



The implementation of the High Level Group on the European Chemicals Industry recommendations

EuCheMS - European Association for Chemical and Molecular Sciences - provides a single voice for chemistry societies across Europe, we want to ensure that chemistry plays its role as a solution provider to global challenges. EuCheMS is a non-profit-making organisation and has 47 member societies which represent chemists in academia, industry and government in 34 countries across Europe. Website: <http://www.euchems.org>.

EuCheMS very much welcomed the creation of the High Level Group (HLG) on the Chemicals Industry, in 2007, and the subsequent recommendations. The HLG's final report recognised the important role that chemicals play at every stage in the value chain and the critical role the sector plays in wealth and job creation in the European Union.

The draft implementation report (pg 4) reports that 2009 saw a 18.3% fall in sales and an 11.3% fall in production, compared to 2008. The Commission also notes that the sector, which directly employs 4% of the EU's overall manufacturing workforce, lost 59,000 jobs. 2010 has witnessed a significant upturn for this sector, but there is no room for complacency in such an important sector. We would therefore like to see a renewed commitment and urgency attached to the implementation of the HLG's recommendations.

At an EU level, support for the chemical sciences will be critical to our success. Europe needs to take the lead in product synthesis, analysis and design if it is to remain competitive. In order to lead, Europe needs to fund cutting edge research in the Chemical Sciences and ensure that Europe has the right skills to find solutions to 'Grands Societal Challenges' facing Europe and the world at large.

We will address some of the recommendations made :

The first three recommendations underline the role of innovation for a sustainable and healthy European chemicals industry. In particular, the strengthening of Innovation Networks is of utmost importance.

'Recommendation 1. Industry, in cooperation with governments, should set up topical innovation networks to promote key strategic innovations and foster best practices and exchange of knowledge and experience between them. One such network should deal with 'energy and climate change'. Support for 'flagship projects', which could take the form of pilot/demonstration plants, as guidance for industry and society to signal the potential of certain key innovations, is essential. Public support for this type of project – not primarily as a source of finance but, as a minimum, to signal public commitment – is essential.'



European Sustainable Chemistry Award

EuCheMS has launched the European Sustainable Chemistry Award in order to raise the profile of sustainable chemistry and be a spur to innovation and competitiveness. The European Sustainable Chemistry Award is designed to recognise individuals or small research groups which make an outstanding contribution to sustainable development by applying green and sustainable chemistry.

This year the award was made to Professor Dr Matthias Beller, Director of the Leibniz Institute for Catalysis in Rostock, Germany (LIKAT), recognising his exceptional research in the field of homogeneous catalysis. His main focus is on the environmentally sustainable conversion of small molecules into recyclable or reusable materials. More recently he has been active in the development of new catalysts based on bio-relevant metals, especially iron, that are cheaper and more available than precious metal equivalents, including 'critical' materials. 'Bio-inspired' catalysts have not yet been used in industry, but they have shown themselves to be efficient in the production of hydrogen and can be activated by sunlight rather than by fossil fuels. Professor Beller's work is a very clear example of how the Chemical Sciences can be instrumental in reducing the world's carbon footprint and making more efficient use of resources.

'Recommendation 2. Industry and public authorities at all levels should strengthen clusters (and open innovation processes) which facilitate cooperation across sectors and across borders, with the aim of further stimulating, accelerating and facilitating cross-cutting innovation throughout the value chain. Initiatives should build on existing structures and programmes where possible. The results achieved by EU, national and regional innovation networks should be examined, and possible areas of improvement identified, for example, by greater promotion of best practices.'

EuCheMS – Recommendation 2, underlines the importance of industry and public authority cooperation in clusters and 'innovation processes', however, these clusters should not be limited to industry/government links, it is industry/academia links that are essential for the transfer and exploitation of knowledge, government locally, regionally and nationally can support and incentivise cooperation. The involvement of Chemistry Societies in SusChem, the sustainable chemistry technology platform, is an excellent example of how these links can be developed.

'Recommendation 3. As part of further strengthening existing networks, the technology platform SusChem should explore opportunities beyond the defined key areas to include innovation leadership issues ('bringing good ideas to the market') in a new SusChem+ structure. SusChem has so far delivered a vision paper, a broad strategic research agenda, and a detailed implementation plan. It should now develop a wider mandate covering the full scope of innovation, and reaching out to an increasing number of Member States, regions and enterprises, in particular SMEs.'

