Challenges Remain For Future Energy Supply And Costs

On current estimates, New Zealand's known oil and gas reserves are diminishing at a level far greater than the life of world reserves. The country's best known petroleum analyst, Chris Stone of Wellington-based McDouall Stuart, graphically showed this scenario in his presentation to the New Zealand Petroleum Conference held in Auckland recently.

One graph showed that NZ's oil reserves have lifted in the past few years and should last another 20 years with planned new projects, while the world had reserves for about 40 years. NZ's gas reserves nosedived in the 1980s but reduced that trajectory to a current estimated life of 10-12 years, with the OECD nations only marginally better.

Stone said that while the world hunt for oil has escalated dramatically in recent years, driven in part by rising oil prices, the discovery rate to 2004 forms a graph heading alarmingly south. However, in NZ the number of wells drilled has risen significantly since the turn of the decade and the bulk of the quest has focused on the Taranaki Basin.

In looking ahead at energy supply, renewables are an opportunity for NZ but would be a minor solution. With gas, two options are: importing liquid natural gas (LNG) or compact natural gas (CNG). However, other speakers at the conference suggested that bulk transportation of CNG between countries had apparently not yet been commercially achieved and there were questions about whether it could deliver the capacity of LNG.

Coal was a huge opportunity, but there were environmental concerns in the political and public arena. The domestic use of coal has increased dramatically over the past two years, largely as a result of the 100 MW Huntly power station switching from gas to coal as its major fuel source. In 2004, nearly 700,000 t of coal was imported from overseas as feedstock for Huntly to make up for a shortfall from domestic mine production in the Waikato.

Stone said there was a tail-wind scenario for the country's energy consumption. By 2012, total consumption could be equivalent to about 700 PJ, with the biggest hike in demand likely to come from imported oil, while domestic supply falls off. Energy costs in 1996 represented about 3% of gross domestic product and by 2012 it could cost $NZ7 billion or 6.5% of GDP.

Stone suggested that in looking at why too little is being invested in energy developments, an apparent answer was that there were some who see imported solutions as being incremental and seemingly easy. "A power blackout will relegate virtuous environmental issues well behind security of supply", he said. "Opponents of projects will go from hero to zero and snails will get trodden underfoot." (Referring to the discovery of a snail population halting an advanced coal project in New Zealand.)

With Methanex now virtually out of the supply scene, Stone said continued economic growth at only 1.8% per annum would see a demand of 200 MW pa for new energy, and New Zealand was well short of that target. ■

PESA News No. 81 (2006)