EUROMETAUX
EUROPEAN ASSOCIATION OF METALS

EUROFER
The European Steel Association

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Eurometaux and Eurofer proposed approach with regard to Resource Efficiency Indicators

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1) Executive Summary

Eurometaux and Eurofer are pleased to know that the Commission along all stakeholders recognise the weaknesses of DMC as lead indicator and hence the need to replace it by RME or RMC (raw material equivalent or consumption) which needs to be improved. In this context and acknowledging the Commission's will to adopt indicators by 2013 and although the effectiveness of a rushed approach may be questioned, we would like to suggest a staged approach by which the Commission would select a set of provisional existing indicators for monitoring and lessons learning, while in parallel it would define more appropriate indicators to be adopted within a 2-3 year period (for example RMC improved). Data would then be collected on the final set of indicators and targets would only be defined when the latter is robust and satisfactory.

Eurometaux and Eurofer strongly feel that macro-economic indicators should not be used for policy making, nor be disaggregated per sector. For policy making more specific indicators should be used.

Neither the macro-economic nor the more specific resource efficiency (RE) indicators should purely refer to weight flows. Appropriate RE indicators should take into account whether a material is consumed today and lost for the future or if a material is used today and remains available in the future, being a permanent material (as recyclable time and time again).

In this context recycling is a key asset in terms of resource efficiency and needs to be considered properly. Eurometaux and Eurofer are convinced that the End-of-Life (EOL) recycling rate is a most relevant indicator in order to measure and account for metal availability for future generations and should be reflected particularly in a macro-economic RE indicator. The aspects of longevity and durability of metals in their application should also be reflected in the macro-economic RE indicators because these aspects reflect also the availability of metals for future generations. Eurometaux and Eurofer would welcome discussing this with the Commission.

Eurometaux and Eurofer support the adoption of "Raw Material Equivalent" (RME) to replace DMC as reference for resource productivity as it presents the advantage of considering the raw materials embodied in products. However, RME also presents different weaknesses including that of being weight-based, of incentivising minimal rather than optimal use of materials and disregarding the material in stock (see full list of weaknesses under 4). Eurometaux and Eurofer believe that these aspects need to be considered in an enhanced methodology and tested to ensure that the model is robust before any sectoral consideration or consideration for policy decision can be made.

See also detailed comments on the dashboard and thematic indicators under 5 and 6.

2) Indicators, Targets and Policy making

The Commission's objective to adopt indicators for which data are available by the end of 2013, even if some are not satisfactory in terms of scope or approach, presents some risks. Eurometaux and Eurofer however acknowledge the time pressure under which the Commission is meant to deliver and is pleased to hear that the Commission recognises some of the weaknesses of the proposed indicators, such as DMC for example.

In view of the above, Eurometaux and Eurofer would strongly advocate in favour of a staged approach by which

- Existing indicators would be selected taking account of the availability of data by the end of 2013. These would be provisional at least for those that are considered as being unsatisfactory. The data collected would be monitored and analysed so as to identify strengths, weaknesses and sensitivity elements.
- In parallel, the Commission and stakeholders would work on the identification of alternative indicators that would better serve the purpose of monitoring resource efficiency (for example replacing DMC by RME or RMC) – the objective could be to have a set of "better" indicators by end 2015.
- Collection of data would start on the new indicators as of 2016 taking account of the lessons learnt from the monitoring of the first "provisional" set of indicators.
- Targets should not be set on the provisional indicators first because they can be misleading and secondly because their communication would be confusing especially when new indicators will be defined and used. Hence targets should only be defined on the basis of the final set of indicators.

Eurometaux and Eurofer believe that macro-economic indicators (lead indicator and dashboard indicators) should not serve as a basis for policy development as they are so much aggregated that they simply show a yearly overall trend for a given region (the EU in this case). Policy development in mature economies equipped with plenty of policies needs to be more refined! Eurometaux and Eurofer believe that a more life-cycle based approach or an approach based on e.g. waste specific indicators (WEEE, EoL targets…) is more appropriate for policy development taking account of the challenges identified for the different value chains.

