by Brian Iddon

THE UK CHEMICAL INDUSTRY

In this article the author describes, in a parliamentary debate keys, the state of the art of the UK chemical industry in relation to the economic and social English context. During the last decades the English chemical industry, as well as the European ones, is characterized by deep innovations both with the employ of novel cheap materials and improving its processes. Against one of the detrimental effects of the globalization, the chemical industry takes care to mitigate the climate changes, by the abatement of the GHGs, and on the individual health and safety.

The UK chemical industry, including pharmaceuticals, is a £60 billion business, which employs over 600,000 people. It adds £30 million to our balance of trade every working day and represents 12% of total UK manufacturing, twice that of aerospace. Throughout the 1990s, 16 countries produced 80% of the total world output of chemicals. The UK was sixth behind the USA, Japan, Germany, China and France. According to figures produced in 2005 by CEFIC, the European Chemical Industry Council, the EU chemical industry leads all EU manufacturing in terms of value added per employee, and is second only to the USA in world output. Therefore, for both the UK and Europe, the chemical industry is a valuable contributor to our economies. The chemical industry's current major concerns are the cost and security of energy supplies, skills training and recruitment, the availability of capital for investment in developing new products and acquiring new plant and equipment, the costs of transport, and the regulatory burden placed on the industry in recent times, which has had the biggest impact. The election manifesto just published by the Chemical Industries Association (CIA) expands on those concerns.

Our Government have decided that energy security is a major concern, and major changes in energy supplies are under way, with less reliance on imported oil and gas in future years and more reliance on a basket of renewable energy generation technologies and nuclear fission. Coal will play a major role in future, but only if either pre- or post-combustion carbon capture technologies are incorporated in new plant, or retrofitted to old plant. That will require massive capital investment which, in turn, will result in increased energy costs.

We need to keep oil for the petroleum industry, but of course there is far more coal on earth than oil so we can carry on burning it for a little longer.

The Government was one of the first to tackle climate change, initially through the introduction of the climate change levy. Climate change

agreements allow energy-intensive industries to receive a discount on the climate change levy, provided that they meet certain energy efficiency targets. More than 230 climate change agreements have been made in the UK chemical industry. However, the rebate received by energy-intensive industries will be reduced from 80% to 65% from April next year to comply with the EU energy taxation directive. That will cost the UK chemical industry £10 million, and UK manufacturing a total of £50 million. The CIA believes that the Government have gone further than necessary in meeting the requirements of that directive. The introduction of the climate change levy has resulted in a change of behaviour in the chemical industry. The industry realised that it made sense to think about its energy usage and costs, and it changed its manufacturing processes as a result of regulation. Subsequent cost savings made those industries more competitive.

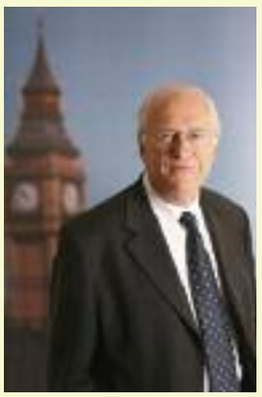
Based on 1990 levels, the chemical industry reduced world CO_2 emissions by between 8% and 11% by 2005, according to the IPPC. Since 1990, the UK industry has improved energy efficiency by 35%, which is equivalent to a saving of more than 2 million tonnes of CO_2. Britain has set itself some tough targets. We were the first, with the Climate Change Act 2008, to introduce climate change legislation. That Act enshrined in law the reduction of UK CO_2 emissions by 80% by 2050. The EU emissions trading scheme, which works on a cap-and-trade basis, is central to the UK's long-term policy of reducing CO_2 emissions. Under the emissions trading scheme directive, large emitters of CO_2 in the EU, including in the energy-intensive chemical industry, must monitor and report annually on their emissions of greenhouse gases, and are obliged to return emission allowances equivalent to their annual emissions, currently to the Government. To do that, they may have to buy or sell emission allowances on the market.

Minds are now turning to using the CO_2 emitted into the atmosphere to synthesise other chemicals. Methanol, which can be synthesised from CO_2, can be used instead of ethanol as a transport fuel. Lotus cars have already developed engines that will run on pure methanol. An article appeared in the 22 February edition of "Chemistry and Industry" on the world's first resins made from polyols using CO_2 as a feedstock.

Probably the most significant piece of legislation on chemicals introduced by the EU has been REACH - the registration, evaluation and authorisation of chemicals - with which all European countries are expected to comply. It is being implemented in stages by the EU Chemicals Agency, based in Helsinki; by 2018, it will have dealt with all the 30,000 chemicals that are supplied in quantities of more than 1 tonne a year. That legislation replaces more than 40 pieces of previous legislation, but 20 pieces of connected legislation remain in place. Implementation of REACH has proved more difficult and more costly than forecast. Instead of the expected 200,000 pre-registrations, the EU Chemicals Agency has received 2.75 million. Chemists still have a difficulty in explaining, and the general public in understanding, the relationship between hazardous substances and their risk to society. However, the good safety record of the chemical industry is noteworthy when compared with the rest of manufacturing, and especially with the construction and farming industries.

At a recent meeting of the all-party group on the chemical industry, it was reported that some chemical manufacturing previously displaced offshore - for example, to China or even elsewhere in Europe - is returning to Britain. That is being encouraged by taxation changes, a good working relationship between employers and employees - including a responsible approach by the industry's unions - and a recognition that this country produces high-quality products. At the high-value end of the market, the availability in the UK of a highly skilled work force, graduate or otherwise, is another important factor. In addition, the supply chain in the UK and Europe is better than in developing countries. The changed image of the chemical industry has attracted more people to consider working in it. That has been helped by the fact that wages and salaries, as well as working conditions, are also good in comparison with other industries; for instance, workers can earn up to 20% more than in other manufacturing industries.

There are further challenges ahead for the UK chemical industry, but I am confident that it is capable of meeting them. However, 70% of chemical and pharmaceutical businesses operating in the UK are foreign owned. It is therefore important to create the right financial and regulatory conditions to retain those businesses in this country .I look forward to the Minister's recognition that the chemical industry is essential to the UK economy. After all, its products are used by nearly every other manufacturing industry.



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Member of Parliament of Bolton, South East (1997-2010) (retired April 2010), Iddon's interests in Parliament have covered a wide range of topics in areas of education, health and social services, housing, home affairs and science and technology areas. He is Fellow of the RSC and has been one of the RSC's Parliamentary Advisers. He has received Honorary Membership of the Society of Chemical Industry in 2003 and an Honorary Fellowships of the Institute of Chemical Engineers in 2010. Iddon's roles included Chairman of the Chemical Industry All-Party Parliamentary Group and a Vice-President of the Parliamentary and Scientific Committee. For most of his Parliamentary career he was a Member of the Science and Technology Select Committee, which was reconstituted in October 2009 thanks to a campaign led by Iddon and other Members. Formerly, he taught chemistry at the University of Salford and established an international reputation for his research. His last speech in Parliament, on 30 March 2010, was entitled "The UK Chemical Industry".