

Management Group Newsletter—August 2011

Dear Members

You will find below, another issue of our Newsletter which has articles on:-

1. Marketing Group cooperation—lecture evenings
2. The challenge for Renewable Energy
3. Climate Change—a summary, balanced view from the Royal Society
4. Economic benefit of Chemistry in the UK
5. SCI event notification—"Innovation to Transform the Chemical Industry"

I have also used MyRSC to post this Newsletter and would welcome any comments on using this new communication option.

As usual, we hope you find this Newsletter interesting and welcome any feedback that you might have (to Alankeasey@hotmail.com).

Best Wishes,

The Management Group Committee.

1. Marketing Group Cooperation

Following various discussions, the Management Group have decided to provide a modest contribution to the evening lecture programmes of the Marketing Group of the RSC. These meetings are enjoyable, well-attended and should provide an interesting opportunity for our members.

Programme, 2H'11, all meetings in Burlington House, meet at 6 for 6.30

Meetings later in the year are as follows:-

Monday, 19th Sept. = Packaging's contribution to Sustainable Development by Jane Bickerstaffe,

Monday, 21st Nov. = The Challenges of Low Energy Lighting by Eddie Guest of GE.

Full details on www.rsc.org/marketing and in the diary section of RSC News.

2. THE CHALLENGE FOR RENEWABLE ENERGIES

Mention 'renewables', and the response of many is that the future decline in fossil fuel resources will eventually drag the world into a more sustainable energy market structure, with some glitches on the way. The reality will be very different. At a global level, international oil companies and their equivalents in the state sector have access to enough oil and gas already to keep production at close to current rates up to 2050, probably peaking around 2030, with currently uneconomic and other as-yet undiscovered resources still providing significant throughput into the 22nd century. The world also has vast resources of coal.

With the failure of the Copenhagen negotiations on climate change, there is no rigorous regulatory and fiscal framework to incentivise a radical departure in energy provision, which worldwide has 80% drawn from hydrocarbons, 7% nuclear, 10% biomass and 3% from the total of solar, wind, hydro, tidal, wave and geothermal sources. Of the biomass component, the majority represents the burning of agricultural waste, with a small proportion being the more sophisticated modern biofuels. That last 13%, which we typically class as renewables, consequently, paints a chequered picture of progress to date and where we are going.

The challenge for the world, therefore, if it is to address carbon emissions urgently, is not merely the science-driven substitution of fossil fuels, but managing the extraordinary commercial and geo-political issues of the inevitable disruptive change in the energy market this would bring. Carbon capture and storage (CCS) would be an essential component of an enduring oil, gas and coal industry, but if this becomes impracticable, in the extreme countries that rely almost entirely on hydrocarbon production for economic progress will have to be constrained though rigorously-implemented international protocols. Injection of renewables into this market would have to have a sound commercial basis to be sustainable.

Within Europe there will be a significant local energy deficit, and a number of countries have set their own targets for reducing emissions. For the UK, this will be a reduction of 80% by 2050 against the 1990 datum; that is, to one-fifth of that historic level in a country presently even more dependent on fossil fuels than the global average. The simple question is then: does the UK continue to import fossil fuels with extensive CCS, or vigorously promote renewables, or both? But importantly, how much disruption will society tolerate, and how can the next forty years conversely be projected as an extraordinary business opportunity?

Key to this is in identifying the advantages of renewables more clearly and quantifiably. Full life-cycle analysis (LCA) is essential to show whether the areal yields for biofuels (maximum, currently, 4 tonnes per hectare per annum, in Brazil) do, indeed, stack up against the carbon dioxide disbenefits of land clearance, fertiliser usage, production and distribution costs. Moreover, the utilisation of wind energy is so variable throughout the year that output averages typically just 18% of installed rated capacity, which means that back-up has to be built based on other sources of energy.

The dilemma is that the long-term future lies with solar, with electricity generation dominating over the traditional equipment for heating water. Costs are currently relatively high, the technology is advanced, but the world is unused to a society where electricity for power, transport and heating is all pervasive. Storage of this electricity (and derived hydrogen through electrolysis of water) is the key challenge. This compares with biofuels where investment can be low, there is long industrial experience, and the products can be blended using existing infrastructures. The latter is a politician's dream, but it is not sustainable! A telling point is that solar devices capture 50 to 100 times more energy, area-for-area, than biofuel farms, and here lies the crux of future debate. It will require enlightened engagement between science, engineering, politics, business and customers to make bold evidence-based decisions to take us to a new and different future.

Richard Pike Q1'2011

Note.

Richard sadly passed away in July following a short illness. His time as CEO of the RSC will be remembered as one of significant change where Richard was instrumental in raising the public profile of the RSC as well as driving forward a number of critical initiatives—a lasting legacy.

3. Climate Change-a summary, balanced view from the Royal Society

We are all aware of the myriad of reports and comments on this issue and it is difficult to find a balanced summary that is based on science and is free of political spin. Given this challenge, the Royal Society has recently produced such a report which is very readable. It can be found on the Royal Society website ie www.Royalsociety.org/climate-change. It is titled The Guide and can be down-loaded in PDF format. I hope you find this useful.

Alan Keasey

4. Economic Benefits of the UK Chemical Industry

It is generally recognised that the UK chemical industry is still a major contributor to the economic well-being of the country and that the under-lying research is of international standing. These aspects are well described in a recent RSC publication which can be found at

<http://www.rsc.org/ScienceAndTechnology/Policy/Documents/ecobenchem.asp>

A number of key points are noted ie:-

- a. Chemistry related activity in 2007 was worth £258 billion, equivalent to 21% of GDP and sustaining 6 million jobs.
- b. The sector is highly productive at £83,000 per employee, double the national average.
- c. It is a major exporter, equivalent to 15% of all exports.
- d. UK research supports 200,000 direct jobs (2007) and is worth £17 billion of GDP.

The entire report is worth a read

5. Innovation to Transform the Chemical Industry

12 October 2011
SCI HQ, London, UK
Book now!

A personal invitation from **Dr Stephanie Burns**, Hon President, SCI and Chair, Dow Corning; and **Joanne Lyall**, Executive Director, SCI:

Attending this one day conference on the latest thinking about real business opportunities for the chemical and chemistry-using industries and how companies need to transform to gain a competitive edge is one you cannot afford to miss at this challenging time for the UK and global economies.

This conference follows on directly from the Technology Strategy Board's **Innovate 11** on 11 October at the Business Design Centre, London (<https://ktn.innovateuk.org/web/innovate>). The two events have a strong synergy on new business growth by stimulating new thinking and making new connections.

Leading industrialists will set out their insights of the future and views on how business needs to change through open innovation.

- ▶ This conference will not only be strategic but also grounded in closed-loop systems engineering, new business models, high value manufacturing and sustainable product design
- ▶ Delegates will receive a unique memory stick with key strategic reports and industrial case studies from the partner organisations as well as a collection of practical innovation tools to assist you and your company to take action donated by leading innovation experts. Links will include the CIKTN's Sustainable Product Design Guide
- ▶ It will seek to deliver tangible societal benefits by connecting business with science and society, and by building trust and reputation through a new social contract
- ▶ By attending both events delegates will take away invaluable new knowledge to build their businesses in sustainable ways.

This conference is being organised by SCI's Science and Enterprise Group as its flagship event for the International Year of Chemistry 2011. One of the key aims of IYC addressed by this conference is to 'generate enthusiasm for the creative future of chemistry'. We plan to publicise widely the key messages, outcomes and ways forward.

We urge you to book your place now at the conference now as we expect places to be in high demand. Please use the link www.soci.org/events.