european aluminium association

Brussels, 24 May 2011

Identification number in the register: **9224280267-20**

EAA Comments on the Public Consultation on a possible Innovation Partnership on Raw Materials

I. Introductory Questions - optional

1.1. With regard to the overall objectives of the Innovation Partnership, do you have any further suggestions/comments?

EAA supports the overall objective to contribute to the mid- and long-term security of access to raw materials, increase resource efficiency and further develop European based recycling activities. EAA, fully in line with the response from Eurométaux, believes that "innovation projects aimed at supporting and securing access to raw materials should relate to mining, recycling, regulatory conditions, knowledge basis and market conditions. In this respect, the objective should not only be to support possible regulatory action but also possibly systems, management and knowledge development". It is very important that - to maximise efficiency and cross-fertilization - some of the future projects involve all stakeholders across the entire value chain e.g. for a project aimed at closing more efficiently the material recycling loop.

Also, EAA supports Eurométaux when stating that clear objectives should be identified so as to then identify how to reach them. For example the objective should not only be to boost recycling but to boost efficient recycling (promoting up-cycling) and ensure that materials, such as aluminium, that can be recycled again and again are systematically entering these recycling routes. Furthermore, in order to encourage recycling activity, environmental savings resulting from the end-of-life recycling must be considered , and not only the recycled content resulting from the past. The stimulation of design for recycling over the whole value chain is then an important element to consider.

EAA would like to stress that recyclability is a key attribute of aluminium as a material with far-reaching economic, ecological and social implications. Aluminium scrap can be recycled repeatedly without any loss of value or properties and recycling saves up to 95% of the energy needed for primary production.

Avenue de Broqueville, 12
BE - 1150 Brussels - Belgium
Phone: +32 2 775 63 63
Fax: +32 2 779 05 31
Email: eaa@eaa.be
Website: www.aluminium.org

european
aluminium association

1.2. With regard to the societal challenge the Innovation Partnership will endeavor to tackle, do you have any further suggestions/comments?

EU research and innovation funding should support EU strategic objectives and should support solutions-driven activities in this respect. Innovation projects should therefore address the issue of access to raw materials from the extraction phase to the end-of-life and recycling including possibly innovation on systems, infrastructure and new business models.

There is also a need for materials such as aluminium to be recognised for full life-cycle contribution to society. One key example of this is: if aluminium contributes to light-weighing in transport and consequently to CO_2 emission reduction, the correspondent environmental gains should be valued and included in the economic equation. Further examples are seen in the role that materials such as aluminium can play in extending the shelf life of food, or improving thermal performance of buildings, thus reducing CO_2 emissions. In other words, emission reductions should be acknowledged in the use phase as well as in the manufacturing and end of life phases.

1.3. With regard to the potential economic benefits the Innovation Partnership could bring, do you have any further suggestions/comments?

EAA fully supports the analysis according to which raw materials are critical to the EU economy and to the capability of the EU to remain competitive and/or have a leading position in some crucial areas and technologies (e.g. green growth, green technologies, etc.).

Supporting the development of a sustainable metals industry in Europe also means that Europe is less dependent on the rest of the world for supplying materials that are key to many downstream sectors.

In some cases, research and innovation is potentially too great a financial burden for a single company without external support. Support for innovation projects that would help meet EU strategic objectives, while generating wealth, is therefore a good investment.
One opportunity here would be to support projects looking at the extraction of valuable substances from process wastes as a means to creating a foundation for joint research projects from interested companies.

1.4. With regard to the EU added value of the Innovation Partnership, do you have any further suggestions/comments?

The EU can bring significant added-value to the creation of wealth and jobs in the EU through a well-structured, coordinated and ambitious innovation policy. Working through an EU-wide program should also ensure the necessary cooperation and

dialogue with different stakeholders – be it throughout a value chain or between industry, universities, institutes, municipalities…

In our view, the main target for our sector is a recycling industry that would have access to recycling alternatives at a competitive cost. This will require investments in R&D that no company in our industry will undertake without financial support from the EU given the high uncertainties the recycling business are facing. We therefore strongly support developing and presenting projects and innovative ideas in this area.