EuCheMS members are actively involved and support the SusChem European Technology Platform for Sustainable Chemistry. SusChem was founded by stakeholders from academia and industry with financial and consultative support from

the European Commission. There are now over eleven national technology platforms, reinforcing the European Research Area in sustainable chemistry research, development and innovation. Since the publication of the HLG report, SusChem has done a great deal to promote innovation, proposing four PPP partnerships to advance innovation, these are : sustainable urban construction ; sustainable individual; resource efficiency in processing; and energy for a low carbon society. The publication of Europe 2020 and the Innovation Union Flagship, reinforce SusChem objectives in finding sustainable solutions to some of Europe's and the world's most pressing challenges. SusChem recognises the role of each part of the knowledge triangle : research, innovation and education. EuCheMS fully supports this approach.

'Recommendation 5. The public sector should provide effective support to private sector efforts

Within the limitations of national R&D budgets, many Member States have committed themselves to an increased effort. Cost efficient use of scarce resources is essential. This can be achieved through greater focus on the quality of R&D expenditure, based on excellence and priorities. Focusing on key areas at regional level should be accompanied by a road mapping exercises and active coordination of European and national efforts in chemistry and chemical engineering research with close links to regional industry partners. Financial instruments, including tax advantages, providing support and risk cover over a sufficient period are essential for start-ups and other SMEs.'

EuCheMS - Recommendation five, asked for 'a road mapping exercises and active coordination of European and national efforts in chemistry and chemical engineering research with close links to regional industry partners'. In EuCheMS, the largest representative organisation of chemists in Europe, we are unaware of any road mapping or any additional measures specifically designed to implement the recommendations of the HLG report. We would very much welcome this initiative. EuCheMS has eleven divisions and six working parties that promote cooperation and the exchange of excellence, these groups also include contributions from industry.

EuCheMS is uniquely positioned to provide insight, analysis, expertise and foresight in the creation of a roadmap. Any roadmap should identify critical gaps in knowledge and research, which are limiting technological progress. The roadmap should be used to shape the current and future framework programme. In particular, the frontier research supported through the European Research Council should ensure that Europe maintains and strengthens its competitive edge in the chemical sciences.

As the Commission evaluates the current Framework Programme for Research and Development and looks towards the new Framework Programme, we ask for more recognition for the Chemical Sciences as a solution provider.

HUMAN RESOURCES

'Recommendation 14. Member States should step up promotion of chemical and science education, starting with primary schools.'

EuCheMS – 2011 has been designated as the International Year of Chemistry. EuCheMS is the European coordinating partner for the year. The goals of IYC2011 are to increase the public appreciation of chemistry, to encourage interest in chemistry among young people, to generate enthusiasm for the creative future of chemistry and to underline the critical role it plays in a sustainable future. 2011 is also the 100th

anniversary of the Nobel Prize awarded to Madame Marie Curie—and a valuable opportunity to celebrate the contributions of women to science.

Europe's Chemistry Societies support many national activities to promote the study of chemistry and to attract more students into the subject. Many societies work closely with national teaching associations to provide support for continuing professional development and the production of high quality educational materials.

'Recommendation 15. Chemistry or/and chemical engineering faculties should define the profiles of new professions in cooperation with industry.'

EuCheMS –through its standing committee ProchemE maintains schedules of academic qualifications at the levels of full professional, senior technician and junior technician. Through the European Chemist Designation the chemical societies in EuCheMS have ensured that there is an easily understood title to indicate a high level of competence in the practice of chemistry. The award of EurChem provides a quality insurance for industry and individual chemists who are moving from one employer to another in different member states, EuCheMS recognises that academic qualifications alone have limited value. In providing an acceptable common professional standard, the European Chemist requires experience in the application of knowledge, skill, safety and environmental consciousness, sense of responsibility and an ability to communicate.

EuCheMS member societies have been active in the Bologna process and developing new curricula and specialisations, such as Ecotoxicologist.

EC2E2N "European Chemistry and Chemical Engineering Education project" received support in 2009 through the EU's Life Long Learning programme. EC2E2N brings together all actors in higher education chemistry and chemical engineering fields in Europe. There are schools, universities, industries, national chemical societies, and accreditation bodies involved. The project is supported by EuCheMS and Cefic. The project brings all these actors together to collaborate in the development of a knowledge based economy, specifically in chemistry and chemical engineering. The project not only increases the attractiveness of studies in chemistry and chemical engineering, it also helps those involved to develop entrepreneurial skills.