DG Environment Stakeholder consultation on the Resource Efficiency Roadmap

Euromines positions the extractive industries with respect to Resource Efficiency

The European extractive industries view Resource Efficiency as the policy concept that should yield optimum solutions to the many trade-offs that exist between different environmental objectives and between the environmental, social and economic imperatives of Sustainable Development. Clearly, it must therefore be based on a holistic picture of current trends and the different trade-offs that exist.

Consequently, rather than promoting any one link of the value-chain over another, Resource Efficiency should encompass whole value chains and involve different contributions from each link of those value-chains according to their strengths and abilities. The result should be an economy that optimises its use of resources and, therefore, results in reduced waste.

What are your predictions about the impact in Europe of resource scarcities?

Key challenges and opportunities are:

1. Meeting the minimum EU demand for metals & minerals needed to
   • Upgrade and maintaining the infrastructure,
   • Accommodate increased resource-efficient urbanisation,
   • Deploy new sustainable technologies,
   • Share equitably the benefits of information & communications technology,
   • Re-balance of lifestyles and employment across the whole EU.

2. Decoupling economic growth from resource and energy use
   (Producing more value with less material)
   • Relative decoupling has already been achieved to some extent,
   • Further decoupling must be balanced with development, climate and energy security needs,
   • Decoupling of resource use from its environmental impact will come with improved standards of living globally (as has already happened in the developed world),
   • It should be recognised that “Business As Usual” demand for most metals will increase by 3% p.a. Switching from traditional energy generation to renewable energy generation, such as windmills and solar panels, will actually result in a higher material demand. The switching from individual fuel driven vehicles to electrified public transport systems will require an enormous infrastructure layout and extension of electrical networks which will require substantial amounts of mineral resources (e.g., copper).

3. Overcoming supply risks due to increased competition for resources
   • Several counter-measures are available (e.g., Resource Efficiency is only one of them),
   • Free & Fair Trade and EU Primary Production (i.e. mining) are also needed,
   • Diverse parallel measures will reduce the EU’s vulnerability to supply risks,
   • Several measures may also be counter-productive (creating further market distortion).

4. Remaining relevant in a global economy
   • EU Economic Policy must allow for international competitiveness
   • EU Innovation must finally start to rival that of its main competitors (USA)
NB: “Class A” Deposit size indicates world-class deposits. Europe is not “poor in resources”.

NB: Mine production is directly correlated to exploration expenditure. Europe isn’t looking.

1.2 We will consume natural resources at an unsustainable rate and sustainability limits of natural resources will be exceeded.

Not at all. There is no scarcity of mineral resources in the short, medium or long term in Europe or in the world, only supply bottlenecks in the short-term and in some cases an inaccessibility which needs to be resolved. What could become scarce are certain very high quality deposits of a few mineral resources which then would have to be replaced with further refinement of lower quality deposits.
Neither is achievement of a low-carbon economy related to resource scarcity. There are two major hurdles to achieving low-carbon energy generation:

- the availability and more environmentally sound production of different mineral resources; and
- the EU’s trade policy that has not yet internalised environmental costs.

1.2 Access to resources will become difficult

The access to new mineral resources is a question of investment and framework conditions, not of geological potential and general availability. However, it will become difficult in the longer term if the EU does not ensure a good mix of supply of diverse resources from diverse origins.

Reuse and recycling of resources will provide a contribution to satisfy the growing demand for resources worldwide and in Europe, but will not be able to satisfy the demand in the short or medium term. One aspect of this is the lifetime of goods and materials in use, which when being increased improves their Resource Efficiency. A couple of examples: the recycling of all mobile phones in the EU will yield about 4-5 % of the EU’s demand for gold. The recycling of all computers and circuit board in the EU would possibly cover another 6-7 %. 100% recycling of end-of-life copper would only supply up to 35% of current demand.

The current surge in demand for materials is not a result of a major loss of material, but an increase of material requirements to improve the living standard of millions of people around the world.

1.3 Europe will face physical shortages of water and minerals

For mineral resources in most cases perceived shortages today are a cost-question, not a question of physical scarcity. Supply shortages of some commodities can be expected in the short-term (by 2020) due to bottlenecks. Similarly, for water, there is no global shortage of quality water, but rather an imbalance in its abundant supply (also between different regions of the EU). Shortages in mineral resources are due to lack of access and favourable investment conditions as well as long lead time for permitting, but these could be resolved in the medium and long term. Longer-term sustainable supply requires different, more comprehensive measures.

