

Report

IMA-Europe Conference

“Eco-efficiency challenges for the industrial minerals sector”

Brussels, 11 September 2008



Opening of the Conference

Ms. Smith (moderator) opens the meeting at 14:10 and welcomes all participants. She highlights the aims of the conference and quickly runs through the agenda. She invites Mr. Stenneler, the IMA-Europe president, to give the opening address (*see Fig*).

Mr. Stenneler briefly presents the main challenges the mineral sector faces at the moment and the importance of eco-efficiency as overall encompassing theme.

He states that the pressure on energy and raw materials supply have drastically increased, while citizens in developed countries are becoming more and more aware of the future of our planet thanks to Climate Change and Energy Savings campaigns. As part of these major trends and the rising concern about Health & Safety, the Association is dealing with various topics, the main ones being: **REACH** implementation (IMA succeeded to obtain exemption from registration for naturally occurring and coated minerals as well as to hydrates); the IMA-Europe **Dust monitoring project** and the first Social Dialogue Agreement report about Crystalline Silica to be used as a reference to demonstrate how our industry is proactive in dust emission control and the consecutive benefit for the health of our workers; **Global Harmonisation System** already in force in Asia and North America but in the process of being implemented in Europe which may introduce new classification and labelling for our mineral substances; **Life Cycle Analysis** and the assessment of some representative mineral products to supply data to a EU database which should ideally become the basis of the upcoming Eco Labelling initiative; Reduction of CO₂ emissions and the **ETS** revision with its significant economic impact, still under examination.

Many of these new initiatives and legislations contribute to a new global challenge called ECO-EFFICIENCY. This includes all Health [i.e. to guarantee no environmental impact on health] and Environmental concerns that our Mineral Industry is facing to secure safe working conditions and consumption, to ensure a long term supply of the raw minerals available in Europe while safekeeping biodiversity and reducing energy consumption.

Finally, he thanks the IMA- Europe team for their efforts and follow-up of all developments and gives the floor to the guest speakers.

NB: The slide presentations of the conference can be downloaded from the IMA Website ([see http://www.ima-europe.eu/proceedings.html](http://www.ima-europe.eu/proceedings.html)) as well as the abstracts and biographies. Pictures can be viewed at www.ima-europe.eu/events/events.html.

A. Eco-Efficiency: challenges and voluntary initiatives in the industrial minerals sector



1. WBB Minerals' Energy Reduction campaign, Sibelco UK

Mr. Phil Goodwin, Energy Team Leader, at Sibelco UK (formerly WBB Minerals) presents his company's energy campaign, which was launched at the start of 2003. One of the achievements was an overall reduction of the group's energy consumption in production. Also several other costs could be cut.

Mr. Goodwin gives an overview of his company's carbon management scheme. The company moved from an energy reduction policy to a carbon management program. In order to optimize their carbon policy a partnership with The Carbon Trust was established. Communication throughout the company is an important element for a successful implementation of a carbon reduction management program.

Furthermore, software is installed to guarantee a continuous monitoring and targeting of the different sites. A purchasing team composed of specialists evaluates and screens the market in search of the best utilities supplies.

In the future a merger of the energy and the carbon management team is planned to launch a carbon management implementation plan. In addition, other energy reduction projects should be investigated to help further unlinking from the utility market conditions. Also links with different partners will be further strengthened. Instead of simply looking at energy consumption WBB Minerals tries to get a deeper insight in their carbon footprint.



2. Innovation and Eco-efficiency, Imerys, France

Mr. Salmona, Vice President for Innovation and Business Support, at Imerys highlights his company's procedures and practices in relation to innovation and eco-efficiency. He starts with giving an overview of the Imerys group, being a world leader in mining and processing of industrial minerals.

Imerys introduced several environmental friendly products in 2007.

Mr. Salmona points at the synergies that can be reached by exchanging experiences from several company sites. This way several growth opportunities were identified centered on 3 areas: advanced ceramics, nanomaterials, and building materials. A workgroup defined a shortlist of about 10 R&D opportunities that could relatively easily be practically implemented. In other words, the objective was not R&D as such, but in the first place "commercialization" and "sales".