Eurometaux and Eurofer also believe that macro-economic indicators should not be disaggregated per sector as this would provide a misleading snapshot. For example the import or production of metals can increase due to an increase in the use of solar panels or windmills to replace oil. So this would show as a decrease in oil imports and an increase in metals imports!

3. Resource efficiency indicators and recycling

Recycling is a key asset in terms of resource efficiency and needs to be considered properly. Metal products that reach the end of life are usually recycled. For example, more than 95% of the metal products used in buildings or transport are collected at end-of-life and recycled. Metal recycling provides energy and resource savings of between 60% and 95% compared to primary production, depending on the metal and the metal-bearing product. Metal recycling creates a win-win situation for both the environment and the economy. Today, two indicators are typically used to address recycling aspects: "recycled content" and "end-of-life recycling rate". Recycled content looks at how much recycled material is used in the production of a new product. Situated at the beginning of the supply chain, the recycled metal content does not reflect the intrinsic recycling potential of a metal product. The End-of-Life (EOL) recycling rate compares the actual

amount of metals obtained from recycling with the amount of metals theoretically available at the end of the life of a product. Including metal losses during collection, scrap preparation and melting, it directly reflects the specific recycling performance of a metallic product independently from market growth or its lifespan. Hence, it is the most relevant indicator in order to maximise and preserve metal availability for future generations. This indicator is widely accepted in the scientific community (UNEP SETAC, ILCD), is in line with the approach used by academia (Yale University) and is used by internationally known experts (United Nations Panel on Resource Management).

The rapid growth in the use of metals over many years and the fact that many metal products typically have a service life of decades mean that there is an actual shortage of metal scrap coming from the end of life stage. As there is insufficient recycled material to satisfy the growing demand, virgin material has to be introduced into the supply chain. So, despite having efficient collection and recycling of metal products at the end of their life, the average recycled content in the metal used may be still relatively low. Hence, there is today a discrepancy between the two indicators resulting from the combination of metal durability (i.e. metal products have usually a long life span) and market growth. It is then crucial, especially for metals, that the resource efficiency indicators do not take into account only the recycled content (i.e. current production mix) but also reflects the additional benefits resulting from the end of life recycling stage.

A possible solution could be inspired from the European standard EN15804 defining the rules for the environmental product declaration of building products where additional benefits resulting from the end of life stage are reported in a separate module, i.e. so-called module D. Any double counting/crediting is avoided by addressing the net flow of secondary materials (i.e. scrap) within this module. Eurometaux and Eurofer experts would be pleased to discuss further this possible option with Commission experts.

4) Lead Indicator – DMC versus RME

As many stakeholders and as recognised by EREP, Eurometaux and Eurofer feel that Resource Productivity based on DMC is not an appropriate lead indicator as it focuses on materials consumed, while ignoring the other resources (as defined in the Resource Efficiency roadmap) and presents different major weaknesses. The indicator has a number of weaknesses which can be summarised as follows:

- It does not take account of the hidden flows that is the material embedded in imported products, and as such, it incentivises imports of finished products and delocalisation of industry.
- It is weight-based and hence does not reflect the difference in environmental and economic impacts per functionality.
- It incentivises minimal rather than optimal use of resources
- It does not take into account the fact that the material in stock is not consumed if it is recycled at end-of-life. Hence it should not be counted as burden at the moment the material is transferred to the stock.

Instead Eurometaux and Eurofer support the adoption of “Raw Material Equivalent” (RME) to replace DMC as reference for resource productivity as it presents the advantage of considering the raw materials embodied in products. Eurometaux and Eurofer have studied carefully the IFEU report carried out for Eurostat and which is entitled “Conversion of European product flows into raw materials equivalent” and would like to make the following comments and recommendations:

- The methodology based on the conversion of material flows into RME seems to be logical in as much as we can judge, notably as it combines a weight and monetary approach and as it considers different metals.
- However the model
    - Still incentivises minimal rather than optimal use of materials and disregards the material in stock.
    - Lacks transparency for example with regard to the conversion factor used. More transparency is required so that the accuracy of the conversion factors can be assessed.

