This is written at a time of continuing upheavals in the energy sector caused not only by the sharp drop in the price of oil, but also by numerous geo-political conflicts as well as the determination of many developed countries to persist with decarbonisation of their energy supply irrespective of cost. While the peer reviewed papers here largely reflect official investment preferences and hence less recent research questions, this limitation is to be made up in Fuel for Thought. Unease with the rapid decarbonisation agenda is however hinted at in some Technical Communications, as well as in book reviews. The energy world is not in agreement about priorities, even in the environmental realm where it is becoming difficult to distinguish between ‘marketing’ and analysis. The current negotiations towards the Paris Treaty on ‘Climate Change’, (or is it global warming?), may be responsible as battles rage for and against subsidized and regulation-driven decarbonisation, as well as wealth transfers. Are we still faced by solutions looking for problems?

**Refereed Papers**

*K. Shahzad Baig, J. Wu, G. Turcotte, H.D. Doan* (Canada) propose a novel technique for turning straw into biofuel, assuring us that the production of ethanol from lignocellulosic biomass is a promising alternative source of energy because ‘it is a low cost, renewable as well as sustainable green energy source’. This need for such a source is clearly assumed. The proposed technique, with its ‘strategic use of water and ozone’, has overcome the problem of slow reaction of ozone with wheat straw. Maximum lignin removal where water contents were 3 times of the dry weight of wheat straw were achieved. The proposed technique promises to be practical, easy to manage and it may be considered as an alternative method for delignification.

Wind development policies in Europe, Asia and America are discussed by *R. Regueiro-Ferreira and X. Doldán García* (Spain) who use economic analysis to a comparison of regulations to support the growth of wind power. They recognise that world-wide is growth is mainly due to state support embodied in various standards and initiatives. Yet the situation differs significantly among the main world producers of electricity and very different economic and social outcomes can be observed. This comparative study based on a multidisciplinary approach is aimed at establishing a comprehensive framework for the sector’s future.

The paper by *Zhengwei Ma, Rui Xu, Chi Chen and Teng Wu* (China) emerges from the discipline of business administration and studies the regulation strategy of China’s petrol market using evidence from Beijing. It is based on two alleged facts: that traffic
congestion is now a major problem causing serious air pollution as well as oil shortages. The latter may be questioned. The authors assume that China’s economic development would be hampered by the failure of solving this problem and hence propose a rise in petrol price. Simulating the scenario of such a price rise with the derivative of a Computable General Equilibrium (CGE) model, they conclude that the increase in petrol price - i.e. congestion pricing - would not have a crucial impact on the macro economy but ‘will optimize the structure of secondary industry’.

Nicolas C. Bronfman, Raquel B. Jimenez, Pilar C. Arevalo and Luis A. Cifuentes (Chile Universidad Andres Bello, Santiago, Chile) turn to a difficult social issue, that of the public acceptance of electricity generating sources. Are these sources trusted? The authors have an engineering and disaster management background and conclude on the basis of a web based survey of the views of university students (surely not a representative sample?), that trust in regulatory institutions is most important. They distinguished between two this dimensions: integrity-based and competence-based trust. The need for these, they discovered, applies unequally to the different types of power. For hydropower, integrity-based trust only was important in shaping perceptions of risks and benefits, while competence-based trust was more important for nuclear power.

Two authors from Turkey Atilla Atik and Bülent Yılmaz (University of Malatya) turn to forestry as Turkey is trying to expand this resource. They examine the effects of plantation site conditions on the growth Taurus cedar seedlings.

This peer reviewed section concludes with two ‘climate sceptical’ scientific papers and would present fundamental challenges, if confirmed or believed, to much current energy policy and technology planning. Patrick Frank argues that the entire consensus position fails critical examination and is evidence of pervasive analytical negligence. He is very critical of the ‘predictions’ of climate models and even labels much current climate research pseudoscience. Fundamental uncertainties and disputes remain, it is also demonstrated by Philip J. Lloyd (Energy Institute, Cape Peninsula University of Technology, Cape Town) who points out that while there has been widespread investigations of the drivers of changes in global temperatures, there has been remarkably little consideration of the magnitude of the changes to be expected over a period of a few decades or even a century. Examining Holocene records he concludes that while some the temperature change in the 20th century was probably caused by greenhouse gases, there is a strong likelihood that the major portion was due to natural variations.

