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Detailed comments on the European Commission's "Roadmap to a resource efficient Europe"

In a world of finite resources with a rapidly growing population, efficient use of resources is a crucial aspect of sustainable development. The chemical industry is instrumental in using natural resources efficiently and providing solutions to other sectors such as buildings, automotive and food. Cefic supports the efforts of the European Commission to propose a vision for a resource-efficient Europe[1]. We welcome the EU Resource Efficiency Transition Platform proposed in the roadmap, and request a seat at the table to ensure the chemical industry can play an active and constructive role.

From the industry perspective, resource efficiency means an efficient use of raw materials and other resources to manufacture products, which in turn allow for resource-efficient consumption and efficient recovery of resources, including energy. The chemical industry favours a resource strategy which largely relies on the market for creating the necessary innovations and for steering scarce resources towards their most efficient use. EU resource efficiency policies can support the economy on its way towards a sustainable use of resources by:

- Providing incentives for the development of innovative, resource-saving processes and products and eliminating obstacles that impair their application and dissemination;
- Ensuring that resource efficiency policies do not lose sight of the need to secure the international competitiveness of the European industry;
- Adopting a bottom-up approach and, when appropriate, applying the subsidiarity principle to account for the diversity of resource challenges. Prioritisation is needed to address the constraints and opportunities in light of the diverse economic contexts throughout the EU.

Key comments:

A. Support to roadmap's aims and focus on life cycle approach:

- Cefic supports the roadmap's aim to create systemic change in the way we use resources and its strong focus on a life cycle approach and circular economy. We appreciate the idea of a long-term vision for a resource-efficient Europe while emphasising the need for a feasible, cost-effective and practical pathway towards this vision.
- The boost to resource efficiency can only be achieved by working along value chains from the material provider to the end-user sector and "closing the loop".
- Cefic considers the efficient use of natural resources as a key element of the chemical industry's contribution to sustainable development within the EU27.

B. Competitiveness proofing in the global context:

- It is important to consider the impacts of the proposed policy measures on the competitiveness of European industry. In line with the Commission's Communication on Integrated Industrial Policy[2] and the conclusions of the Competitiveness Council on resource efficiency[3], Cefic calls for an in-depth impact assessment of the roadmap focusing on competitiveness and job creation opportunities across the EU (competitiveness proofing).[4]

[1] European Commission Communication "Roadmap to a Resource Efficient Europe" (COM(2011)571, 20.9.2011
[2] European Commission Communication "An Integrated Industrial Policy for the Globalisation Era – Putting Competitiveness and Sustainability at Centre Stage", COM(2010)614, 28.10.2010
[3] European Council "Conclusions on a competitive European economy : Industrial competitiveness in the light of resource efficiency", 29.9.2011
[4] See also the recommendations of the High Level Group on the Competitiveness of the European Chemicals Industry (2009): http://ec.europa.eu/enterprise/sectors/chemicals/competitiveness/high-level-group/index_en.htm

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- For policy proposals aimed at transforming the European economy, sectoral impact assessments and transition periods in a global economic context are essential.
- Cefic advises not to create policies generating new unilateral costs for the EU economy. Potential EU measures for the costing of ecosystem services, as discussed in the roadmap, would risk distorting the level playing field if other regions did not introduce similar measures. To be conducive to growth and job creation, shifting taxation towards taxing the use of natural resources should not result in an increase of chemical companies' overall tax burden.
- Access to raw materials under fair conditions and at predictable and affordable prices is a vital issue for the competitiveness of European industry. These challenges are not only key for rare earths, but for a wide variety of raw materials and resources.
- The EU should use its influence to work with international institutions towards the harmonisation of appropriate global standards (e.g. for product design) and promote resource efficiency internationally, in particular in the context of Rio+20.

C. Holistic approach to resource efficiency along the value chain:

- Resource efficiency initiatives should consider the full life cycle of products and all three pillars of sustainability: environmental, economic and social. An integrated approach is needed when implementing concepts such as circular economy, recovery and recycling, and eco-design.
- We would like to see a stronger boost to resource efficiency that can be achieved by working along the entire value chain. This would foster more consistency in the way environmental impact assessments are carried out. Cefic calls for a standardised approach to life cycle analysis (LCA) that is accessible to businesses of all sizes and includes the development of specific guidelines per product category or sector.