Apart from product innovation Imerys worked on process innovation. A small energy team deals with energy savings. Several initiatives were taken to increase the company's eco-efficiency. Imerys is also examining and already using alternative energy sources, like biogas, biomass. A wind farm project is being implemented in the UK. In 2007 Imerys improved its energy efficiency by 3.4 % and its carbon efficiency by 5%. In Building Materials Imerys has taken the initiative to create a platform with several other companies to promote efficient building. As an exemplary regeneration project,

Imerys participated in a governmental challenge for the creation of an “eco-town” in the old Imerys production site in Cornwall . If successful this will become a very large project.



2. LCA as a tool for measuring eco-efficiency, EcoBilan-PriceWaterHouseCoopers

Mr. Osset, Senior Manager at Ecobilan, clarifies the meaning of LCA: Life Cycle Assessment, which means: *“the compilation and evaluation of the inputs and outputs and the potential environmental impacts of a product system throughout its life cycle”*.

Several steps have to be followed in order to set up an LCA. First of all the key contributing stages should be identified. Secondly the improvement potential should be examined. Next, an assessment of different eco-design options is required, and finally benchmarks can be developed to compare different sites and to strive towards improvement.

LCA also has an external dimension. The market can be informed about the environmental impact of a product through, for example, environmental product declarations (EPD, ISO 14025). This can also help to gain certain public tenders, as green public procurement is constantly becoming more and more important. An LCA can also be used to answer over-simplified ecologist attacks. Thirdly, LCA can help in the preparation of environment criteria to assist in the selection of suppliers. And last, but not least, LCA can assist in advocacy.

IMA-Europe and its members have experience in LCA and provided data to the European Commission to input in the ELCD (European Life Cycle Database).

Eco-efficiency means creating more goods and services with ever less use of resources. It is possible to measure all these parameters through LCA. In other words there is a link between LCA and eco-efficiency.

Mr. Osset explains the concept of an eco-efficient enterprise. An eco-efficient enterprise can implement eco-efficiency in various ways. One of them is through the eco-design of products. This means: thinking of how a product can be manufactured in a more eco-efficient way. LCA is a tool to evaluate whether a product that may be more eco-friendly in its use is also really better throughout its life-cycle.

The LCA approach is moreover being standardized at international level by ISO.

Mr. Osset concludes that the LCA practice is growing in the mineral industry sector and that both cost –and eco-efficiency should go together.

B. European Policies on Resource- and Eco-Efficiency



3. Update on the Natural Resources Strategy, DG Environment, European Commission

Mr. Bosmans, DG Environment, starts his presentation with several questions related to the use of resources. He explains the product life cycle. The revised waste framework directive has been adopted by the European Parliament. There are targets now on construction and demolition waste.

Mr. Bosmans also highlights the EU's resource strategy. One of the key objectives is decoupling: reducing negative impacts of resource use in a growing economy. It is also important to improve resource efficiency. It would be interesting to work out an indicator comparable to GDP to measure the environmental impact. In this framework, the Commission is working on a "Life cycle based indicator or resource specific impacts".

This project is still ongoing. On the other hand a methodology for an ecological footprint is worked out based upon several indicators.

Recently an International Panel for Sustainable Resource Management was launched. This panel is similar to the Climate Change Panel. The resource panel consists of about 20 independent "world class" experts. UNEP hosts the secretariat.

The Commission has also launched several sectoral initiatives, such as the raw material initiative. Mr. Bosmans shows an example from the UK where it can be seen how GDP increases, while the use of raw material remains stable.

Mr. Bosmans also highlights possible future actions. One action could be focused on waste as a resource. Several measures may have a positive impact on the environment. For 2009 several studies are in the pipeline: on resource efficiency / productivity, on the prevention of waste, and on recycling and recovery. A Communication on a revised resource strategy can be expected towards the end of 2010



4. The new Raw Materials Policy Approach, DG Enterprise, European Commission

Mr. Abraão Carvalho, Head of Unit at DG Enterprise, recognizes the challenges the raw materials industries are facing. He highlights the different dimensions from which the raw materials policy should be approached. He mentions the public consultation that was set up by the Commission on Raw Materials. The results of the public consultation are available on the internet. Some types of actions may be introduced. Rather than a regulatory approach that might create a new burden for companies, he wants to work on a more favorable environment for access to raw materials. In other words there will not necessarily be a new directive or new regulation. Secondly, the Commission will set out an integrated policy response that takes fully

into account the different areas of competence at various levels. (International EU Member States and the regions)

Mr. Carvalho highlights the actions that may be introduced in a communication. He thinks of developing guidelines, the exchange of best practices, intensifying the dialogue with 3rd countries, better cooperation and networking, more emphasis on R&D and raw materials, promote projects that aim at improved resource efficiency and recycling and he considers trade instruments in relation to measures that unlawfully distort the global markets for raw materials. All stakeholders should be involved. The approach should also be a dynamic process for several years. Therefore, a follow-up mechanism needs to be installed. More discussion about the exact shape of such a mechanism is required.