1.4 The prices of some materials/minerals will rise

Yes, in the short-term (by 2020) due to the fact that there are artificial shortages being created through policy measures as well as through lead times for developing new resources and necessary investments which are hampered by overregulation, overlapping responsibilities and lack of support for exploration.

2. Resource efficiency has the potential to:

... place the EU as the “international partner of choice” for mineral resource management including sustainable development of primary and secondary mineral resources.

Proposed 2050 vision and 2020 objectives for a resource-efficient mining industry

By 2020, the EU should:

- Attract the same level of exploration investment as Africa per hectare.
- Match the self-sufficiency in mineral resources of Asia, in part by developing world-class ore-bodies in Greece, Iberia, Ireland, Poland, Romania and Scandinavia (incl. Finland).
- Possess a complete modern database and economic assessment of primary and secondary resources across the EU
• Have the liability framework in place to allow re-processing and/or secure closure of historically abandoned waste dumps
• Lead the world in technology for several aspects of mineral resource management and efficiency (design, exploration, extraction, re-processing, recovery, reuse, recycling, materials flow monitoring, life-cycle assessment)

By 2050, the EU should:
• Achieve 100% self-sufficiency in mineral resources
• Achieve elimination or secure closure of all historically abandoned waste dumps in the EU
• Be the “partner of choice” for several aspects of mineral resource management internationally (sustainable development of primary and secondary mineral resources)
• Regularly meet its own Resource Efficiency targets using validated indicators and assessment techniques.

2.1 help the EU’s economy to cope with sudden price rises and shortages on world markets

Not at all. Sudden price rises and shortages on world markets are usually created by
- political interference in the markets,
- speculation,
- geopolitical crises,
- natural disasters,
- rising demand in a particular application,
- creation of monopolies.

Resource efficiency cannot reduce the potential exposure to these price rises and shortages, but it can reduce their impact. In other words, Resource Efficiency treats the symptoms, but not the disease. Only long-term consistent policies with regard to a diversified supply and use of resources can address the causes.

2.2 Make the EU’s environment more resilient

Yes, in the longer term, if Resource Efficiency is applied to whole value-chains. If Resource Efficiency is used to promote one step of the value chain over and above another, economic resilience will be lost (e.g., using a resource-use tax to favour secondary raw-materials over primaries). If contributions to Resource Efficiency are sought from all partners in the value chain, economic resilience will be increased (e.g., world-leading exploration and mining efficiency as well as world-leading reductions in waste). This, for example, is what China is currently targeting for its own economy.

2.3 Create new jobs and growth in the EU

If implemented well, Resource Efficiency has the potential to, not only create so-called “green jobs”, but to make all “traditional jobs” greener. Increasing mineral exploration and self-sufficiency in mineral resources creates jobs. Nurturing a geological services industry for export also creates jobs.

It should be noted though that the jobs that are being eliminated due to the EU Climate programme first need to be replaced before there will be any net gain in employment. Similarly, economic growth will first have to compensate for the enterprises closing down before any net growth is achieved. Hundreds of thousands of jobs have been lost in Eastern Europe due to the restructuring of their industries. The switching from fossil fuels to other forms of energy generation has cut considerable amounts of jobs. Thousands more will be lost if the EU continues to artificially constrain its own mining industry. Therefore, claims that Resource Efficiency will create jobs and growth are by no means certain.
3. How would you rate the current use of the following resources in Europe in terms of efficiency?

This question cannot be objectively answered without clear criteria, facts and figures and a clear methodology. Survey responses based on a gut feeling can be very wrong. Available data show that EU use of base metals is very efficient relative to other regions of the world. Analysis done in the context of the European ETS Directive has shown that EU industry uses energy very efficiently relative to other regions of the world.

4. How much potential do the following policies have to help make the European economy more resource efficient?

Again, without proper analysis such a question cannot be objectively answered. All policies can in particular areas contribute to Resource Efficiency. Regional Development, Research, Transport and Trade policies, for example, will all be important to achieving Resource Efficiency.

