. It speaks therefore for itself that these

questions are dealt with by industry and its employees. And who knows the situation better than the social partners and is able to give concrete and positive answers?

The Committee is currently discussing several issues, such as

- The exposure limits for NO and NO₂
- The Mining Waste and Water Framework Directives;
- Continuous training
- Directive on Emission Trading rights, etc.

There are, of course, issues for which employers and employees' interests are the same, but there are also some divergences. To name an example: the implementation of a Miners' Convention or European Charter. But the positive aspect is the acceptance of a debate and that we are discussing it.

The social dialogue Committee also organises conferences throughout Europe with the financial support of the DG Employment & Social Affairs. These allow to be closer to the issues and to increase the number of participants to the debate. Themes so far have been Sustainable Development, Information and Consultation and European structural funds.

The arrival of the new member states have played a role in our debates, and even before 1st May 2004, they have been integrated in our discussions.

I think I have expressed the essentials of our concerns and strategy. Thank you for your attention and once again, thank you for your invitation. This can also be considered as social dialogue in practice.



Messrs Price, Kirby, Whitelock and Bures.



Messrs Rivet, Crespon, Vaux, Hieber (1st row) and Mr Roeser (2nd row).



European Social Dialogue

The EU Social Policy Agenda

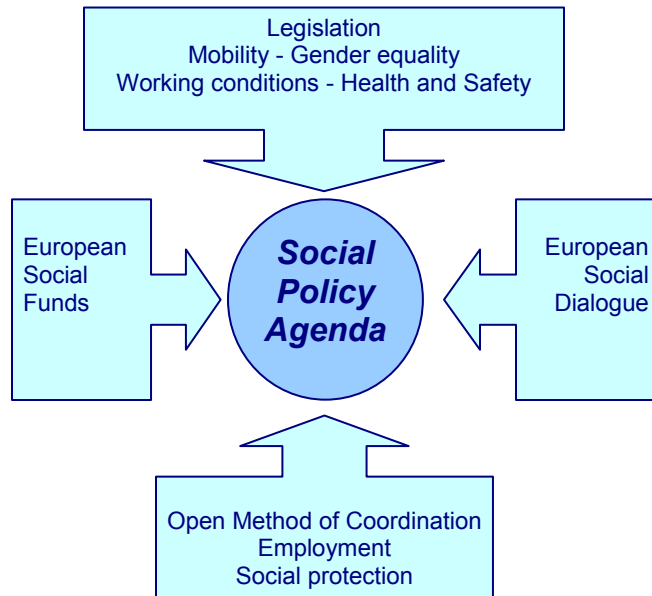
Mr Jackie Morin
Head of Unit
DG Employment and Social Affairs
European Commission

Social policy is a key component of the EU model. In decision-making, the EU social policy agenda applies four tools. They are complementary, reinforce each other and permit to give proportionate and flexible answers to the challenges Europe face today.

Social progress is, next to economic progress, one of the prime objectives of the Union.

There are two aspects to social policy:

- Improving internal cohesion through financial solidarity and through establishing minimum standards.
- Creating the conditions for fair competition, i.e. transparency and equity, built on diversity to enrich the national practices (benchmarking).



Challenges

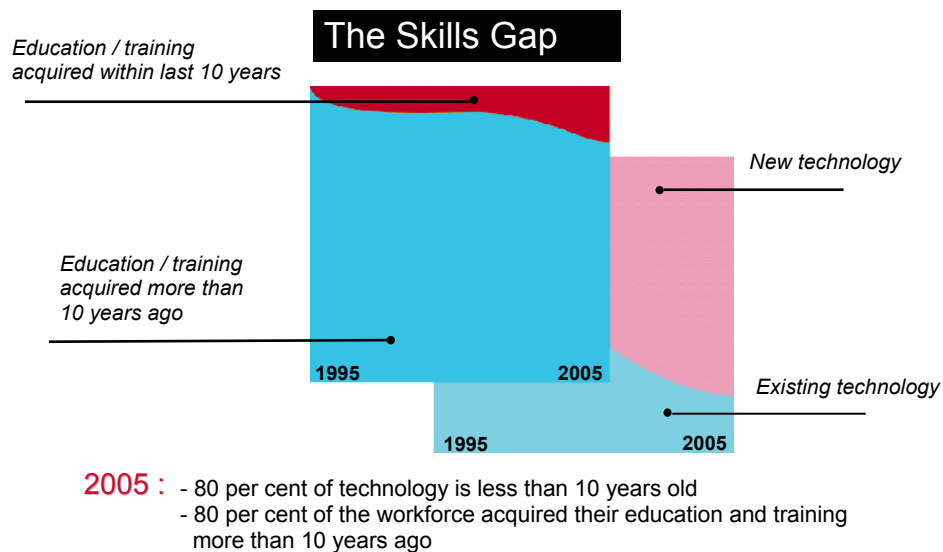
The EU today is facing a number of challenges, which necessitate an adaptation of our systems. New types of working methods are being developed that are linked to new consumer behaviour, the development of the service sector and the better conciliation between professional and personal life.

