Speech Notes – Stakeholder Function – 31 October 2017

Introduction of Board Members

Welcome to this evening's Electricity Authority stakeholder function.

Firstly, I want to introduce my colleagues on the Electricity Authority Board.

Susan Paterson is an MBA graduate from the London Business School. She has senior management experience in a number of companies in New Zealand and during a decade in the USA and Europe.

She was project director for the Wholesale Electricity Market Development Group (WEMDG) in the early 1990s, a director of EECA and spent over 8 years on the Transpower Board from 1999.

Susan holds a number of directorships and board positions.

Susan has been on the Electricity Authority Board since the Authority was formed in November 2010.

Allan Dawson is currently a Customer manager for New Zealand Trade and Enterprise based in Christchurch. He was formerly the Chief Executive for the Independent Market Operator in Western Australia and the Energy Market Company in Singapore. He worked on the development of New Zealand's electricity industry rules and arrangements in the 1990s as an employee of M-Co.

He is a former Chair of the Association of Power Exchanges – the global industry body for power markets.

Allan was appointed to the Authority Board earlier this year.

Sandra Gamble is currently a full-time director. She was formerly the General Manager for Business Strategy and Resilience for the Sydney Water Corporation and formely a director of Save the Children Australia.

She is an electrical engineer with significant experience working in the energy and water sectors.

Sandra was appointed to the Authority Board earlier this year.

Mark Sandelin is a partner in the law firm MinterEllisonRuddWatts. He has over 30 years' experience as a commercial litigator.

He has served on the MERW Board for 16 years and was its Executive Chair for 6 years.

Mark is Deputy Chair of Auckland Grammar School and also of Fairway Resolution Ltd – a crown-owned entity.

Mark was appointed to the Authority Board earlier this year.

Lana Stockman recently returned to New Zealand from Australia where she was most recently the Vice President Regulation at Aurizon Network, a top-50 ASX listed rail and road company.

Previously she was a General Manager at Energy Australia and a Board Member of the Electricity Retailers' Association of Australia and a member of the Ministerial Advisory Council on smart meters in Victoria.

Lana also has experience in the New Zealand electricity industry working for the Electricity Commission, the Authority and Meridian Energy.

Lana was appointed to the Authority Board earlier this year.

The 2017 Winter

At the beginning of 2017 hydro lake storage was near all time highs at around 4,000 GWh. Generators naturally took this opportunity to rely heavily on hydro generation and ran down the lakes towards more average storage levels.

We then had a period from late February until mid-July of unusually low inflows in the South Island. By late May the hydro lakes were heading towards the 1 per cent level and eventually went through that level, but never exceeded the 4 per cent level of risk.

From the Authority's perspective, spot prices, futures and the use of thermal generators acted as anticipated and the low inflows and falling storage were managed by the industry effectively.

Although the Authority is pretty comfortable about the industry's performance in the dry conditions in 2017, we have decided to have a more formal review of what

happened as there are always oportunities to learn from these experiences. Complacency is not appropriate when dealing with the reliability of electricity supply.

The Future

The way the industry develops should be determined by the inter-play of current and new competitors seeking out opportunities to meet consumers' needs by using existing and new technologies, and offering existing and new products and services.

The Electricity Authority is not the strategic planner for the industry but it does have a role in ensuring the Code and market facilitation measures it adopts do not stand in the way of industry participants. They must be able to adopt new technologies and offer new products and services when doing so will promote competition, reliability and efficient operation of the electricity industry for the long-term benefit of consumers.

More specifically, except when there are competition, reliability or efficiency reasons that justify doing so, the Authority should not favour:

- some technologies, product offerings or business models over others
- incumbent businesses over new entrants and new entrants over incumbents
- large players over small ones or small businesses over large ones.

In addition, the Authority needs to look into the future to see the potential developments that could impact on the industry

and determine what, if any, changes it should make to the Code or its facilitation activities so that they could accommodate these potential developments. It needs to share its perspective with stakeholders and get their feedback and use the information to shape its work programme.

Many of the potential developments and factors that will probably shape the industry are well known to most of you:

- reduced costs of distributed energy sources, like photovoltaics and solar water heating
- reduced costs and increased flexibility of battery storage
- increased emphasis on renewable generation with low emissions
- improved smart control systems and sensors
- peer-to-peer trading and blockchain reconciliation and settlement.

The potential impacts of these have been widely discussed internationally.

The New Zealand market appears to be well positioned to take advantage of these developments and much of the work the Authority is doing is aimed to complement this good position. In particular, there are our projects around enabling mass participation, permitting multiple trading relationships at an ICP, reforming transmission and distribution pricing to make them more service-based and cost-reflective, improving data exchange, real-time pricing, and the introduction of default distribution agreements.

Some potential developments on the demand-side have also been pretty widely discussed in New Zealand.

Will Tiwai shut or not, and if so, when? Personally, I think it is not likely it will shut, provided the transmission pricing methodology is changed so the smelter pays for the services it receives and the costs of providing those services. In a world in which most countries have Paris Agreement obligations, I think the demand for aluminium will grow and the risks of heavily subsidised production (from low-cost fossil-fueled generators in places like China) will decline.

There is likely to be increased demand for electricity from electric vehicles and the conversion of the production of some process heat demand to electricity. Over time, the increase could be very considerable but is likely to be spread out sufficiently for the market to respond. Changing the vehicle fleet will take time, and conversion of process heat production will also be most likely to occur when current equipment comes up for retirement.

New Zealand has plenty of options to increase generation capacity at costs not too much above current average wholesale prices. Most of the options are renewables. Provided distributors get on with the job of making their prices more service-based and cost-reflective, these changes should not lead to too many issues in the distribution system either.

Other potential developments on the demand side have not been so widely canvassed and are more speculative.

New Zealand’s ability to increase its renewables capacity at around current costs may, in a world in which countries are striving to meet Paris Agreement obligations, result in the migration of some energy intensive industries to this country—particularly those that require continuous reliable supplies of electricity.

New Zealand may also have opportunities to export over HVDC lines base-load electricity generated by geothermal plants to Australia. Australia desparately needs to find economic substitutes for its base-load brown coal plants. It is arguably the major “political” and “economic” challenge facing the “lucky country”.

GNS and associated organisations have recently proven there is high temperature heat close to the surface along the main divide fault on the West Coast. The size of the resource is yet to be proven, but it could be very large as it is derived from the pressure of two of the world’s largest continental plates pressing against one another. HVDC lines of almost as great a length are being planned elsewhere in the world, such as between Iceland and Britain and losses at 3 per cent per 1,000 km are not obviously excessive.

Australia’s peak load is in summer and this load is likely to increase driven by demand for air conditioning. New Zealand's is in winter. Significant additional geothermal capacity could effectively eliminate New Zealand's current dry-year risk, even if demand grew significantly.

In summary:

- the electricity industry faces exciting opportunities and challenges

- the current market and regulatory arrangements are well-placed to further evolve for any risks that might arise
- the Authority is keen to ensure that its Code and market facilitation activities do not stand in the way of adopting new technologies and offering new products and services, when doing so will promote our statutory objective
- the Authority's current work programme includes the projects it thinks are needed to ensure this happens and we have constituted two new groups – IPAG and MDAG – to assist the Authority. We are also working closely with the Commerce Commission and MBIE
- the Authority knows it does not know it all, and seeks your feedback and comments to help it focus where it can make the biggest contribution to the long-term benefit of electricity consumers.