5. How significant are the following obstacles in preventing the economy from becoming more resource efficient?

5.1 Inadequate market signals for Resource Efficiency (e.g. prices do not reflect impact on resources)

This is a significant obstacle at global level. Material use in the industry is driven by cost and therefore is continuously decreased unless increased by requirements in health and safety and environmental protection or product performance. Material intensity is a reflection of wealth and consumer behaviour. As long as the EU sourcing/trade policy does not internalise the environmental and social costs of imported resources/materials/goods there is very little incentive for the consumer towards further Resource Efficiency. For example, all our contacts with key representatives of civil society and African development ministers tell us that the environmental and socio-economic sustainability of the mining regions in Africa, including North Africa, is not improving and that these are the main risks for the relations with the EU. The EU cannot ignore these challenges in its Trade and Development policies.

5.2 Consumers purchasing decisions not reflecting long-term sustainability

Consumers usually make their decisions on the basis of price, functionality, and design. Schemes that have promoted efficient use of energy and water have been successful to a certain degree and have created competition by providing consumer information.

Current product-footprinting tools do not say anything about the social aspects, longevity of the products and their ecological impact during the use phase which can be substantially higher than the footprint of production of the product. Hence the information can be totally misleading.

In addition, consumers that have the sufficient monetary funds will tend to invest in better quality products which might have a higher material intensity, but at the same time a longer useful life – resulting in greater Resource Efficiency. Cheaper products will – not in all cases, but in many - have a shorter useful life. Planned obsolescence and value engineering drive consumption by limiting the useful life of products. Long life span and reuse/recycling can increase Resource Efficiency considerably for many products.

On the other hand, for very expensive, high impact products, shorter life-times allow for rapid uptake of newer, more efficient, models (e.g., automobiles).

5.3 Lack of information (on alternative options)
Today’s economy is more (mis-)informed than ever. Apart from some potential economic inertia caused by the confusion that conflicting information creates, other obstacles are likely to be more important.

5.4 Lack of long-term thinking in decision making (e.g. awareness of new technologies, new working methods and processes among managerial staff)

Lack of long-term decision making is often the result of short-term financial targets, determined by shareholders’ demands for returns on their investments as well as short term employment contracts. That being said, the mining industry, perhaps more than many others, is forced to consider a longer term view because of the long lead-times and payback periods associated with its major investments, which is why a predictable legal framework is so important. If long-term investments are to be made in a more innovative manner, industry needs certainty that the chosen technologies will be supported long enough to ensure a return on investment.

5.5 Insufficient public funding/incentives for investment and innovation promoting Resource Efficiency

In some countries innovation is stimulated by giving companies tax breaks for research expenditure. In the minerals sector exploration and research activities should be given these types of incentives. The exploration around an existing mineral deposit increases the Resource Efficiency of the operation and saves the environment by avoiding the opening of another deposit instead. Since an extractive company for economic reasons is always driving towards better beneficiation of the deposit, research will try to increase Resource Efficiency.

Increasing efficiency by making better use of tailings from the extractive industry, which could be another source of raw materials is hindered today by lack of clear legislation and efficient, state-of-the-art permitting. In particular in Eastern Europe liability issues need to be resolved before successful investment into reprocessing can be made. Public funding/incentives would likely be useful at both EU and national levels.

5.6 Limits in existing infrastructure

The current lack of canals and water infrastructure is hampering the eco-efficient transport of bulk materials. The missing connection of the Danube Canal to South East Europe is hampering transport routes there. A lack of railways in northern Finland, Sweden and Norway is hampering increased self-supply of iron ore. See also previous comments concerning the huge investments needed in smart cities, transport and electrical-transmission infrastructure to realise the EU2020 Strategy.

5.7 Dependence on existing technologies

There are some thermodynamic limits to what can be done in the mining, metals & minerals sectors, but otherwise dependence on existing technologies has never been an obstacle in these industries until now. Historically, the extractive industry has been credited with some of the most important technical innovations for society as a whole.

5.8 Current business models

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

5.9 Skills gaps in the workforce and sub-optimal functioning of the labour market

Skills shortages are affecting many industrial sectors in the EU, including the extractive industry. Full implementation of the Raw-Materials Initiative in this regard, including support for the Erasmus
Mundus Minerals and Environment Programme, is necessary to remove a significant obstacle to achieving Resource Efficiency. There is a pool of skilled mining labour in the Eastern European Countries made redundant following the wholesale closers of the last decade. The mining industry will retrain these people in the latest methods if the environment to invest in new operations becomes favourable in the medium to long term.