Viewpoints and Technical Communications
Dawid Klimeczak (Poland) as a participant in the energy battles there writes about the influence of the Ukrainian crisis on the European gas market, though it must be remembered that while history has moved on and issue itself has by no means been resolved, it is greatly influencing European, if not global energy policies. Events related to the Ukraine crisis not only affect the perception of energy security within the
Old Continent, especially the reliability of fuel supply, Russia has often threatened its possible suspension and there are impacts on the investments made by Gazprom, both in Europe and other regions of the world.

Yang Bo and Shen Fei-lin of Henan Polytechnic University, address the problems facing the development of renewable energy in rural China by looking at biomass, solar energy and small hydro-power. Lack of policy and technical personnel, single financing channels and, perhaps predictably, inadequate research efforts are blamed and constructive suggestions made. An important study by Cristian Mardones and Jorge Jiménez (Industrial Engineering University of Concepción, Chile) report ways for reducing fine particulate matter from industrial sources in various districts of the Metropolitan Area of Concepción. Results show that while regulation by economic instruments or command and control is possible, the availability of natural gas at low prices is much more important for the reduction of total costs than the type of regulation selected. A. Parker and C.D. Ollier (RMIT University and the School of Earth and Environment in Western Australia) continue their critique of official Australian climate statistics by showing that carbon dioxide flux measurements based on satellite observations differ considerably from these. The observational data show Australia to be a top sequestering and not a top emitting country.

Fuel for Thought as usual summarizes recent energy (mid-January to early March 2015) related events painfully subdivided into categories that are not always easily classified - from geo-political context to green technology, from global finance to science and its politics, from the energy policy developments of selected country to a selection of nuclear industry developments from the World Nuclear News. I also enjoy collecting ‘over the top’ claims under the heading of carbonphobia. This material is taken from a wide and usually acknowledged list of sources, with The Economist, the Financial Times and assorted energy and climate science blogs and online publications as the most important. The aim is to inform across intellectual and disciplinary boundaries and provide energy researchers with the wider background to their often very narrow research enquiries. Obviously, this information is always a few months out of date!

Book Reviews and Reports
Feroze Duggan reports a meeting called by interested parties to address the British Energy Challenge held at Royal Society of Medicine on 14th of January 2014, a long time ago but still a telling event as it was meant to spread the message of the UK Dept. of Energy & Climate Change. The audience was encouraged to spread the word about the dangers of climate change. Jon Snow highlighted the need for 80% reduction in carbon emissions by 2050 which should be affordable and used Unilever as an exemplar of more sustainability which actually increased profitability of the company. Singing from the song book were Siemens, EDF, Dong energy, National Grid.
A book on climate change economics by Richard S. J. Tol, is critically examined by Neil Chalmers and Simon Shackley who note its neo-classical bias and reliance on climate models, although Tol does not consider global warming a serious problem. While in parts a succinct and useful account of key topics and debates in climate economics, the commitment to neo-classical economics doesn’t waver and the reader is treated to mathematical expositions at many points requiring a reasonable mathematical comprehension.

Martin Hertzberg reviews and comments on the most recent report of the Non-Governmental International Panel on Climate Change (NIPCC), the response by climate sceptics to the most recent IPCC report. Written by Fred Singer with the cooperation of a distinguished group of scientists the available data is evaluated and found wanting as far as the claim to consensus science is concerned. While complimentary to NIPCC, Herzberg has his own ideas about climate science and offers a critical perspective that should demonstrate that there is no consensus at least among the sceptics.

Sonja Boehmer-Christiansen March 2015