During the last years, the European Employment Strategy (EES) stimulated an adaptation of the EU labour market to limit the obstacles to the development of new forms of labour and to offer adequate protection for workers. Following the adoption of EU Directives on part-time work and fixed-term contracts (negotiated by the social partners), the development of these forms demonstrates that the EU labour market has found a new balance toward more flexibility: Part-time work represents 18% of employment today compared to 13% for fixed-term contracts. The Commission proposed a similar frame for temporary work (i.e. better conditions and equal rights for the workers).

Today's employment situation is of course different from yesterday's. In this context, the ability to quickly react to change and a reorganization of the work are essential. This concerns forms of work, work relations, as well as the diversification of the employee's status within the company (short-term or fixed-term contracts, temporary contracts, outsourcing, sub-contractors, ...)

The Skills Gap

The real challenge today in Europe is the ability to adapt to the fast changing technological environment. Qualification needs are highly affected by the fast evolution. The rhythm of re-qualification of the workforce is insufficient compared with the current needs. The best protection for workers in Europe today is to offer them a good employability, a good capacity to find a new job in case of restructuring or change of activity. Adults' participation in vocational training has improved in the last years: from 5.2% in 1998 to 8.5% in 2002. However, half of today's workforce has no access to vocational training. This remains a main challenge, especially in the context of the Lisbon strategy toward the knowledge society.



The workforce is the most important investment project in Europe for the next ten years

The demographic evolution in the EU that will not be affected by the future enlargement, calls for immediate action in the field of active ageing. Today, less than 40% of the people older than 55 years are employed in Europe. The Barcelona objective is to increase the average exit age by 5 years before 2010. During the last 50 years, we have reduced the working life by 10 years and increased life expectancy by 15 years.

The Lisbon Strategy

The EU answer to these challenges is the Lisbon strategy. The European answer to the globalisation of the economy should not be found in the reduction of social investments. Europe has a chance in international specialisation if it makes best use of its resources: human capital, innovation, research. Lisbon fixes a strategic goal for the EU: i.e. to become the most competitive area in the world, based on the knowledge society. That means more and better employment, social cohesion and economic efficiency. The complementarities between these three pillars is essential for the success of the strategy.

Contribution by the Actors: CSR & social dialogue

Today, social dialogue is highly recognised at EU level within two articles of the Amsterdam Treaty (Articles 138 and 139). These articles give a considerable margin of action to the European social partners:

- the right to be consulted on any proposals from the Commission in the social field;
- the right to propose to find a negotiated answer to the question raised by the Commission in its consultative documents.
- The capacity to see a negotiated agreement being implemented by a Council decision. This means a general implementation of the agreement to all workers and all enterprises.

The Commission has the duty to promote the social dialogue and to take any relevant action to stimulate dialogue. This very strong and innovative role was accompanied by the development of European actors in the industrial relation field. Today, both at cross-industry and sectoral levels, social partners are representing most of the existing national members and are able to get mandates for negotiations and actions. To be considered as representatives, the European organisations should be represented in all or most of the Member states and be composed of national organisations, which are themselves considered as social partners under their national systems. The structuring of the European actors is not finalised but a long way has been covered during the last 10 years.

European social dialogue is developed by European organisations recognised by the Commission as representative bodies. Nowadays, around 50 organisations are listed and can take part in the social dialogue if they so wish.

The social dialogue provides the social partners with a means to give their opinion. The Social Dialogue Committees offer a privileged place for the consultation of the social partners on all issues related to Community initiatives. In parallel, it is a way for the Commission to improve its proposals. It is thus a part of good governance.

Social dialogue is also a way for the social partners to develop their own initiatives. It is a free and open forum where social partners can, by discussion or negotiation, settle problems related to industrial relations.

The institutionalization of social dialogue at community level (1985-1993-1998) gave a boost to the participation of the social partners in the community policies. At the same time, we noticed an increase in power of the bipartite interprofessional and sectorial dialogue.

There are three categories of tools:

- Alert tools: opinions or declarations through which the social partners express a common position;

- Orientation tools: guidelines, codes of conduct, orientations, frames for the definition of guidelines and orientations, allowing for a follow-up in the format of reports or seminars;
- Tools of a conventional nature: agreements implemented under Article 139 of the Treaty or on an autonomous basis.

The EU Social Dialogue Profile

The New Europe, which will not be the 15 Members plus 10, but a new entity of 25 members, will raise new questions and challenges.