5.10 Unhelpful legislation

Natura 2000. Full implementation of the Raw-Materials Initiative in this regard, including the recent Commission Guidance on the non-energy extractive industries and Natura 2000, is necessary to remove a significant obstacle to achieving Resource Efficiency. Also, the EU must refrain from setting EU-wide Environmental Quality Standards under the Water Framework Directive that are below natural background concentrations.

5.11 Lack of targets/indicators* (compulsory)

Not all existing indicators are applicable to extractive operations and may therefore give an inaccurate view. There is a need to further develop and validate proposed indicators for Resource Efficiency.

5.12 Lack of prioritisation* (compulsory)

The lack of coherence in EU Policy in recent years has acted as an obstacle to investment.

5.13 Insufficient R&D funding and investment* (compulsory)

See 5.5 above.

POLICY TOOLS

1. Lack of long term thinking in private innovation and investment in efficiency

1.1. Education and training of consumers, entrepreneurs, and workers to raise awareness of resource saving opportunities

Mainly at national level due to the different cultures and the different resource issues which will determine different priorities and targets.

1.2 Binding regulations and standards (e.g. fuel efficiency standards, eco-design requirements, compulsory resource accounting and reporting)

Whilst Resource Efficiency is an important target it must not be used as a driver for shortening the life spans of consumer products and industrial installations for the sake of innovation. Industrial installations are major investments and have considerable payback-periods. Scrapping such installations and rebuilding new ones may very well be much more resource intensive than keeping existing installations running. Also it should be ensured that the ecological aspects of the whole exercise do not jeopardise the performance of the installations.

Compulsory resource accounting and reporting might be effective purely for Resource Efficiency aims, but would be a major legal intervention into commercially sensitive areas and would be unacceptable in light of maintaining the international competitiveness of the European industry.

1.3 Mandatory long-term targets
Whilst mandatory long-term targets could be effective in specific areas on a global level (e.g., phasing out of CFCs), since the performance and the quality of products is to a high degree dependent on the amounts and types of resources used, overall targets for resource reduction will have in many cases an impact on these resources and could lead to absurd situations where for example one resource will have to be replaced by a larger amount of another or a more critical one, or will result in another resource becoming more critical. Also, the reduction of total material used could compromise longevity or safety. It might also hinder new developments and innovation.

It should also not be forgotten that an aging population has most likely higher material requirements due to transportation and care requirements.

1.4 Market-based instruments (i.e. energy and resource taxes and incentives) to induce resource saving measures

Incentives are always better than taxes. From an economic point of view, indirect taxes – such as taxation on the use of resources - are less distorting to economic activity than direct taxes. However, the use of indirect taxes may have negative externalities in other sectors, and may raise equity concerns, so they would have to be analyzed on a case-by-case basis.

Environmental taxes should ensure cost-effectiveness and tax neutrality.
- On cost-effectiveness, it has yet to be proved that taxation is the most efficient way to encourage a sustainable use of natural resources, as opposed to market-based mechanisms.
- On tax neutrality, it is imperative that the overall tax burden for companies does not increase as a result of taxation on the use of natural resources. Therefore, if environmental taxation is to be increased, this should be compensated by a decrease level of taxation on social security contributions or other direct taxes, in order to be conductive of growth and job creation, and not hamper competitiveness of European businesses in the world. At present, and given that taxation remains under the jurisdiction of Member States, it is difficult to envisage how this tax neutrality can be achieved from a European perspective. Whilst the EU may be able to agree new taxes by unanimity amongst Member States, it is highly unlikely that the EU could impose corresponding tax reductions.

Lastly, taxation of natural resources must be seen in conjunction with other long-term environmental taxation policies to ensure their mutual coherence and consistency, and to avoid that contradictory proposals conflict with existing or planned policies. For most industries the three main cost factors are: raw materials, energy and labour costs. Therefore, unless the total sum of the three items remains at least the same or is reduced, international competitiveness will be lost. Increasing any of the three will most likely lead to relocation of the industry or the origin of the products consumed in Europe. Investment will be drawn to other locations.

1.5 Financial support to trigger long-term investments in the private sector

Whilst no doubt effective at EU level, this could be seen as a subsidy which risks to be questioned in courts. Alternatively, the European Investment Bank should prioritise the financing of strategic raw materials projects.

