

**Report of November Meeting 2012**  
**Royal Society**  
**Southern Highlands Branch**

**Speaker:** **Dr John Wright**, principal of Wright Energy Consulting (WEC)  
Previously Director of the CSIRO Energy Transformed Flagship

**Topic:** **Australian Energy at the Crossroads – spoiled for choice, which direction will we choose?**

Dr Wright's presentation was unique for the Southern Highlands branch, in that his subject took the form of a short introduction, followed by a long session of discussion questions from the 50 member audience. It was in essence an Energy Forum which worked very well indeed, and was clearly appreciated by those attending.

John Wright described the Australian situation as different from most other developed countries in many aspects. We are one of the few countries that are net energy exporters – two thirds of our energy is exported. We are also “spoiled for choice” having options such as coal (\$44 billion), gas (exports of LNG going up 4-fold over the next 15 years), uranium (over 30% of known world reserves), renewables such as wind, biomass, solar, geothermal and even ocean energy. The only negatives concern oil and hydroelectric generation, where oil production is decreasing and hydroelectric power is static and will remain so.

The questions were then posed that, in light of the many forms of energy available in Australia, why is there still so much uncertainty about our future energy directions? Why are we in the lucky energy country faced with ever increasing electricity prices of late? John Wright stated that although we have excellent resources, it is a different matter to turn them into safe, secure, affordable and environmentally responsible energy for the population, with the big issue of Greenhouse Gas (GHG) emissions to consider.

While Australians produce only 1.4% approximately of the world's GHG emissions, we have close to the highest emissions per head of population in the world – larger than USA and very much larger than China. The reason for this is the nature of our energy structure – good quality fossil fuels (particularly coal), low and remaining low hydro power, and no nuclear power – these latter two give a lot of other countries a lower GHG profile than Australians can achieve under the present circumstances.

Wright noted that our government is taking some ambitious steps to reduce our GHG intensity – carbon tax, renewable targets, assistance to develop lower emission technologies and the like. He felt that steps such as these would have a large influence on our future energy directions, in particular the recent release of the Energy White Paper, described by Wright as an important document as close to an energy policy as we are likely to see.

The Energy White Paper gives big emphasis to gas – conventional, coal seam and shale gas. Coal too is given a high priority. We must keep our exports going, and continue to support “clean coal” technologies, principally carbon capture and storage. Uranium exports too must be maintained in the form of “yellow cake” (uranium oxide). As for rising electricity prices, attempts to curtail them are being addressed through the introduction and spread of “smart grid” technologies. Dr Wright noted however that the linking of the smart grid with variable sources of inputs such as increased wind, solar and other RE technologies will be very difficult to achieve.

Dr Wright’s closing comments reminded the audience that energy infrastructure is expensive and relatively long-lived, so decisions made over the next 5-10 years will be critical. The session was then thrown open to questions from the audience. It had to be called to a close an hour later as time had run out. There were still many questioners waiting for the chance to pose their questions even so. All agreed that with so many changes occurring in the energy field, a similar Energy Forum should be held in 2013.