D. Smart regulation to ensure consistent implementation and market orientation:

- A wide range of EU policy instruments exist (waste legislation, eco-design directive, eco-labelling, green public procurement, end-of-life vehicles directive, WEEE directive, etc.), to promote resource efficiency. The efforts should first concentrate on fully implementing the *acquis* and evaluating its effectiveness before, if appropriate, modernising and simplifying it or proposing new legislation and instruments.
- On the way towards a 2050 vision, it is important to find the right mix of implementation tools, including market-based instruments and soft tools for information, awareness-raising and behaviour change – in particular appropriate incentives. The implementation of the roadmap should be a cross-cutting activity in Commission DGs and Parliament Committees.

E. A resource-efficient Europe is an innovative Europe:

- Reaching the roadmap's objectives requires innovation efforts. Optimised production processes, innovative processes for recycling, recovery and substitution, innovative business models, products and advanced materials are vital to a smart, sustainable and inclusive European economy and society. Through these, the chemical industry continues to further enhance its own resource efficiency and provide solutions for resource efficiency in key sectors, such as mobility and housing, and throughout the economy.
- The role of public-private partnerships needs to be strengthened to bridge the gap between research and market exploitation and to gain the critical mass Europe needs in global competition.
- The European chemical industry is ready to transform its innovation potential into practical, sustainable solutions. As an example, a concrete research and innovation agenda on resource efficiency has been put forward through the European Technology Platform for Sustainable Chemistry (SusChem) and in collaboration with several European process industry sectors. This is complemented by our industry's vital contributions to the candidate European Innovation Partnerships on Raw Materials, Water Efficient Europe and Smart Cities.

Cefic is ready to play a key role and requests a seat at the table in the upcoming EU Resource Efficiency Transition Platform.

Comments on specific issues:

1. Transforming the economy

1.1. Sustainable production and consumption

The chemical industry fully supports the aims of the life cycle approach promoted in the roadmap. However, the global economic and competitive context needs to be taken into account. As an enabler industry, the chemical industry is an integral part of every value chain: considering the entire life cycle is essential to optimise the impact and benefits of its products.

We have concerns about the following:

- Green Public Procurement: The criteria should be clearly defined and remain science-based. They should also take into account the market situation and the sustainable availability of green products. Fostering a life cycle approach is necessary to avoid undue discrimination. To be sustainable, products have to fit consumer needs: the focus should be not only the "green" status of a product, but its efficiency and effectiveness in meeting consumer and societal needs while fitting in "social acceptance".
- Environmental impact: The chemical industry recognizes the need for a common methodology to measure the environmental impact of products and processes. While the current ISO standard for lifecycle analysis (LCA) should be developed more thoroughly per product category, some flexibility in the application should be ensured to take into account current industry practice. Standardisation efforts should also consider social and economic aspects. To maximise their benefits, the methodologies developed in the EU should be simple so that they are accessible to non-experts and not cost-prohibitive. This would support their adoption at international level and drive the harmonisation of global standards.
- Eco-design: The current focus of the eco-design directive is on energy and energy-related products. Any further extension of the directive to cover non-energy-related products should be carefully assessed to avoid redundancy with other schemes, such as the Ecolabel and Green Public Procurement criteria.
- Information to consumers should consider the three pillars of sustainability, as shown on page 5 of the roadmap. Environmental impact only reflects one of the three pillars. Information to consumers should always go along with other information such as proper and efficient use and safety requirements.
- Take back and recycling schemes: Prevention, re-use, recycling and recovery should be promoted and prioritisation made on the basis of a life cycle approach in line with the waste hierarchy to identify where the most resource-efficient measures can be put in place.
- Substitution of chemicals: While the REACH regulation includes a tool for identifying substances of very high concern for safety (SVHC), it is not aimed at identifying efficient chemicals. As REACH does not introduce a full lifecycle assessment when listing SVHC, there is a risk that a listed chemical is phased out for an alternative that is less efficient and/or shifts environmental impact to other compartments.
- The roadmap sees avoiding dangerous chemicals as a way to enhance resource efficiency. A distinction should be made between the intrinsic hazards of the substance used and the risks they pose during production and use. Many 'dangerous' chemicals are needed to produce end products that are not harmful and have environmental benefits, and the risks are well controlled during the production phase. Chemistry can also help increase resource efficiency throughout the value chain through the production of strong, light and smart materials. Among other areas, these materials can make a positive contribution in resource-intensive industries, including the chemical industry itself. The proposed Research & Innovation public-private partnership on 'Sustainable Process Industry through Resource and Energy Efficiency' aims to develop enabling technologies and solutions needed to reach long-term sustainability throughout the value chain.

1.2. Turning waste into a resource

We support the life cycle approach to waste prevention and management.