Finally, a strong EU Innovation policy should also ensure more cooperation between MS, foster best practices, reward/stimulate excellence and facilitate access to innovation funding.

1.5. With regard to the main obstacles to be addressed by the Innovation Partnership, do you have any further suggestions/comments?

EAA shares Eurometaux belief that one of the obstacles is the "silo" thinking instead of a desirable value chain approach. This approach would lead to a better identification of the hurdles and challenges be they technological or system related and hence the development of appropriate responses to these.

The whole recycling value-chain should start by increasing the knowledge of the existing and future metals "deposits" and by developing detailed "mass-flow" analysis per market sectors. This would also enhance the possibility of making forecasts of available scraps per category, in order to develop adequate response to the availability.
The industry, legislators, stakeholders and local and regional authorities must then work hand in hand in order to develop adequate end-of-life collection schemes based on best available techniques (BAT) and studies of comparative collection efficiencies per application sectors.
It is also necessary to evaluate the sorting techniques in order to optimize the recycling efficiency. Here some research is also required in order to define BATs.

Let us remind that each kilogram of aluminium collected and sorted is recycled because of the high value of the material!
Some new techniques also need to be developed in order to maximize the recycling efficiency in the preparation and melting of the metal. Furthermore, some of our members have already engaged in research to extend the range of alloys that can be made from recycled material in order to diversify the end markets for the recycled metal.

Finally, society as a whole and industrial users of aluminium need to be educated to accept recycled metal in a wider range of applications than is currently the case.

EAA has already developed some ambitious projects aiming at creating pilots for the whole range of R&D described above.

european
aluminium association

1.6. With regard to the scope for simplification and streamlining of existing instruments, do you have any further suggestions/comments?

EAA and Eurometaux would like to highlight the crucial need for sound implementation and enforcement of existing legislation, including the Waste Shipment Regulation (WSR), but also end-of-life policies.

EAA supports Eurometaux in the belief that the various research and innovation instruments and policies developed by the Commission and the MS should be coherent and support each other so as to ensure some critical mass effect. Consistency and cooperation are also essential in the regulatory framework. And the EU policy and priorities should be relayed at international level to ensure more level playing field and cooperation where desirable.

EAA members also sometimes experience difficulties in shipping some wastes to recycling facilities in EU. The legislation and the administrative controls applicable to sometimes make it difficult to recycle those by-products adequately and economically, . Two key instances of this are: the spent pot-liner from aluminium smelters and bauxite residue from alumina plants.

european aluminium association

II. Concrete Targets

2.1. So far the Commission has identified seven concrete targets to be reached by the Innovation partnership by 2020 at the latest. How do you evaluate the importance of each of the following concrete targets?

	Ranking (1-5) (very important: 5 – not important: 1)
1) Standardised statistical instruments for resources and reserves (land and marine)	2
2) A 3-D geological map in place covering major areas of high potential for deposits	2
3) A dynamic modelling system relating trends in supply and demand with economical exploitable reserves and a full lifecycle analysis available in Europe	5
4)10 innovative pilot actions (e.g. demonstration plants) for RM extraction and processing and use in products, collection and recycling	5
5)Substitutes for at least 3 key applications of critical and/or environmentally impacting RM proposed to be commercially viable	2
6)A EU virtual institute on Education and Training interlinking the national and regional centres of excellence	4
7)A RM dialogue at international level based on concrete structures of cooperation with major partners/regions	2

Comments
The targets 3), 6) and 7) should apply to the whole value chain from mining to recycling.

2.2. Are there any concrete targets/deliverables important to your organisation?
Financing of research projects aimed at recycling of aluminium scrap and process wastes.
These would include technologies for the collection and sorting of waste, as well as the efficient reprocessing of waste; and the extension of alloys and products that can be made from recycled aluminium.