1.6 Public-private partnerships in R&D and innovation

See 5.5 above

1.7 Support to R&D and organisational structures

Support to existing and developing new R&D activities and the related organisational structures is very important if the EU shall remain competitive. This can be done at all levels.
1.8 Information tools to strengthen the market for sustainable products (e.g. product labels indicating resource footprint)

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

1.9 Eco-friendly procurement contracts by public authorities (to strengthen the market for resource efficient products)

1.10 Incentives to consume less, re-use and recycle

1.11 Trade policy measures (introduction of sustainability criteria for imported products)

Each of the above three measures would need to be done at international level otherwise for most products international competitiveness can be threatened.

Such trade policy measures would probably be interpreted by the WTO as being similar to the export restrictions currently imposed by China. The EU cannot accuse China of limiting exports on environmental grounds and then exclude certain imports on the basis of sustainability grounds. How would such trade measures be controlled, checked, audited?

1.12 Phase out of environmentally harmful subsidies

In principle yes, but should be seen in a global context, should not override social issues and should not be replaced by other subsidies instead.

1.13 Access to credit for efficient use of energy, water and waste management and other sustainable products and services for households

Positive incentives are better than taxes. Incentives for households are probably most effective at national level.

2. Insufficient public funding/incentives for investment and innovation for Resource Efficiency

See 5.5 above

2.1 Tax incentives for sustainable companies

This will be most effective at national level in the context of different national sustainability targets which reflect their resources’ conditions, but very difficult to do whilst maintaining the Single Market principles.

2.2 Education and training for consumers, entrepreneurs, workers on how to use innovation to their advantage.

This would always be helpful, but at national and regional level.

2.3 Binding technical regulations and standards

It needs to be ensured that such regulations and standards are international and are not stifling innovation. They should not jeopardise or put unilateral obligations on products and services that are in global competition and provide additional hindrances to trade in either directions.

2.4 Financial support to increase energy efficiency of buildings and invest in renewable energy

Effective at regional and local level due to the different climatic conditions.
2.5 Information tools on (e.g. resource footprint information on cars for consumers
2.6 Eco-friendly public procurement to develop the market for more sustainable products and services

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

2.7 Public-private R&D and innovation partnerships

Good suggestion, specific proposals have been made already, but they need to include the whole supply chain and not just recycling. For many metals the continuous recycling means high efficiency, but not all recycling means the material can be used for the same product afterwards due to specific quality requirements of the original product which could be met by the material only after extensive, expensive and resource intensive reprocessing. It is much more economical to use the material in another application. Recycling of many materials, but also of products can increase Resource Efficiency but usually only up to a certain break-even point. As of a certain effort/distance for collecting the end-of life products the effort to collect can outweigh the benefits gained by the recycling effort. This is the reason why many LCA studies have concluded that recycling schemes are only very beneficial and resource efficient in densely populated cities, but not in rural, sparsely populated communities. However, it also indicates that greater recycling potential will come with greater urbanisation. Finally, for some minerals recycling of the original mineral is not possible, but recycling within the next step of the value chain is, e.g. glass and the minerals contained therein.

2.8 Increased funding for resource-efficient infra-structure through EU’s structural and cohesion funds

The extractive industry would benefit substantially from environmentally sustainable transport routes in the form of canals and railroads that can transport bulk material in a more environmentally form. Therefore the extension of these networks is important.

2.9 Other market based instruments

Incentives are always better than taxes.

3. Limits of existing infrastructure (effectiveness at which level)

3.1 Cap and trade-type quotas combined with economic incentives

From the experience of the Emissions Trading System, it has now been accepted that cap and trade schemes limit growth, hinder innovation, jeopardise competitiveness and have the potential to increase fraudulent activities.

3.2 Market-based instruments (higher taxes on energy

For most industries the three main cost factors are: raw materials, energy and labour. Unless the net sum of these three items remains the same or is reduced, international competitiveness will be lost. Whilst the EU may be able to agree new taxes by unanimity amongst Member States, it is highly unlikely that the EU could impose corresponding reductions in income tax.