We have concerns about the following:

- It is important to ensure consistency with existing regulations, such as the Waste Framework Directive (WFD). For instance, the definition of "non-recyclable materials**"** should take into account some basic principles as given in the WFD (Art 4), i.e. "the general environmental protection principles of precaution and sustainability, technical feasibility and economic viability, protection of resources as well as the overall environmental, human health, economic and social impacts".
- The roadmap focuses heavily on the use of waste as a resource for material use. Limiting energy recovery to non-recyclable materials oversimplifies the potential "competition" between energy and material recovery. Aspects of technical feasibility and economic viability, protection of resources as well as the overall environmental, human health, economic and social impacts should be considered, as recognised by the Waste Framework Directive.
- It is important to ensure that waste policies intended to reduce waste in Europe (e.g. end-of-waste criteria) do not open the door to more exports of valuable materials outside Europe.

1.3. Supporting research and innovation

The roadmap's objectives can only be reached through innovation efforts – innovation not only in consumer products but also in optimising production processes, in new business models, in advanced materials, recycling, recovery and substitution as well as in energy recovery and storage. Such innovations will also give the European economy – and therefore industry – a competitive advantage vis-à-vis our main trading partners.

We have concerns about the following:

- While expressing the need to support "research and innovation", the roadmap seems to focus on actions related to research and research funding only, such as for the Commission to "pool national research efforts" and for the Member States to "focus public research funding" on resource efficiency. This research agenda needs to be complemented by an innovation agenda focusing on technological development, demonstration projects and scale-up initiatives that help bring research results and inventions into the real market. The innovation agenda should also go beyond technology to foster a favourable policy framework for both big and smaller enterprises and a mindset change for all societal actors.
- The roadmap focuses on the need for increased private investment in resource-efficient research and innovation. The private sector already invests considerably, and will continue to do so, into R&D in technologies relevant for energy efficiency, water efficiency, the efficient use of raw materials and sustainable industrial processes throughout the value chain. However, both private and public efforts have to be leveraged to pull together the critical mass Europe needs to succeed in global competition. Furthermore, technology drive and the market pull initiatives should be balanced.
- The boost to resource efficiency innovation can only be achieved by working along value chains – from material provider to the end-user industry and back. As an example, when addressing the resource efficiency in the various sectors such as buildings, the roadmap seems to focus only on the value chain between the end-user industries mentioned above and maybe maximum to their finished materials supplier. A more efficient way to boost innovation and reach the resource efficiency objectives would be to stimulate innovation at the other levels of the value chain simultaneously in terms of production processes, enabling technologies and materials.
- New technologies, such as – but not limited to – nanotechnologies, can bring important solutions for resource efficiency. Innovation should be spurred and not hampered by a hazard-based application of the precautionary principle. Instead, the precautionary principle requires an open mind towards new technologies and regulation solely based on risk, not hazard.

- The European chemical industry is ready to take on the current challenges and transform its innovation potential into practical and sustainable solutions. As an example, a concrete research and innovation agenda on resource efficiency has been put forward through the European Technology Platform for Sustainable Chemistry (SusChem) and in collaboration with several European process industry sectors. This is complemented by vital contributions to the candidate European Innovation Partnerships on Raw Materials, Water Efficient Europe and Smart Cities through our value chain engagement.

In light of the above, the role of innovation public-private partnerships along the value chain needs to be strengthened, as they have a proven track record for effective models of public-private engagement in demonstration projects and scale-up, which are the tools needed to transform research results into markets and solutions.

1.4. Getting the incentives right

The chemical industry favours a resource strategy which largely relies on the market for creating the necessary innovations and for steering scarce resources towards their most efficient use. The importance of "soft tools" to inform and change behaviours of all actors should also be stressed.

We have concerns about the following:

- Resource efficiency policies should not lose sight of the need to secure the international competitiveness of the European industry. Otherwise, there is a risk of relocation abroad – with the consequence of compromising overall resource protection. A competitiveness proofing of the proposed measures is needed. This was also stressed by the European Commission in its Communication of October 2010[5] announcing that "it is important to ensure that all policy proposals with a significant effect on industry undergo a thorough analysis for their impacts on competitiveness". The Competitiveness Council of 29 September 2011, too, warned not to lose sight of the competitiveness impacts of resource protection measures.[6]
- In order to be conducive to growth and job creation and to protect the overall competitiveness of the European industry, chemical companies' overall tax burden should not increase as a result of any tax on the use of natural resources. Shifting taxation towards taxing natural resources used in European production would risk harming the competitiveness of EU industry. As similar products made outside the EU would not bear such a tax burden, such taxation would only lead to a shift of our production to regions with significantly lower standards regarding the efficient use of resources. Moreover, while measures may be tax neutral overall, they can still bear heavily on capital-intensive industries. Transition periods and compensation mechanisms should be foreseen.
- A positive measure to contribute to resource efficiency while safeguarding the competitiveness of EU industry could be R&D tax credits.