Mr. Carvalho mentions the idea of a regular high-level group that could meet, for example on ministerial level, to discuss on topics related to raw materials.



5. Action plans on Sustainable Consumption and Production & Sustainable Industrial Policy (SCP/SIP), DG Enterprise, European Commission

Mr. Didier Herbert, Head of Unit at DG Enterprise, presents the background of the SCP/SIP action plan. The philosophy of the action plan is to make sure that the low carbon economy becomes a competitive advantage for European industry.

A first part of the SCP focuses on “better products”. Therefore the scope of the eco-design directive and energy label directive is extended to energy related products. Moreover more coherence between all these initiatives and measures should be aimed at. The emphasis within the “eco-design” directive will in the first place be on “voluntary measures”. Only when there are no voluntary initiatives, more compulsory measures could be taken.

A second part of the action plan focuses on industrial policy for eco-industries. Eco-industries should get more visibility. The Commission would like to launch a study to understand the problems that eco-industries are facing and what could be done in order to remedy these barriers.

Several industries have launched sectoral approaches in order to agree upon the technological boundaries for their sector, and to determine voluntary benchmarks in terms of energy intensity. The Commission could use or frame what industry has done. The Commission has launched a study on sectoral approaches. Mr. Herbert also recognizes and appreciates the initiative of EuLA, the European Lime Association, on the international exchange of best practices. Not all countries are very much in favor of sectoral approaches. Much work on convincing them is still necessary.

The SCP/SIP also contains some voluntary product policies such as the “ecolabel” and “green public procurement” guidelines. Any measures developed in this field should be in close co-operation with retailers and consumers. In addition EMAS should also be made more attractive for SMEs and better data is required.

Mr. Herbert concludes that energy efficiency can be a win-win and that voluntary action should be the basis. Public policy should set the framework.

Mrs Smith thanked the speakers for their presentation and invited the panel speakers to take their seat for the Round Table Debate.

Roundtable Debate



Ms. Smith introduces the two Panels:

- ✚ **Panel 1 on Resource Policy** with Mr Carvalho (DG ENTR), Mr Salmona (Imerys) and Dr Marx (Süd-Chemie).
- ✚ **Panel 2 on Resource and Energy Efficiency** with Mr Herbert (DG ENTR), Mr Bosmans (DG ENV), and Mr Turner (Rio Tinto Minerals).

Panel discussion 1 on Resource Policy: How do we go about ensuring a sustainable supply of materials?

Question: Do we know where EU mineral resources occur and should there be an EU resource map?

Mr Carvalho stated that anything that helps us and gives us a clear view is good. We need to make the best use of technology.



Question: Is it a question of a shortage of supply or a shortage of knowledge?

Mr Salmona commented that it really depends on the specific substance and that there is indeed a need for a global database. In some cases, minerals scarcity is such that access to new resource should be considered as of great public interest.

Dr Marx pointed out that logistics are a major issue in the EU. Policy at both national and EU levels should facilitate access to resources.

Question: How much is access to resources within the remit of the Commission?

Mr Carvalho commented that the issue of permitting is not really on the Commission agenda since it is dealt with more at Member State level under the subsidiarity principle. However, there is a need for exchange of best practice because, for some reason, the permitting process appears to take much longer in some Member States than in others. We need to know why Member States interpret the same directive differently and how some of them are more efficient and go about it in a more environmentally friendly way. Through exchange of best practice we need to determine why these differences exist and to seek to improve the situation.

Mr Salmona explained that the Social Dialogue Agreement on crystalline silica¹ is a good example that demonstrates that the industry is mature enough to develop its own way forward. Voluntary agreements like this are far more efficient than the development of conventional legislation, which must always go through a long drafting and consultation process and this industry-led approach results in cost savings.