Environmental taxes should ensure cost-effectiveness and tax neutrality.
- On cost-effectiveness, it has yet to be proved that taxation is the most efficient way to encourage a sustainable use of natural resources, as opposed to market-based mechanisms.
- On tax neutrality, it is imperative that the overall tax burden for companies does not increase as a result of taxation on the use of natural resources. Therefore, if environmental taxation is to be increased, this should be compensated by a decrease level of taxation on social security contributions or other direct taxes, in order to be conductive of growth and job creation, and not hamper competitiveness of European businesses in the world. At present, and given that taxation remains under the jurisdiction of Member States, it is difficult to envisage how this tax neutrality can be achieved from a European perspective.

Taxation of natural resources must be seen in conjunction with other long-term environmental taxation policies to ensure their mutual coherence and consistency, and to avoid that contradictory proposals conflict with existing or planned policies. It is no use giving free allowances under the Emissions Trading System to protect the competitiveness of the European industry, only to then introduce further taxation of the same industry. The new European industrial policy must be given a chance to succeed.

3.3 Subsidies

The Commission should make a decision whether they are in favour of subsidies or not, but not interfere in the markets.

3.4 Development of demand side management strategies in parallel with any major infrastructure projects

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

3.5 Binding technical regulations and standards

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

3.6 Information tools

It should be noted that social and economic assessments are also needed to complement LCA. It is recognized that mining projects can lead to social and economical benefits to local population (e.g. extending to better education and living conditions, providing income to local people), and to a better understanding and awareness of local ecosystems - also within the EU.

3.7 Eco-friendly procurement

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

3.8 Public-private partnerships

See 5.5 above

3.9 Increased funding for resource-efficient infrastructure

Meeting the minimum EU demand for metals & minerals to upgrade and maintain infrastructure is a key challenge for a resource-efficient Europe. For example, the switching from individual fuel driven vehicles to electrified public transport systems will require an enormous infrastructure layout and extension of electrical networks.

4. Current consumption patterns
4.1 Education and training of consumers, entrepreneurs, workers for sustainable consumption and waste generation

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

4.2 Better research and design of consumers’ choices

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

4.3 Binding minimum technical product regulations and standards to remove the least sustainable products from the market

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products. However, in this case imports of non-conforming products would have to be blocked and this might be in contradiction to the EU’s commitments to the World Trade Organisation. Furthermore it may jeopardise the competitiveness of EU products in non-EU markets.

4.4 Market based instruments (e.g. energy and resource taxes reflected in product prices) to make sustainable products more price-competitive

If market based instruments used to promote the interests of one step of the value chain over and above another, economic resilience will be lost (e.g., using a resource-use tax to favour secondary raw-materials over primaries). Economic resilience will only be increased if contributions to Resource Efficiency are sought from all partners in the value chain (e.g., world-leading exploration and mining efficiency as well as world-leading reductions in waste).

Reuse and recycling of resources will provide a contribution to satisfy the growing demand for resources worldwide and in Europe, but will not be able to satisfy the demand in the short or medium term.

Environmental taxes should ensure cost-effectiveness and tax neutrality. EU unilateral taxation on energy and resources will inevitably reduce the competitiveness of the sectors/products that are in direct competition on the world market unless they can be compensated by other cost reductions. Whilst the EU may be able to agree new taxes by unanimity amongst Member States, it is highly unlikely that the EU could impose corresponding tax reductions.

4.5 Information tools

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

4.6 CSR

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products. However, whilst CSR initiatives generally end up being cost-neutral, our experience so far is that they do not provide any advantage in terms of preferential treatment in the market.

4.7 Eco-friendly public procurement

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.
4.8 Trade measures to develop the market for sustainable consumer goods

Such trade policy measures would probably be interpreted by the WTO as being similar to the export restrictions currently imposed by China. The EU cannot accuse China of limiting exports on environmental grounds and then exclude certain imports on the basis of sustainability grounds. How would such trade measures be controlled, checked, audited?

4.9 Stricter requirements for waste disposal and recycling for consumers

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

5. Current business models as barriers to adopting new business models/ organisational innovations by private companies

Resource Efficiency (in terms of process efficiency and minimising losses over the long term) is the core business of mining companies. Historically, the extractive industry has been credited with some of the most important innovations for society as a whole.

5.1 Excessive perceived risks
5.2 Lack of funds/financing

Neither are significant

5.3 Long payback period for investments compared to short-term investors expectations

Very significant. The mining industry, perhaps more than many others, is forced to consider a longer term view because of the long lead-times and payback periods associated with its major investments, which is why a predictable legal framework is so important. If long-term investments are to be made in a more innovative manner, industry needs certainty that the chosen technologies will be supported long enough to ensure a return on investment.