2. Natural capital and ecosystem services

2.1. Biodiversity and ecosystem services

The chemical industry recognises the importance of biodiversity and ecosystem services. The chemical industry contributes to biodiversity preservation and is a solutions provider for the bio-based economy – the sustainable use, production and conversion of biomass for food and feedstuffs, fibre, pharmaceuticals, energy and chemicals.

We have concerns about the following:

- New measures and instruments (especially on innovative financing mechanisms, pricing of natural resources/ecosystem services), as mentioned in the EU biodiversity strategy, need

[5] European Commission Communication "An Integrated Industrial Policy for the Globalisation Era – Putting Competitiveness and Sustainability at Centre Stage", COM(2010)614, 28.10.2010

[6] European Council "Conclusions on a competitive European economy : Industrial competitiveness in the light of resource efficiency", 29.9.2011

to be further assessed in order to ensure the effective and coherent implementation of the strategy (see Council resolution of June 2011). There has to be an assessment on the competitiveness impacts for the chemical industry (competitiveness check).

- New measures and instruments should be in line with other policy areas like the Knowledge-Based Bio-Economy (KBBE): we should avoid that one and the same industrial activity would receive incentives from one policy domain and taxes from another.

2.2. Water

Regulated by the Industrial Emissions Directive (former IPPC Directive), many chemical plants are already subject to specific measures aiming at water efficiency, but the commitment of the chemicals sector to this goal goes beyond the requirements of environmental legislation in force. The chemical industry welcomes support for industry initiatives for continuous improvement on water efficiency, for example in the area of water use, diversification of water sources (according to the uses) and the development of appropriate infrastructure for water re-use. We also support the river basin management approach promoted in the roadmap, acknowledging a variety of situations across economic sectors and geographic areas.

We have concerns about the following:

- In the design of water efficiency targets, local differences regarding water availability should be accounted for to avoid unnecessarily stringent measures.

2.3. Land and soils

Arable land, and especially fertile arable land, is next to water one of the world's most limited resources, and using it as sustainably and efficiently as possible will be a major challenge for the future. Agrochemicals produced by the chemical industry contribute to a more sustainable use of land.

We have concerns about the following:

- The roadmap proposes that Member States should by 2015 implement the actions needed for the preservation of fertile soils and the identification of contaminated sites, by setting up an inventory of contaminated sites. In setting up such an inventory, alignment with the Industrial Emissions Directive needs to be ensured, in particular the requirement for companies to prepare a soil baseline report. Remedial work plans should be proportionate and risk-based. Guidelines and actions aiming to limit soil sealing should include insights on the importance of using brownfields instead of greenfields for the development of human activities; the valorisation of brownfields should be addressed.

3. Key sectors

3.1. Improving buildings

Through its products, the chemical industry has demonstrated its ability to provide solutions for efficient buildings. For instance, a McKinsey & Company report commissioned by the International Council of Chemical Associations (ICCA) to quantify the life cycle impacts of carbon abatement solutions enabled by the chemical industry[7] found that by using appropriate foam insulation, an efficient building could save up to 230 times the CO2 emissions needed to manufacture the product.

We have concerns about the following:

- Most construction material producers, not only producers of construction chemicals, have concerns regarding the application of the measures described in the section on sustainable production and consumption to construction products. We believe that specifiers – architects

[7] "Innovations for Greenhouse Gas Reductions: A life cycle quantification of carbon abatement solutions enabled by the chemical industry", ICCA, 2009: http://www.cefic.org/Documents/PolicyCentre/Life_Cycle_Analysis_Innovations_for_Greenhouse_Gas_Reductions.pdf

and engineers, but also public procurement – need to focus on the holistic performance (including energy) of the whole building works during its whole life cycle, not the specific construction products (materials) used. As an example, there is an ecodesign implementing measure for refrigeration machines, but not for each component of the machine. In the same way, we aim to have ecodesigned buildings (which include the construction materials used). As a consequence, we are against the use of the Ecodesign Directive 2009/125/EC to include construction products as we believe it would lead to increased costs for industry and consumers with no or little environmental benefits.

3.2. Ensuring efficient mobility

We support any initiatives which contribute to a resource efficient mobility system. The Transport White Paper has presented ambitious targets for a competitive and resource efficient transport system. The realization of these sustainability targets depends however to a large extent on concrete political measures that still need to be developed, and upon the speed of future technological developments.