- Provides no information about the environmental benefits or impacts of using metals because it is still overall a weight-based approach that does not distinguishing different materials which potentially have very different densities.
- Seems to disregard sensitivity elements such as the variation in metal prices which can impact quite significantly on the end result. The same applies to the recycling rate which can vary year on year.
- Is unclear as to whether double counting is avoided e.g. metal used for the production of a cable which is then used for the production of a motor… is the copper extracted counted twice?
- Considers recycling aspects only from the recycled content angle which is in our view not an acceptable approach for metals since it does not capture the actual recycling benefits of metal products at the end of their life cycle. As explained here above, Eurometaux and Eurofer would like to discuss with the Commission how the end-of-life recycling approach for imported as well as for domestic products can be considered.
- Does not consider the replacement effect when taking an application or sector specific approach or in other words the fact that consuming metals to produce for example wind mills will reduce the need to import oil.
- Does not take into consideration the durability and longevity in applications of materials such as metals.

Eurometaux and Eurofer believe that these aspects need to be considered in an enhanced methodology and tested to ensure that the model is robust before any sectoral consideration or consideration for policy decision can be made.

Addressing the benefits of durability - Example of wind mills

In order to address specifically the benefits of material durability (excluding recyclability aspects), Eurometaux and Eurofer propose using a methodology considering the life span of products classified in 4 categories:

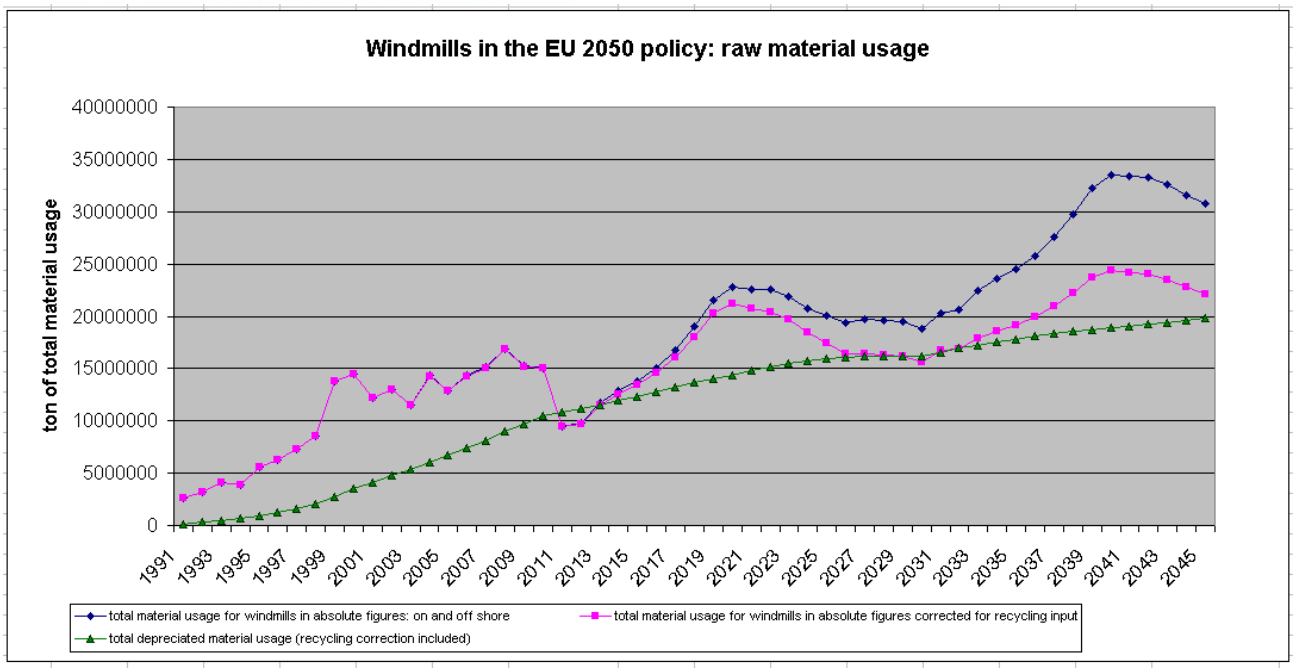
- Short life materials: consumed over one year (e.g. packaging)
- Materials consumed over 1 to 5 years (e.g. computers)
- Material consumed over 5 to 20 years (e.g. cars)
- Material consumed between 20 and 50 years (e.g. building material)

These categories should be used to reflect the positive effect of the "material durability" (see example here below) in the RME.