Ease of transporting wastes for recycling

2.3. Do you have any specific suggestion for some of the ten innovative pilot actions (e.g. demonstration plants) for RM extraction, processing and use in products, collection and recycling (optional)
EAA members have identified some key areas for which a coordinated effort in research & innovation is crucial:

european aluminium association

- Developing and facilitating the use of solid waste from primary aluminium production (e.g. spent pot lines, red mud, etc.) within other sectors.
- Developing more detailed and precise in-use stock assessment and mass flow analysis of aluminium products and alloys for better defining recycling potentials and strategies
- Developing accordingly innovative scrap preparation routes (e.g. collecting/dismantling strategies or/and automated alloy sorting technologies) and waste recovery processes (e.g. aluminium recovery from incinerator's bottom ashes)
- Developing innovative melting and purifying technologies to optimise energy use and eliminate some contaminants, e.g. iron
- Developing further recycled-intensive aluminium alloys and expand their market portfolio

2.4. One of the targets of the Innovation Partnership is to find substitutes for at least 3 key applications of critical and/or environmentally impacting RM proposed to be commercially viable. Which of the areas for substitution do you consider most important (optional)?

Substitution should be governed by an appropriate life cycle analysis as well as a cost impact assessment demonstrating the relevance of moving to alternative material. Considering the important in-use stock of metals, EAA members recommend assessing recycling potential and optimising the closed loop material flow.

2.5. Do you have any other suggestions related to these concrete targets?

Detailed In-use material stock assessment and mass flow analysis models should be included in the list of targets since it is an essential element to predict/forecast recycling potentials and to ensure that specific recycling project (bottom-up perspective) fits the European aluminium mass flow from end of life products which will be generated in the coming years/decades (top-down perspective).

european aluminium association

III. Key Components/Work packages

The Commission has identified 5 WP.

WP1 – developing new innovative technologies and solutions for sustainable RM production including:

- Advanced exploration technologies, such as for sensing and 3D/4D mapping
- Innovative alternatives for extraction, incl. frontier technologies such as for the extraction of deep continental crust and marine RM resources that will build a new benchmark in mining or primary resources
- Technologies to reduce the use of hazardous substances in mining processes such as cyanide, and improve recovery and treatment from mining waste, including red mud and abandoned or closed mining waste facilities
- Advanced technologies for the pre-processing steps of minerals and secondary RM such as metals, glass, plastics, waste aggregates etc. via automated sorting systems, and clean and resource efficient processing of RM, such as bio-hydrometallurgy, closed loop processes for most polluting and most value-adding industrial production, incl. innovative technological solutions for water management, combined with energy consumption minimisation and recovery of by-products
- Turning wastes into valuable 2ndary RM by developing more efficient recycling/recovering processes (e.g. metal recycling from municipal waste, thermo-chemical phosphorous recovery from incinerated sludge, rare metals recovery from WEEE, advanced recycling methods for the construction and demolition waste etc…)
- The development of standardisation roadmaps for the above fields to ensure practical application of the research results and binding together the developed technologies to enable the most effective innovation impact.

3.1. Do you agree with the proposed components of the PW? YES
3.2. Please specify (optional)
3.3. Do you have any comments/additional suggestions on this WP? Advanced technologies for the pre-processing steps of secondary RM via automated sorting systems, turning wastes into valuable 2ndary RM by developing more efficient recycling/recovering processes are typical areas where coordinated research efforts are needed. These efforts should address the entire recycling chain for an appropriate optimisation of each process step (e.g. collection, dismantling, preprocessing and recovery) and not only the technical recovery of materials (final step of the recycling chain). In addition, this WP should facilitate the further treatment or use by other sectors of the solid waste generated along the primary aluminium production chain, e.g.