¹ See www.nepsi.eu

Dr Marx expressed his concern that the Natura 2000 initiative could have an impact on access to mineral resources.

Question: The public image of the minerals industry can be very negative. How do we get the balance right?

Mr Salmona stated that the proportion of the surface area of the EU that is used for mineral extraction is small, but that a big proportion of industry is dependent upon minerals. It is estimated that 70% of industry is dependent upon mined resources. This is split 50:50 between supplies obtained from EU and those obtained through import. Essentially, if we fail to identify a mineral resource it impacts not just the minerals industry, but also a whole series of downstream industries.

Question: What is the impact on supply of minerals caused by factors such as uneven distribution of resources; poor infrastructure; political instability and poor governments?

Mr Carvalho commented that we cannot impose a way of working to any country. However Europe can encourage transparency. Indeed there is a win-win situation here. We need to convince these governments that it is in their interest to adopt a transparent approach.



Question: Is there a need for some kind of certification scheme for mining operations, similar to those that exist in the forestry industry?

Mr Carvalho commented that certification may be a way forward.

Dr Marx commented that there is a difference between minerals and forestry because minerals are not renewable, or at least they do not come back as quickly as we consume them.

Question: On the issue of research and development, is more help needed from the EU to help industry improve its processes?

Dr Marx commented that downstream industries have already made big progress in improving efficiency.

Question: What could make things change? How could we make the Industrial Minerals Forum work better?

Mr Carvalho expressed the opinion that the forum has worked very well despite initial difficulties. The Raw Materials Supply Group can deliver and it should continue. He proposed that there should be a web portal where all the relevant information could be made available. At the end of the day this would need some political input.

Mr Salmona suggested that one way to make it work would be to place emphasis, at political level, to make sure that access to mineral resources is seen as a point of overriding public interest? There is a need for this kind of political “umbrella” under which to work.



Panel discussion 2: Eco-efficiency and energy efficiency

With Mr Eric Turner (RTM), Mr Didier Herbert (DG ENTR), Mr Werner Bosmans (DG ENV)

Question: How far can we reduce the use of raw materials?

Mr Turner commented that we need to consider this in two parts: production and consumption. On the issue of production, basically we need to do more with less. As

demonstrated by the WBB Minerals presentation, awareness has a big role to play. Measurement also has an important role to play because we need to be able to see what we are consuming. Mr Turner added that Rio Tinto Minerals has adopted processes which are more efficient, for example the replacement of mechanical milling with jet milling, and improvements of between 5% and 20% had been seen.



Question: How realistic is the target of improving efficiency by a factor of four?

Mr Turner (Fig) commented that it's hard and we've already been trying for a long time. In his company one initiative involves revisiting old stockpiles. It is possible to re-work old ore, treating it like new. This proves very beneficial especially as it increases the life of the mine and prolongs job security.

On the issue of consumption, Mr Turner commented that there is a huge amount of scope to be less wasteful.

Mr Bosmans commented that the factor of four targets is indeed ambitious but that he believes it is feasible as a long term goal. The question is where do we want to achieve this... in the US? EU15? EU27? Most member states are already able to demonstrate considerable progress in efficiency, with the exceptions of only Portugal and Greece. These two countries show lower efficiency because they are still developing their infrastructure.

We also need to consider what we are measuring, be it sand or dioxin or cyanide. We need to ask what we would gain, in terms of environmental impact, if we were to stop mining sand – not much. The bottom line is that it is the overall environmental impact that matters. It should not just come down to less use of mineral resources, but other things as well.

Mr Turner commented that it is a great shame that a lot of development is done to old standards, especially in developing countries. There is a real need for the application of more efficient, breakthrough technologies.



Question: What sort of indicators should we be using to measure industry performance? Clearly LCA is for the future as it's incredibly complex. What indicators do we need to give the public some clues about what they are buying?

Mr Herbert (Fig) suggested that we could develop a system like the energy efficiency labeling system already used on domestic appliances. This kind of labeling is not applied to enough products currently. In some cases the information system has already reached its limits, but the same approach could be

applied to other parameters besides energy. For example, a washing machine consumes energy and water. A shower consumes water and, indirectly, energy. When the consumer is better informed, he will demand more and industry will have to respond.