5.4 Limited access to information and knowledge among managerial staff

Not significant

5.5 Lack of suitable business partners

More or less significant. The mining industry, perhaps more than many others, is forced to consider a longer term view because of the long lead-times and payback periods associated with its major investments. If long-term investments are to be made in a more innovative manner, industry needs certainty that demand for new products/resources will remain robust long enough to ensure a return on investment (e.g., re-configuring processing plants to recover an additional metal from the ore).

5.6 Uncertain market demands
5.7 Market dominated by established firms
5.8 Regulations not providing the right incentives
5.9 Lack of qualified personnel
5.10 Lack of adequate infrastructure
5.11 Lack of technological and managerial capabilities

None of the above are significant
6. How potentially effective are the following as ways of shifting business behaviour to resource efficient business models?

6.1 Market-based instruments

Incentives are always better than taxes.

6.2 Cap and trade-type quotas

From the experience of the Emissions Trading System, it has now been suggested that cap and trade schemes limit growth, hinder innovation and jeopardise competitiveness.

6.3 Education & training

Mainly at national level due to the different cultures and the different resource issues which will determine different priorities and targets.

6.4 Binding technical regulations and standards

See 1.2 above

6.5 Easy access to investment/R&D and innovation funding

See 5.5 above

6.6 Information tools

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

6.7 Requirement for public procurement to comply with sustainability and ecological standards

6.8 Trade measures

Each of the above two measures would need to be done at international level otherwise for most products international competitiveness can be threatened.

Such trade policy measures would probably be interpreted by the WTO as being similar to the export restrictions currently imposed by China. The EU cannot accuse China of limiting exports on environmental grounds and then exclude certain imports on the basis of sustainability grounds. How would such trade measures be controlled, checked, audited?

6.9 Voluntary sectoral agreement (with commitments, targets, possibly to become mandatory...)

Whilst mandatory long-term targets could be effective in specific areas on a global level (e.g., phasing out of CFCs), since the performance and the quality of products is to a high degree dependent on the amounts and types of resources used, overall targets for resource reduction will have in many cases an impact on these resources and could lead to absurd situations where for example one resource will have to be replaced by a larger amount of another or a more critical one, or will result in another resource becoming more critical. Also, the reduction of total material used could compromise longevity or safety. It might also hinder new developments and innovation.

7. Inadequate market signals for Resource Efficiency

7.1 Financial support mechanisms to correct price distortions in the market
Whilst no doubt effective at EU level, this could be seen as a subsidy which risks to be questioned in courts.

7.2 Influence markets through pricing environment and resource use

This would need to be done at international level otherwise for most products international competitiveness can be threatened.

7.3 Independent and trustworthy advice (by public authorities) to consumers,…

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

7.4 Information tools

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

7.5 Eco-friendly public procurement to influence markets and consumer perception

The mining industry is supportive of any such means that are proven effective in increasing the useful life and efficiency of its products.

7.6 Trade measures

Trade policy measures are typically a poor way to deal with non-trade issues. Such trade measures would probably be interpreted by the WTO as being similar to the export restrictions currently imposed by China. The EU cannot accuse China of limiting exports on environmental grounds and then exclude certain imports on the basis of sustainability grounds. How would such trade measures be controlled, checked, audited?

7.7 Binding regulations and standards

See 1.2 above

7.8 Private sector financial stimuli (e.g., long-term soft-loan for energy efficient projects)

Whilst no doubt effective at EU level, this could be seen as a subsidy which risks to be questioned in courts.

8 Monitoring and measuring progress on Resource Efficiency

How should the European Commission approach the issue of indicators so that improvements in Resource Efficiency across different parts of the EU economy can be effectively monitored and measured?

With respect to the proposed policy objectives, the European extractive industry would like to caution that there is a high risk that generalisation will lead to a loss of focus on achievable, well targeted measures. Due to the high degree of attempted aggregation, “economy wide material efficiency” could be a useful concept to provide a snapshot of the status of the EU economy as a whole but is not suitable as a basis for policy-making, assessment of policy measures or detailed comparison of countries or products. A “dash-board” of particularly important high-level indicators is more appropriate and will better visualise for the public the necessary trade-offs that are required to achieve Resource Efficiency as we define it at the beginning of this paper.