In the social dialogue field, enlargement has several consequences which are linked to the specific history of the new Member States. There is a tradition of tripartism and a weakness of bipartism; an absence of real autonomous social dialogue, especially at sectorial level, and the social partners' structure is weak. Taking account of the current development of social dialogue, and in particular of the new role of national organisations in implementing the European agreements, enlargement should be taken very seriously by the EU social partners.

Social dialogue at European level has reached today a real degree of maturity. It is a central tool for modernisation, innovation and managing change, and we need the involvement of the social partners to succeed in the Lisbon strategy.



Concluding remarks

By André J. Talmon
IMA-Europe President

To conclude, I want to see a few words about the future, and the challenges that lie ahead. Today, it has been clearly illustrated that industrial minerals are an important sector for Europe. This must indeed be said so that the European institutions will recognise this importance (if they have not yet done so).

But what are the challenges that lie ahead? One issue we definitely have to face is demography. The population grows steadily, limiting the space available for extraction activities. As our industry's core business is about extracting products from the earth, we will be confronted increasingly with people living around quarries. Our sector thus faces an increasing potential of opposition, which we wish to avoid at all cost. It speaks for itself that legislation must be fully implemented to avoid any legal problems, and we must respect the norms in order to survive and continue our activities.

Another important item is the indicators we spoke about today. We wish to use facts in our discussions with the EC and EP, which implies access to data. These figures are often not easy to find, so we will need to create a data-base. This is very important for the future of our industry.

A third important element for the future is social dialogue, which should overall be recognised and accepted as an important part of Sustainable Development. Our sector needs to start thinking about what we want from Social Dialogue, our position and opinion, and our expectations. Within IMA, we therefore need to start a reflection to arrive at a common vision of social dialogue. The representative of the workers has certainly an opinion on it, but we, employers also need to develop a position so that we may start a constructive dialogue.

I thank you all for coming - I listened with much interest to every presentation and the debates that emerged. I also want to thank the team once more for the organisation of today's events. I look forward to seeing you later tonight at the gala dinner where we will welcome another guest speaker, Mr Karel Van Miert, with whom we will continue to celebrate our 10th Anniversary.

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Mrs Michelle Wyart-Remy is Doctor of Sciences (Organic Physical Chemistry) from the Free University of Brussels. Since 1979, she is the Secretary General of EUROTALC (25 years), and of IMA-Europe since its creation in 1994. The Industrial Minerals Association - Europe represents the European producers of Bentonite, Borates, Calcium Carbonate, Diatomite, Feldspar, Kaolin, Plastic Clays, Silica and Talc. Mrs Wyart-Remy represents IMA-Europe on several committees such as on the EC's Raw Materials Supply Group, UNICE's Chemical Agents at Work working group and many more. She has made numerous presentations at international conferences on the link between regulatory developments and scientific research related to crystalline silica, notably in ISSA conferences (International Social Security Association).

Mr Patrick Hennessy is an Irish national. After having obtained a Bachelor of Commerce and a Master in Economic Science, he started his career at the Irish Government Service. After 8 years at the Ministry of Agriculture in Dublin as Administrator, he went for six years to Brussels as Counsellor at the Irish Permanent Representation to the European Communities. In 1989, he entered the European Commission as Deputy Head of the Cabinet of Agriculture. In 1993, he became the Senior Advisor to the Director General and Director in the Directorate General for Agriculture. It was in 1996 that Mr Hennessy joined the Enterprise DG where he became Director, responsible for tourism, access to finance for SMEs, and the promotion of interests of SMEs in Community policies and programmes. Since January 2000, he is responsible for environmental aspects of enterprise policy, and resource-based and specific industries.

Mr Mike O'Driscoll graduated with a BSc in Geography & Geology from the College of St Paul & St Mary, Cheltenham in 1983, after which he spent a year as Editorial Assistant at the Institute of Materials before graduating in 1986 with an MSc in Mining Geology from the Camborne School of Mines, Cornwall. Mr O'Driscoll joined Industrial Minerals (published by Metal Bulletin PLC) as Assistant Editor in 1987. After three years at IM, including two years as Associate American Editor in IM's New York office, he joined Leeds Mineral Services Group, a minerals consultancy, as Senior Analyst in 1991. Mr O'Driscoll returned to IM, becoming Deputy Editor in 1992, and then Editor in 1995. He has reported, researched, and written news and in-depth articles on a wide range of industrial minerals topics, visited numerous operations and companies worldwide, and has organised, chaired, and presented at many conferences related to the industry. Contact: tel +44 20 7827 6444; fax: +44 20 7827 6441; modriscoll@indmin.com