We have concerns about the following:

- Taking into account the estimated increase of freight transport activity by 40% in 2030 as indicated in the European Commission's Transport White Paper (March 2011), the roadmap's projections of annual greenhouse gas reductions of 1% beginning in 2012 seem ambitious.
- With respect to internalisation of external costs, the Commission places too much hope in this to reduce emissions through a modal shift of freight transport. Increasing the costs of road transport will only result in significant modal shifts if viable alternatives for road transport are available and policy actions are taken to make these alternative modes economically and operationally more efficient.

4. Governance and monitoring

4.1. EU Resource Efficiency Transition Platform

The proposed "EU Resource Efficiency Transition Platform" seems positive to ensure stakeholder involvement and a coordinated approach. Cefic requests a seat at the table to enable the chemical industry to take an active and constructive part in the process. The mandate and role of the platform should be further clarified.

We have concerns about the following:

- The working methodology proposed in the roadmap is to work via target-setting by 2013. We regret that target-setting seems to have been chosen upfront as the tool to achieve the necessary systemic change. Cefic believes that the broad concept of resource efficiency can hardly be restricted to simple numerical targets, which might have unintended negative impacts for example on innovation and competitiveness, drive unexpected behaviours, and have limited relevance given the wide range of economic circumstances across the EU. The chemical industry has been committed in the past, and will be in the future, to continuously decreasing the environmental impacts related to its production and to the use of its products. This life cycle approach should be further supported.
- The proposed provisional lead indicator for resource productivity, measured by the ratio of GDP to Domestic Material Consumption discriminates against industrial production in Europe. Domestic Material Consumption does not take into account the indirect resource input in imported goods (so-called "resource backpacks"). Therefore, the indicator will improve when industrial production shifts abroad and deteriorate when imports are replaced by domestic production. Establishing a lead indicator should be postponed until the Transition Platform is set up and active, in order to take into account stakeholder views, and until the data needed to calculate a more complete and non-discriminatory indicator is available.

4.2. Supporting resource efficiency internationally

We encourage the Commission to strengthen efforts to promote resource efficiency internationally, involving in particular the BRIC countries, Middle East, the United States and Japan, in particular in the context of Rio+20. There is a need for the EU to pursue an ambitious strategy to use its influence to work with international institutions towards the harmonisation of appropriate global standards, e.g. for product design.

We have concerns about the following:

- All industries creating value by means of biotechnological processes or products are already or will potentially be affected by the implementing provisions of the Convention on Biological Diversity (CBD). The EU needs to ensure that implementation of the newly adopted international agreement on access and benefit-sharing supports the investment and innovation necessary to create benefits from genetic resources. If implemented appropriately, it can provide a solid framework for CBD parties and businesses to act as partners to create a system that contributes to conservation and sustainable use of biodiversity. The EU needs to build a practical, workable and transparent system and infrastructure that will support and benefit from genetic resources, and avoid measures that will hinder innovation and trade. This in turn will help provide incentives for biodiversity conservation, one of the underlying aims of the Nagoya Protocol.

4.3. Smart regulation

Aiming at a high level of protection of health, safety, the environment and consumers, EU policies and rules regarding the chemicals sector are among the most stringent and complex in the European Union. To avoid unnecessary impacts on costs or innovation dynamics of chemical companies exposed to international competition, it is important to ensure that:

- the regulatory framework is consistent with the policy goals related to competitiveness and employment;
- can be implemented by Member States and companies (big and small); and
- is uniformly enforced.[8]

We have concerns about the following:

- A wide range of EU policy instruments exist (waste legislation, eco-design directive, eco-labelling, green public procurement, end-of-life vehicles directive, WEEE directive, etc.), to promote resource efficiency. The efforts should first concentrate on fully implementing the *acquis* and evaluating its effectiveness before, if appropriate, modernising and simplifying it or proposing new legislation.
- On the way towards a 2050 vision, it is important to find the right mix of implementation tools (market-based-instrument and "soft" tools), in particular appropriate incentives.
- The implementation of the roadmap should be a cross-cutting activity in the various Commission DGs and Parliament Committees to ensure a balance between all three pillars of sustainability: environmental, economic and social.
- Europe's economy is an integral part of the global economy. Regulation cannot create a "new EU economy" on its own, but must be flexible and adaptable to global trends and sometimes abrupt changes, such as crisis situations. Moreover, consumer choices in other world regions, which cannot be centrally planned or directed, impact heavily on demand for EU goods and services.

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[8] See also the Cefic Manifesto for Smarter Regulation, 15.10.2010: http://www.cefic.org/Documents/PolicyCentre/MANIFESTO_FOR_SMARTER_REGULATION_15112010_PositionPaper.pdf