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Introduction

This page attempts to draw together a number of salient points from the conference, particularly those issues which resulted from questioning and discussion. The electronic presentations are available for download — hence material from these presentations will not be repeated here unless relevant. Specific comments are not attributed to individuals unless they also made formal presentations.

First, the speech by Energy Minister Pete Hodgson is summarised.

Address by Energy Minister Pete Hodgson

The conference started with an address from Energy Minister Pete Hodgson. The Minister highlighted the reasons for the proposed Crown Electricity Commission (CEC), namely:

- to address *very* dry year electricity supply security and spot price volatility
- to provide for statutory electricity sector regulation after the unified self-governance process failed to reach agreement

The Minister highlighted the Government Policy Statement (GPS) on electricity supply, namely that electricity supply should be:

- efficient
- fair
- reliable
- environmentally sustainable

The Minister indicated that the current (2003) power crisis stemmed from a fuel shortage (the concept of "fuel" includes hydro storage) rather than a lack of generation capacity. The Minister explained that system security is a shared good and this year saw insufficient fuel reserves, including stockpiled coal for Huntly.

The new ring-fenced reserve generation, which seeks to address the (very) dry year risk problem, will require some trigger mechanism. The exact specification has yet to be decided and the government has not indicated its preferences. However frequency of use will need to be balanced against insufficient response.

The levy needed to fund this reserve capacity will be "well under 0.5c/kWh". Reserve capacity may be made up from low capital cost plant (such as gas turbine gensets) and heavily depreciated existing plant.

Ordinary generation will need to be increased by around 150 MW/year. It is expected that the bulk will be renewables, due to their increasing competitiveness.

The proposed CEC shall:

- be empowered to force generators to offer long-term hedges for the secure portion of their portfolio
- engage in electricity modelling and be given disclosure powers
- produce statutory market operation rules based on the recent unsuccessful market governance negotiations.

In addition to renewable generation, lines companies shall also be able to invest in non-renewable:

- ordinary (non-reserve) generation to 25 MW or 10%, whichever is least
- unlimited reserve generation

Gas prices are set to rise in the post-Maui era. Maui gas prices were indexed to a modest 0.5 × CPI (consumer price index) over 30 years.

One question revealed that the proposed CEC would not be able to instruct ordinary generators to generate.

Demand-side inclusion

The inclusion of demand-side measures within the ambit of a (very) dry year response arose on a number of occasions. It seems certain that a number of useful demand-side measures will otherwise fall outside the domain of the proposed CEC — whilst noting that the exact role of the CEC has yet to be finalised.

One participant questioned Energy Minister Pete Hodgson regarding the wisdom of partitioning the energy system into two — with one half falling within the jurisdiction of the proposed CEC and the other left to public agencies such as EECA — given the level of interaction between these two domains. The Minister replied he was satisfied with this division.

Molly Melhuish, representing small consumers and speaking from the floor, raised the issue of

"crowding-out" whereby central investments detract from the viability of dispersed investments. This issue applies to both normal operation and (very) dry year contingency responses.

Solar water heating was given as an example where the potential contribution from other "fuels" was being overlooked.

The demand-side is highly dispersed and one participant revealed that 10% of the demand was made up by 28 000 small businesses.

Another participant pointed to the MARIA (Metering and Reconciliation Industry Agreement) RPT (Reconciliation Project Team) final report on metering, which apparently highlights substantial inadequacies with present practice.

The question of elected curtailable load attracted considerable attention as a possible (very) dry year response. This option appears to fall outside the current CEC proposal.

There was some discussion about an Australian process whereby transmission upgrades can be traded off against other means (noting that transmission constraints are not at issue under the current crisis).

Overall, there appeared to be considerable disquiet about allowing only supply-side measures to fall within the scope of the reserve response.

Energy or power

The Minister's view that the current crisis centred on fuel availability and not inadequate generation or transmission capacity was upheld by participants. That said, the issue of ensuring appropriate levels of re-investment for (ordinary) infrastructure renewal arose of numerous occasions.

Reserve (dry year) response triggers

The decision to bring in reserve capacity to manage (very) dry year risk requires a disclosed trigger mechanism.