Mr Thierry SALMONA is a French national, who graduated from the "Ecole Normale Supérieure" and of the "Ecole des Mines", engineering school (France). Mr Salmona began his career at the French Ministry of Industry. He became Technical Advisor to the Minister for Energy and Raw Materials in 1986. In 1988, he joined the French group Thomson (interactive media, telecommunications and information systems) where he held the positions of Vice-President Planning then Vice-President Sales for Europe and Asia. He joined the French group Sanofi (pharmaceuticals) in 1992 as Managing Director of the Gelatines & Specialties Division, which was sold to the German chemicals group SKW Trostberg in 1995. He joined Imerys in 2000 as Executive Vice-President Building Materials and Ceramics & Specialties. As of 1 January 2003, he supervises the new Specialty Minerals business group, and as of November 2003, he also supervises the Group Purchasing Department.

Mr Timo Mäkelä, a Finnish national, holds a Master of Technological Sciences (civil/water, sanitation and land use) and a Post Graduate Diploma in Sanitary Engineering. He started his career at the Regional and National Water and Environmental Protection Agencies in Finland where he was involved in water management, environmental regulations, permits and licences and inspectorate activities. He went on special assignments and training programmes in India, Egypt and eastern Africa. In 1986, he joined the Ministry of Environment where he became

responsible for national policies and programmes on municipal water supply and ground water, as well as international relations in water management and pollution control. In 1988 he went for two years to Botswana, where he joined the Ministry of Mineral Resources and Water Affairs. In 1990, he returned to the Ministry of Environment in Finland and became Head of the Eastern Europe Programme Division. He obtained further international experience while working for the European Bank for Reconstruction and Development in London. In 1996, Mr Mäkelä joined the European Commission as Head of Unit in DG Environment, responsible, amongst others, for EU enlargement. In 2000, he returned for three years to Finland, as the Head of the EC Representation in Finland. Since 2003, he is a Director at DG Environment responsible for sustainable development and integration, and industrial policy, regional development, research and innovation.

Mrs Elly Plooij-van Gorsel is of Dutch nationality and is Doctor in psychology. She started her career as Chief Scientific Advisor at the State University of Leiden. She became politically involved in 1984, and during the next 10 years, would hold various political administrative functions within the VVD Liberal Party. During this period, she took an active stance for women in management and she became the Chairwoman of the corresponding Dutch Association in 1988. She was elected as Member of the European Parliament on behalf of the VVD Liberal Party in 1994. She is very active on several Parliamentary Committees: spokeswoman of the ELDR on industry, trade, technology and energy, substitute member of the Committee on Economic and Monetary Affairs, and Special political interest in SMEs, President of the European Internet Foundation, and has been actively involved in the delegation for relations with China.

Mr Jean-Pierre Klapuch is of French nationality. He has an education in electricity and mechanics from the Ecole des Mines in Pulversheim. He started his professional career as electrician in the Alsace potash mines. In 1973, he became the central delegate of the trade union CFDT, and in 1982, he was appointed as its secretary general, the post of which he held for 10 years. During this period, he was also a member of the surveillance group of the EMC Group. From 1992 till 1996 he was elected President of the Fédération Générale des Mines et de la Métallurgie. And in 1996, he joined EMCEF as the Deputy Secretary General. In 1998, he then became involved in the work of the Consultative Committee for Coal and Steel ECCS/CECA, as the Chef de Cabinet of the Committee's President.

Mr Jackie Morin is of French origin. He is a doctor in economic sciences from the University of Paris (Panthéon-Sorbonne). His doctoral thesis was on the black economy in Europe and its interpretation in economic theory. Mr Morin entered the European Commission in 1986 at the Directorate General for Employment and Social Affairs. Since December 2000, he is the Head of Unit responsible for social dialogue, industrial relations and adaptation to change.

Mr Karel Van Miert holds a degree in diplomatic sciences from the University of Gent and he followed post-university studies at the European University Centre of Nancy. One of his first political positions was as collaborator of the European Commissioner Sicco Mansholt (1968), and Member of the Cabinet of the EC's Vice-President, Henri Simonet in 1973. In 1976, he was appointed international Secretary of the Belgian socialist party. Next he became Chef de Cabinet for Willy Claes, the Minister of Economic Affairs. In 1978, He was elected President of the Socialist Party and Vice-President of the Union of socialist parties of the European Communities. From 1979 till 1985, Mr Van Miert was an MEP. He then returned to federal level as Member of the Belgian Chamber of Representatives. In 1989, he joined the EC as Commissioner in charge of transport, credit, investments and consumer policy (and environment during 1 year). In 1993, he became the Commissioner for competition policy, personnel and administration policy, translation and informatics. Since 2000, Mr Van Miert is President of the Executive Board to the University of Nyenrode (NL), and member of a dozen Advisory Boards of multinational companies, a bank, etc.

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