

EDITORIAL

Scientific Forum at the ILMAC 2007 September 25–28



‘Energy and Raw Materials – The Contribution of Chemistry and Biochemistry in the Future’

Energy can be considered from different viewpoints: political, economical, ecological and scientific. We clearly are mostly concerned with the scientific part, but then all these aspects are interrelated, which makes the question of ‘energy’ so exceptional and vital.

Oil has been responsible for the phenomenal economic development over the past 100–120 years. The 20th century justifiably has been called the century of oil.^[1] We still depend on oil as a source of cheap

energy. It is too early to say what the 21st century will be called. According to C. J. Campbell^[2] we have already used about half of the global oil resources. Even if this forecast is not universally accepted and other forecasts are biased in one direction or the other, the consumption of this unique raw material is irresponsible to say the least.

The rapid development of the chemical industry could not be envisaged without the increased output of oil in the 60s and the 70s,^[3] rising from 20 million barrels per day in 1960 to 60 million barrels in 1980. What would happen if oil resources stayed constant in the face of steadily increasing demand resulting in a price increase from today’s USD 70 to say USD 200 per barrel?

That is why we have set up discussions with experts in this field during the four days of the Scientific Forum on whether substitutes for oil as an energy source and substitutes for oil as source for chemical raw materials can be identified and produced.

There is a further complicating factor resulting from burning fossil fuel, that of the production of vast amounts of CO₂. I know that it is not a simple equation between CO₂ emissions and the observed effects of global warming, but CO₂ is surely one parameter.^[4] It seems we do not know enough by far about our planet, although we tend to behave as if we do.

Around 10–15 years ago, government, industry and society in general began to recognize the seriousness of the situation concerning energy supplies, the limited resources of oil and clean water, CO₂ and CH₄ pollution, and global warming. Not that any of these problems was new, but a new awareness appeared. Possibly the Cold War had to come to an end so that governments and nations were able to turn to these global issues.

I am very much looking forward to the presentations and discussions concerning some of the most pressing and immediate problems of the early 21st century. And do not forget the ILMAC, the largest Swiss Science and Technology Fair with nearly 600 exhibitors. A perfect program for the whole day!

Prof. Dr. Georg Fráter
President
Swiss Chemical Society

[1] Daniel Yergin, ‘The Prize; the Epic Quest for Oil, Money and Power’; Touchstone, 1991.

[2] a) C. J. Campbell, December 2000; www.hubbertpeak.com/de/Vortrag.html; b) NZZ Folio, September 2004, p. 42.

[3] K. Weissermel, H.-J. Arpe; ‘Industrielle organische Chemie’; 2. Auflage, Verlag Chemie, 1978.

[4] Permits for CO₂ release have become a merchandizing commodity between nations; emissions trading K. Weissermel, H.-J. Arpe, ‘Industrial Organic Chemistry’, 4th edition, Wiley-VCH GmbH, 2003.