Question: How soon could the LCA system be developed?

Mr Bosmans (Fig) commented that it could be compared to a normal accountancy system and GDP. Inflation is calculated on the basis of a basket of products. Energy use is the most important parameter for LCA. Biodiversity is more difficult to measure. There is a need for labeling to be applied to all products and ultimately the selling price will reflect the labeling. **Mr Herbert** commented that we need to be realistic.

Question: Does more have to be done to convince the public that we are trying to go green?

Mr Turner commented that public perception of the mining industry is negative, despite the fact that only a small amount of land is used. However, we should consider, in comparison, that agricultural land is really a factory and that it offers little in terms of biodiversity. Compare this to mining, where quarries are often a haven for biodiversity. There is a great opportunity to build upon this, especially when closing an operation. The enhancements to biodiversity can be sustained indefinitely.

Mr Bosmans responded saying that he agreed, but that the world does not exist from mining and agriculture alone. While mining is essential, we need to find equilibrium. **Mr Turner** responded by saying that it is best to plan for biodiversity.



Question on the issue of carbon efficiency: Are remedial measures cost effective?

Mr Turner commented that there needs to be a net positive value to any carbon investment in order that it can compete against other investment opportunities. We need to identify opportunities to apply breakthrough technologies. For example, there are already big leaps forward in technology for steel and aluminium production but developments like these take a lot of research and development and tie-ups with universities.

Mr Bosmans commented that we know where we want to be but the problem is how to get there. There is a time lag and we still need to live in the meantime. For example, there are already fuel efficient cars but some people still insist on driving Hummers. The good thing now is that sustainability is business; it's in the headlines and awareness is growing. This provides a great opportunity to build upon.

Signing of the Countdown 2010 Declaration



Mr Sebastian Winkler, Head of Countdown 2010, receives a warm welcome and is kindly invited to outline the Countdown 2010 initiative. Mr Winkler explains that Countdown 2010 is a strong international network of companies, civil society organisations and government institutions working together towards the 2010 biodiversity target. Mr S. Winkler points at the changes in people's way of thinking that were realized together with the different stakeholders.

He congratulates IMA Europe for organizing the European Minerals Day, which exactly shows the importance and contributions of the minerals industry and is pleased to welcome IMA Europe as a partner under Countdown 2010.

Mr. Stenneler, IMA-Europe president, presents the main elements driving IMA Europe's commitments under Countdown 2010 and he quotes several examples of biodiversity in the industrial mineral industry.

Messrs Stenneler and Winkler then both sign the Countdown 2010 Declaration. (see fig)



IMA-Europe and Biodiversity



IMA-Europe is aware that biodiversity is crucial to the future of humanity and has agreed to actively work towards its conservation and enhancement.

IMA's commitments under Countdown 2010:

1. Develop an IMA Biodiversity Statement for the minerals sector and its stakeholders
2. Support the implementation of the EC Biodiversity Communication
3. Collect and disseminate examples of positive contributions to biodiversity conservation (e.g. best practices database)
4. Demonstrate compatibility between extraction sites and Natura 2000 protected areas
5. Promote events to enhance consideration of biodiversity issues (e.g. site visits, open days, local awareness campaigns etc.)
6. Communicate the 2010 Biodiversity target and disseminate related materials

Ms. Smith closes the meeting at 18:00 and invites everybody to the dinner & IMA 2008 Award Ceremony at the Bibliothèque Solvay.

Award Ceremony



Mr Stenneler proudly presented the 2nd IMA-Europe Recognition Award to Dr Jürgen Wilhem, President of the Rhineland Regional Assembly. The **Rhineland Regional Council** or Landschafts-verband Rheinland (LVR) won the IMA Award for their efforts in raising awareness about the importance of industrial minerals in their region through the production of documentary films illustrating the mining activities and its human aspects and how the different minerals find their application in every day products. Dr Wilhelm thanked IMA-Europe for the prestigious award and outlined the importance of the mineral sector for the Rhine region.



*The **IMA-Europe Recognition Award** has been created in 2006 and is awarded every two years to a body or organisation outside the mining sector. Through this initiative, the minerals sector wishes to acknowledge the efforts for promoting the industrial minerals sector through educational and/or awareness efforts or for contributing to the innovation of the sector.*