The wind mill case study aims to consider the environmental benefits of long lasting infrastructure and equipment on the resource usage when taking into account the function over the life time. The past and planned investment of the windmill scenario in the EU from the start in 1991 up to 2050 is used to test an indicator which takes into account the life time of the windmill.

Indicators used

- Total material usage in absolute terms
- Total material usage in absolute terms corrected for decommissioning and recycling efficiency of decommissioned construction
- Total material usage corrected for recycling but depreciated over a life time of 20 years



The graph shows that the effect of recycling will become visible once the lifetime of the equipment has been reached: 20 years after the installation of the first windmills the first two indicators start to deviate. The depreciated material usage approach is spreading the material usage equally over the entire life cycle of the equipment and provides a view on the stock being built in the sector. In this practical example of the windmills in the EU the massive uptake of additional investment results in a gradual increase of the depreciated material usage over time.
This graph doesn't show the impact of the investment in resource usage on other sectors such as the energy sector. In the case of the windmills the renewable energy produced thanks to the material usage is resulting in less resource needs for the generation of electricity. A high investment in raw material usage in the equipment sector will be required to lower the resource needs in the power generation sector and to lower other impacts in the latter sector such as CO2 emissions.
If indicators would be introduced to monitor the resource efficiency of sectors care must be taken of such mutual impact of one sector on another sector to avoid wrong conclusions in each sector.

5. Dashboard indicators

The aim of the dashboard indicators is to complement the lead indicator but the three indicators proposed present some key weaknesses:

- the definitions of the components are unclear;
- carbon footprint oversimplifies the overall impact and may not recognise the downstream aspects including use phase and recycling.
- water exploitation index has serious limitations as it aggregates different resources and does not consider the way the water is used or whether water is scarce or not in a given country. Local conditions should clearly be taken into account.
- Water index and carbon footprint may not recognise the downstream aspects including use phase and recycling.

Hidden flows, use phase benefits and impacts and recycling should be reflected in these indicators. Having the weaknesses in mind the dashboard indicators are for the moment best limited to communication tools rather than being used as drivers of policy.

Where indicators are already monitored and used for policy, e.g. GHG emissions or air emissions, there should be due consideration of these in any overall resource efficiency approach to avoid overlapping and maybe somewhat counter-productive policies.

6. Thematic indicators

Recycling:
Aggregated data do not provide any meaningful indication of rates, progress and needed policy focus. The indication of material recycled of the municipal waste is an interesting indicator although it does not tell how much is not reaching the municipal waste treatment facilities. Targets should not be set on weight only but rather on the proportion of material recycled to avoid discouraging the recycling of low weight materials which sometimes contain valuable materials.

Recycling leads automatically to the prevention of extraction waste, and to reducing landfill or incineration, but does not lead to prevention of pre- or postconsumer waste. Therefore, Eurometaux and Eurofer recommend using the total waste generation indicator as an indicator of how MS manage their waste and reduce waste, and to use policy measures related to ecodesign to enhance design for recycling and extend the durability of products. However, in parallel to this, recycling indicators per stream should be monitored and ambitious targets should be set (e.g. packaging or WEEE) so as to promote recycling per se.

The inclusion of secondary waste (waste from recycling and recovery facilities) in the TWG indicator implies a double counting of such waste, as it is counted both before and after the recycling/recovery operations. It also leads to the paradoxical result that an increase in recycling activity would lead to an increase in Total Waste Generation. To avoid double accounting of waste "secondary waste" should be excluded from the TWG indicator.

Environmental taxes
Eurometaux and Eurofer strongly believe that the index of environmental taxes (amount of state revenues collected through environmental taxes) only reflects the monetary incentive to use lesser resources. The high cost of materials (and certainly metals) already incentivises companies to do so.

For more information

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