spent pot lines or bauxite residues. Roadmap should ensure a coordinated effort through an holistic approach of the aluminium value chain,
3.4. Which of the above topics do you consider as a priority? Turning wastes into valuable 2ndary RM by developing more efficient recycling/recovering processes. Advanced technologies for the pre-processing steps of secondary RM via automated alloy sorting systems

WP2 – Developing new innovative materials by design and solutions for the substitution of critical materials

Achieving solutions to reduce the use including finding of substitutes of critical scarce or hazardous materials

- First set of priority actions may be derived from identified CRM for our economy and from the most economically vital and ecologically sensitive applications where CRM are used in large proportions or are the crucial components
- Finding sustainable alternatives for example fro rare earths in permanent or heat resistant magnets, LEDs and displays, or electrical devices and regenerative braking; precious metals in catalysers, indium and gallium compounds in semi-conductors, telecommunication or lighting.
- Addressing technical solutions to increase resource efficient production incl. manufacturing in order to be competitive on the global market

3.5 Do you agree with the proposed components of the PW? YES, provided a full LCA demonstrates the relevance of the alternative solution
3.6 Please specify (optional)
3.7 Do you have any comments/additional suggestions on this WP? A life cycle assessment and cost impact assessment should ensure that the alternative solution is relevant.
3.8 Which of the above topics do you consider as a priority?

WP3 – Improving EU's RM regulatory framework, knowledge and infrastructure base

Finding suitable solutions such as those related to:

- Building and innovative knowledge base of EU resources, incl. exploration or primary and 2ndary RM (on land and in the marine environment) and estimations of the resource e availability including urban mines (landfills and mining waste)

european
aluminium association

- Make use of satellite based information systems such GMES
- Identification and exchange of best practices in defining a minerals policy in the MS based on principles of sustainable development and on strict enforcement of the existing legislation notably for what concerns the safety of mining waste facilities, the prevention of mining waste generation and the reduction of their impact on the environment
- Identification of best practices in terms of land-use planning for minerals in the MS and to incorporate the consideration of minerals in marine spatial plans;
- Identifying different instruments (such as one-stop shop or parallel assessment) in order to facilitate the process for authorisation of minerals exploration and extraction in the MS
- Standardisation of geological data including by-products and coherence on the relevant terminology such as common terminology related to mineral and metal classification and production stats.
- Skills to promote technical excellence in line with requirements of a high-tech mining industry and to maximise the added value of innovation

3.9 Do you agree with the proposed components of the PW? YES, but EAA members would recommend also the following objective: Reducing regulatory and administrative constraints for waste shipments to centralised treatment facilities or towards other sectors where these waste are used or valorised.
3.10 Please specify (optional)
3.11 Do you have any comments/additional suggestions on this WP? First bullet point is essential since a precise in-use stock assessment is a starting point for the definition of recycling strategies and potentials. Hence, it should be closely linked to WP1. EAA recommends reducing regulatory and administrative constraints for waste shipments to centralised treatment facilities or towards other sectors where these waste can be used or valorised.
3.12 Which of the above topics do you consider as a priority? Building and innovative knowledge base of EU resources, incl. exploration or primary and 2ndary RM (on land and in the marine environment) and estimations of resource availability including urban mines and mines on wheels (landfills, mining waste, resource in use in buildings and in transport means)

european aluminium association

WP4 – improving the regulatory framework via promotion of excellence and promoting recycling through public procurement and private initiatives

Pursue the following non-technological actions:

- Finding appropriate tools for a timely assessment of the officially adopted targets in particular by taking advantage of the experience of the most advanced MS;
- Promote the application of the existing BAT documents for the extractive industry inside and outside EU;
- Improve the profitability and reduce the cost of recycling by enhancing efficiency in the collection, sorting and recycling of waste, incl. by:
    - Examining innovative economic models for incentivising consumers to return waste to collection points
    - Identifying and examining existing collection systems which combine competition, high recovery rates, environmental protection and low costs;
    - Developing new economic instruments promoting the use of recycled materials and the further development of EU based recycling industry;
- Identifying ways of tracking major flows of waste inside and outside the EU to eliminate illegal or sub-standard treatment of waste by a strict application of existing legislation;
- Develop new product policies focused on material efficiency (recyclability, durability etc.) through various type of EU instruments: GPP, ecodesign, ecolabel…
- Propose and implement standardisation and/or certification schemes for example fro recycling facilities inside and outside the EU to avoid environmental leakage to assist and complement recycling companies' activities, through interoperable authority-company systems for tracking waste to prevent illegal dumping/trade for collecting processing hazardous waste electronic equipment.

3.13 Do you agree with the proposed components of the PW? YES
3.14 Please specify (optional)
3.15 Do you have any comments/additional suggestions on this WP? Promoting and encouraging BAT along the aluminium value chain, including maximising recycling efficiency and profitability is very welcome by the European aluminium industry. However, EAA recommends using voluntary agreements/instruments instead of regulatory instruments as the former can be designed to facilitate the adoption of best practices at the same time as safeguarding competitiveness. Product policies and associated background assessment methodologies should reflect and consider adequately any result derived from the raw material initiative. In particular for metal products, recycling performance over the whole

product life cycle needs to be taken into account in the background LCA methodology. Hence, EAA recommends using the following terminology as alternative to the fifth bullet point.

- Securing the appropriate consideration of material efficiency (recyclability, durability etc.) within current and future product policies developed through the various types of EU instruments: GPP, ecodesign, ecolabel…

Current EU GPP criteria for construction products and the Ecodesign Methodology (MEEuP) mostly refer to the recycled content of metals, which is a commonly used but not sufficient indicator of resource saving. Some products may have a high recycled content, but may not be recyclable a second time because of unacceptable loss of properties. EAA calls on EU legislators to include end-of-life recycling in all criteria and methodologies.

3.16 Which of the above topics do you consider as a priority?

- Improve the profitability and reduce the cost of recycling by enhancing efficiency in the collection, sorting and recycling of waste
- Identifying ways of tracking major flows of waste inside and outside the EU to eliminate illegal or sub-standard treatment of waste by a strict application of existing legislation;

WP5 – International framework – horizontal approach

Promoting appropriate international cooperation, incl. with exporting or recycling in developing countries. This cooperation may deal with different policy issues such as:

- Geology and improving the geological knowledge
- Research and innovation
- Trade and investment conditions
- Policy dialogue/ co-operation with international organisations such as EITI, World Bank and African Union

3.17 Do you agree with the proposed components of the PW?

EAA do not consider this as a key main priority

3.18 Please specify (optional)

european aluminium association

3.19 Do you have any comments/additional suggestions on this WP? Cooperation could be an objective but better regulating the scrap exports is also crucial since a significant fraction of metal scrap exits Europe, e.g. ELV, representing a big amount of resources leaving Europe. Hence, it is advisable to: - analyse scrap export from Europe - analyse the recycling practices applied to this scrap flow - develop accordingly legislative measures to limit the leakage of such valuable resources towards other regions.
3.20 Which of the above topics do you consider as a priority?

IV. General questions

4.1. Do you think SMEs are well represented in this Innovation Partnership
4.2. How could the EU EIP on RM increase active involvement of SMEs (optional)?
4.3. How could the EU EIP on RM increase active involvement of citizens and civil society (optional)?
4.4. Do you know any other sources of data that the Commission should take into account when designing and implementing its EIP? Studies/results?
4.5. What are your organisation's main issues re. RM that you would like to draw the attention of the Commission to? (optional)
4.6. What do you consider to be the most important elements of the good functioning and success of the EIP on RM (e.g. flexibility, pragmatism, interdisciplinarity, …) (optional)? Considering the whole material value chain (holistic approach) for optimising and maximising the benefits of innovations addressing the various process steps.