

Summaries from Selected Plenary Sessions at the New Zealand International Conference

*By P. Sharath Chandra Rao**

Energy Issues and Policy in Australia and New Zealand

David Smol, Deputy Secretary, NZ Ministry of Economic Development

Mr. Smol spoke about the energy policy of New Zealand and the security of electricity supply. Before 1984 the state was the dominant player in electricity management. Deregulation/Restructuring began post 1984 and since 1999 the shift has been sector specific regulation. He said that the greatest challenges for the security of electricity supply were:

- 1) Timely investment in generation and transmission
- 2) Managing dry-year risk which required a hydro-thermal coordination
- 3) Managing peak demand periods where one has to pay attention to total energy consumption and simultaneously focus on national and local transmission networks
- 4) Managing real time events viz. extreme weather

He emphasized that New Zealand's electricity system was isolated and stingier than other national grids that are tightly meshed with multiple routes to large loads (like USA & Canada). Hence, it had to only look at domestic options or decentralized system/s. He added that the climate change, economic transformation and the future of the energy sector are interlinked.

Thus under the existing business as usual case, energy demand is expected to grow and thermal fuels, especially oil, are likely to dominate the supply mix over the coming 25 years which will result in an increase of carbon emissions particularly in the transportation sector. To avoid this path he recommended developing a New Zealand Energy Strategy which needs to be built on a sustainable energy program that will encompass core energy sectors, integrate with fuel-related parts of national transport strategy, feed into assessment of relative R&D priorities, evolve international relationships and support wider government strategies e.g., economic transformation. In his concluding remarks he said that the NZ Ministry of Economic Development had already begun the process and was currently focusing on:

- 1) Maximizing the contribution of energy efficiency
- 2) Optimizing the contribution of renewable electricity
- 3) The role of LNG (or CNG) as a potential 'backstop' source of supply over the next twenty years.

Jeanette Fitzsimons, Co-Leader, NZ Green Party

Ms. Fitzsimons echoed the widely held belief that to limit greenhouse gas emissions and move towards a sustainable energy future it is essential to have a price on carbon. She mentioned that the current policy debate in New Zealand had shifted emphasis somewhat from the question of whether there should be such a price, to how such a price might best be set, and how the social impacts of it might be addressed.

Ms. Fitzsimons has been advocating a price on carbon since the early 1990s, and has always believed that it is necessary, but not sufficient. She strongly believes that there are many energy efficient decisions that would achieve a positive return on investment now, but that don't proceed, and hence there are other factors at work. She questioned how many new homes have CFLs as standard lighting? How many domestic and commercial appliances are designed to minimize life-cycle costs (including energy), instead of just least cost manufacture?

She has found that in twenty years not much has changed with regards to the potential of the market to deliver energy efficiency. As a government spokesperson on energy efficiency and conservation, she has lead government programs on solar water heating and energy efficiency. She has been instrumental in addressing several obstacles towards the successful dissemination of the solar water heater program, namely:

- 1) Website for consumers explaining how to decide whether solar is suitable for their homes and what kind of system would suit them best
- 2) A manual and web based information for the building industry showing what solar can do and correcting the myths

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- 3) A revised Australia/New Zealand quality standard, more stringent and better adapted to the country's climate zones
- 4) Franchising training courses across the polytechnique schools and subsidizing training fees for plumbers and non-plumber installers for the first six months

While she has been a strong advocate for efficient, environmental pricing, she feels that climate change cannot be solved by simply putting a price on carbon. She mentioned that there are huge potential costs and carbon savings to be had through renewables and energy efficiency, but they could not be realized by price mechanisms alone – or at least not fast enough to protect us from severe climate change and possibly rapid oil depletion. She concluded her presentation by stating that “One needs to set targets to give certainty to industry to start building capacity” and further, the government has to investigate the underlying barriers. Only by addressing the specific barriers will we (New Zealand government) be able to change behaviors and attitudes, not just prices.

David Gargett, Transport Demand Analyst, Australian Bureau of Transport and Regional Economics (ABTRE)

Mr. Gargett discussed the two major energy policy challenges facing Australia and New Zealand: energy security and greenhouse gas emissions. He mentioned that most of the standard economic/econometric models are not really up to the task of considering radical shifts in the transport systems, should they be required. As such it is instructive to consider what the differences might be between business-as-usual transport energy models and some of the transport energy scenarios research now underway at the Bureau i.e., ABTRE.

He recommended long term forecasting using structural models with base case and scenario analysis capabilities. He said that the trend in per capita car travel (kilometers per person) in Australia has in general been following a logistic (saturating) curve against real per capita income – measured by real Gross Domestic Product (GDP) per person.

His study at ABTRE found that: “As incomes per person increase, personal car travel per person also increases, but at a slowing rate over time”. In other words, more car travel is attractive as incomes rise, but there reaches a point where further increases in per capita income elicit no further demand for car travel per capita. However, traffic continues to respond in a one-to-one relationship to population growth.

He concluded his discussion by summarizing the effects of economic development and its associated technical change which are as follows:

- (1) As the economy grows, the road freight task grows even quicker
- (2) The shift to larger vehicles makes possible larger loads and, therefore, less traffic (albeit composed of larger vehicles), but at the same time makes possible lower real freight rates which causes additional demand for freight transport

Gary Goddard, Executive Director, Energy Division of the South Australian Department of Transport, Energy and Infrastructure

Mr. Goddard discussed Australia's National Emissions Trading Scheme (NETS) prepared by the National Emissions Trading Taskforce (NETT) which was formed in January 2001.