One questioner suggested a (very) dry year response might be best triggered by reservoir-level thresholds. This was in response to the presentation by Toby Stevenson, Contact Energy. Toby responded by saying that it was very difficult to find a set of indicators, including reservoir inventory, which would have made a satisfactory trigger when run on historical datasets. For this reason and for operator certainty, Toby advocated a price-based threshold. Other questioners suggested that any such mechanism should take into account HV grid

location issues — in keeping with the ethos of nodal pricing.

The difficulty of identifying a (very) dry year *in advance* was also highlighted on several occasions.

One participant suggested the proposed CEC could be subject to perverse incentives by engaging in commercial activities whilst also acting as the statutory regulator.

Information sufficiency

Two reoccurring (and related) themes were those of information sufficiency and market adequacy.

One participant from the Energy Policy Market Group, MED (Ministry of Economic Development), stated that under NZEM (New Zealand Electricity Market) rules, information was confidential unless disclosure was deemed necessary — under the CEC proposal the converse applies, that is, the default state is information disclosure.

A speaker commented that natural gas pricing and reserve transparency needed substantial improvement.

Tom Halliburton, Energy Modeling Consultants, explained that the Colombian government required that (combustible) fuel contracts be registered with a public regulator, who then re-publishes the details in an anonymous format.

Another modeller commented that COMIT-Hydro (provided by M-co) did not contain complete information for all hydro schemes.

Some participants commented on the lack of a deep forward market within the current NZEM wholesale electricity arrangements.

Numerical modelling

Two speakers presented work on electricity modelling. There appeared to be good support for the idea of system modelling. More specifically, there was a comment about the need for electricity sector modelling to be "best practice".

A related issue was that of "favoured technologies" — a number of contributors warned about championing particular technologies and recommended that market processes and/or CEC modelling might provide a less partisan approach.

Resource Management Act uncertainty

Gavin Fisher, NIWA, reminded participants that any planning exercise by the proposed CEC needs to take into account the uncertainties associated with obtaining RMA (Resource Management Act 1991) consents. In fact, failure to obtain the necessary consents could be a "real show stopper".

Another participant suggested that there was a need for the government to open up the Conservation Estate for hydro development in particular. Other participants indicated that this line of action was unlikely to gain a public mandate.

One participant reported that MfE (Ministry for the Environment) is currently working on an RMA National Policy Statement covering energy and transmission development.

Carbon pricing

One participant suggested GHG (greenhouse gas) emitters will face low emissions-related costs in the short term because the US administration had withdrawn from Kyoto. A figure of NZ$15/tC (tonne carbon) was currently being floated in New Zealand policy circles. On the premise that the US will eventually need to price its own domestic GHG emissions, the question of opportunity cost related to the premature use of coal in New Zealand was flagged.

Natural gas

The existing gas market arrangements were strongly criticised by one speaker. That speaker indicated that Contact Energy had found it impossible to obtain satisfactory current and forward gas price and gas availability information.

One participant wanted to know if the proposed CEC would have a role in gas — it seems not (see the full address by Minister Pete Hodgson).

Another participant commented that New Zealand is presently a "low fuel-cost economy".

There was discussion relating to natural gas extraction rates and demand matching. The Maui contracts allow for a ± 50% variation in production — thereby earning Maui the tag of a "swing" producer. One speaker suggested that it would be unlikely that the commercial arrangements associated with future gas fields would allow this degree of flexibility. The knock-on effects of this added rigidity on electricity generation are difficult to anticipate.

LNG imports

The question of LNG (liquefied natural gas imports) was discussed in terms of its high capital investment. Chris Mulvena, Shell (Petroleum Mining), stated that any company wishing to commit to LNG would need to be sure of its ongoing market base.

Biomass

The role of biomass in the context of reserve generation was discussed. One questioner raised the issue of fuel lead-time in regard to providing a suitable (very) dry year response.

Alternatives to new (or reinstated) plant

One participant suggested that the government might be better advised to subsidise system-beneficial behaviour more generally, rather than only providing for new (or reinstated) plant solutions *via* capital injections.

Part F of the Industry Rule Book

There were several questions which dealt with Part F of the Industry Rule Book and its likely interpretation by the proposed CEC.

Innovation roll-out

The issue of innovation propagation within in electricity sector was raised. Rob Jamieson, Orion, suggested that lines companies were receptive to new ideas — and in addition, lines companies were collectively set to spend around $1.5B over the next 10 years.

Economic impacts

One questioner asked whether the government had undertaken any kind of analysis on the economic impacts that could flow into the wider economy as a result of the reserve generation proposal.