The underlying motivation for advancing on such a scheme is the view that the future prosperity of Australia may be better served by taking early action to adapt to a “carbon constrained” world, rather than putting off action and risking a shock to the economy and society. Further, the fundamental obligation of governments is to create a robust and predictable regulatory framework within which new technology and innovation can be developed and applied - to create incentives and rewards for improved environmental outcomes.

The Taskforce has set up a policy that puts Australia on a pathway to reduce its emissions by around 60% compared with 2000 levels by the middle of the century. This is an economy-wide goal, rather than a sector-specific target. To accomplish this goal a cap and trade emissions trading scheme which is similar to the European Union emissions trading scheme has been proposed as it is a widely held belief that they (cap and trade schemes) better guarantee emissions reductions. The scheme is expected to commence as early as 2010.

He briefly discussed the number of objectives of the scheme design. These include: Environmental integrity, Investor certainty, Minimizing impacts on the economy, Flexibility and Equity. Further, the scheme would initially cover the stationary energy sector which represents the largest component of Australia's emissions. But the design of the scheme has been developed such that additional sectors

could be added over time. Also, all six types of greenhouse gases covered by the Kyoto Protocol are proposed to be covered. Although, several of these gases are not emitted by the proposed liable parties they would be relevant for offset creation.

It is proposed that liable parties would be able to bank permits indefinitely. Unrestricted banking would provide scheme participants with compliance flexibility, encourage early emission reductions and reduce compliance costs, while also enabling a smooth transition path for permit prices.

He mentioned that several new institutional arrangements have been proposed to implement NETS and support its ongoing operation and administration, its registry system, and its reporting, compliance monitoring and enforcement regime. He claimed that NETT acknowledges that bilateral linking with international schemes might be desirable in the longer term but the principal objective of designing the NETS is to establish a strong domestic market. (More information on NETT and NETS can be found at www.emissionstrading.net.au)

Climate Change Policy - Where to Beyond Kyoto I?

Suzi Kerr, Motu Economic and Public Policy Research, New Zealand

Ms. Kerr began her discussion by admitting that involving developing countries post 2012 is one of the greatest challenges for creating an effective global climate mitigation effort. She discussed some of the fatal flaws in the current, Clean Development Mechanism, approach: adverse selection arising from voluntary participation, high transaction costs and the potential for corruption and poor measurement.

She then discussed the key issues in designing an effective, efficient, and internationally acceptable alternative where in she outlined a conceptually simple approach and then explored some of the complexities of making this work in practice. She highlighted some of the key ideas with reference to empirical work and current international proposals relating to avoiding deforestation.

Her study conducted along with Columbia University, United Nations FAO and University of Alberta used a rare panel data set for a tropical forest to analyze the effects of location differences between poor and richer areas on deforestation. They empirically examined the linkage between poverty and deforestation for Costa Rica during the 20th century using an econometric approach and also addressed the irreversibilities in deforestation.

In their experiment after controlling for both observed and unobserved characteristics of locations, they found that poorer areas are cleared more rapidly than richer, suggesting that poverty increases deforestation. Without controlling for locations' characteristics, the impact of poverty on clearing would be underestimated (in this case at zero) because poorer areas have more marginal land, i.e., land that appears to be less profitable for agriculture. For the poorest areas, the impact of poverty is weaker, and they found that in these areas clearing responds less to productivity of land.

Steve Hatfield-Dodds, Commonwealth Scientific and Industrial Research Organization, Australia

Mr. Hatfield warned that the current greenhouse gas emission's trajectories involve socially unacceptable climate risks. He mentioned that the ongoing policy discussion had not yet identified approaches that were capable of addressing the scale or complexity of our greenhouse challenges.

He found a number of common misconceptions in the economic analysis of emissions reductions. Some of them are:

- 1) It is not politically feasible to impose high costs now in order to achieve uncertain benefits for future generations
- 2) The social impacts of early action – particularly higher energy prices – are likely to be unacceptable
- 3) The timing of emissions reductions does not matter
- 4) The credibility constraints prevent policy makers from providing effective incentives for near term private investment through signaling future carbon market parameters (impacting on expected returns from research and development, or investment in long lived generation assets)

He suggested that a/any effective action requires the development of international arrangements that are both economically efficient and politically attractive to all key parties, and provide incentives for substantial adoption of low emission technologies by developing countries. He concluded his discussion by outlining a mechanism for extending Kyoto to deal with the emissions associated with trade exposed energy intensive products in consuming rather than producing nations, reducing trade related distortions and providing incentives rather than disincentives for participation.

Presiding: H.E. Dr. Beat Nobs, Ambassador of Switzerland to New Zealand

Mr. Nobs briefly mentioned the Stern report and the first part of the Fourth Intergovernmental Panel on Climate Change report, which he said had succeeded in convincing the world that climate change was a fact and thus required drastic measures to be taken especially by the industrialized countries. However, he felt that this realization had not fully translated yet into the political arena.

The presentation by Ambassador Nobs focused on the reasons for this gap between science and politics, and the status of the political discussion in the international arena. As the first commitment period of the Kyoto Protocol comes to an end in 2012, he recommended “possible” approaches to successful negotiation of a subsequent international agreement.

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