

Genesis

Pacific Economic Corporation Council

**Strategic Resources:
Are Markets for Minerals and
Energy up to the Challenge**

Brunei

2 September, 2003

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Chief Executive
Genesis Power Limited**

New Zealand Electricity Market

- 1992** - **Transmission separated from generation**
- 1996** - **Wholesale market established**
- 1996** - **Pool market commenced**
- 1999** - **Retail split from lines**
- 2003** - **Electricity Regulator appointed**

New Zealand Electricity Market

Growth in Demand: 1989-2015

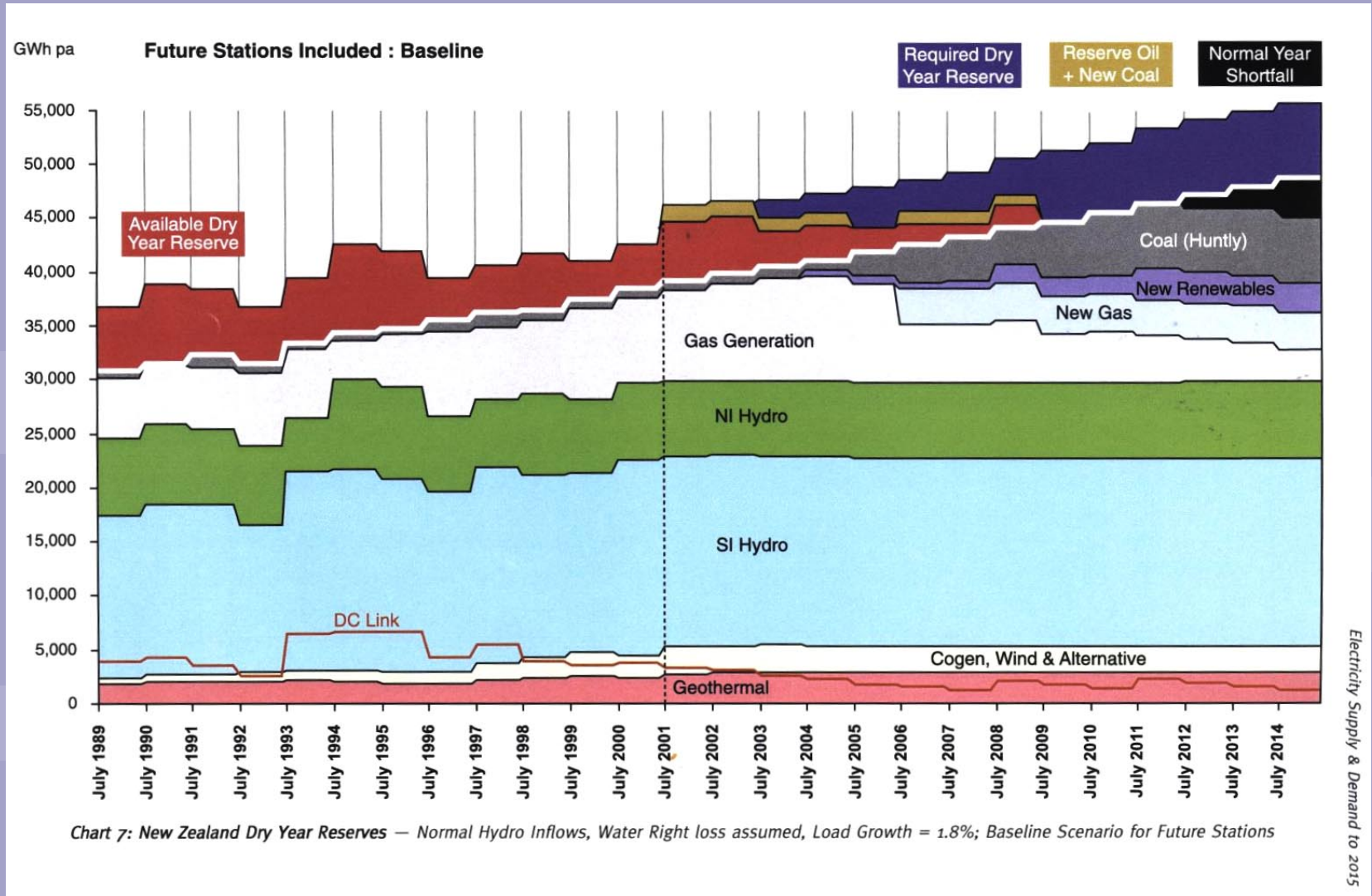
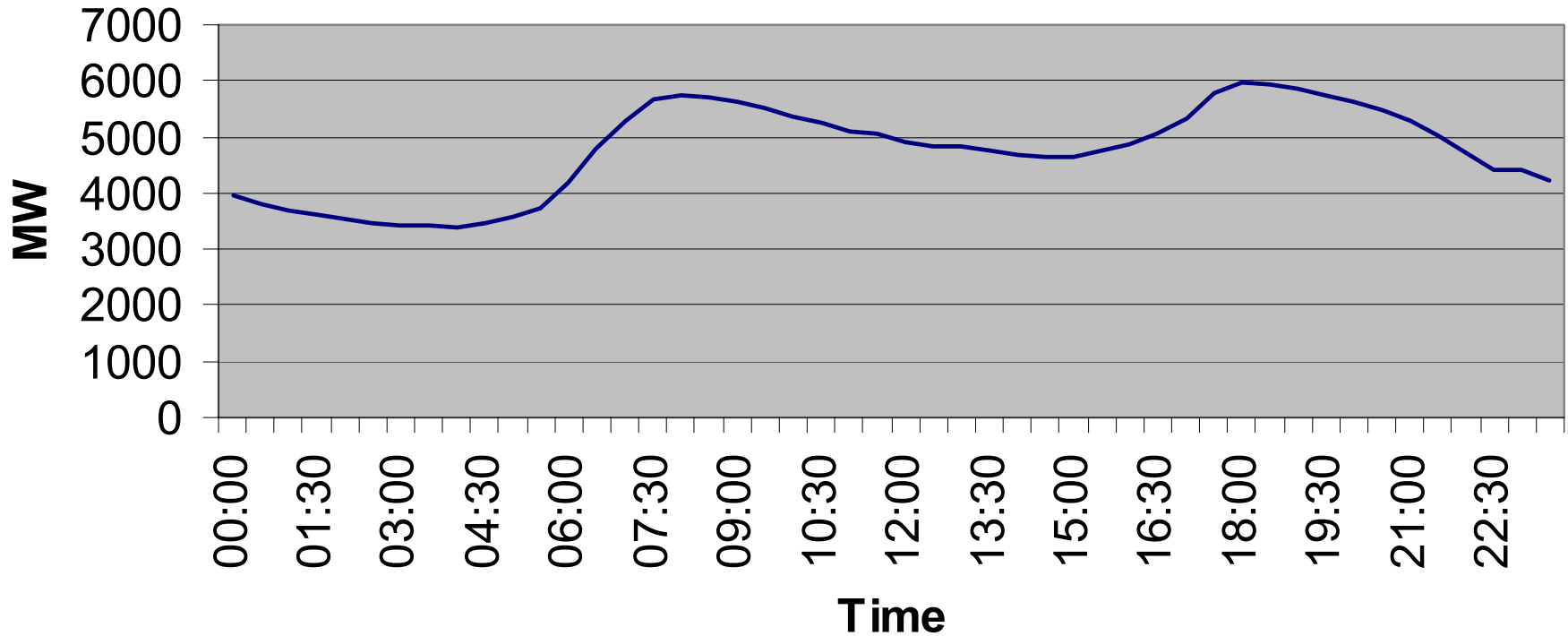


Chart 7: New Zealand Dry Year Reserves — Normal Hydro Inflows, Water Right loss assumed, Load Growth = 1.8%; Baseline Scenario for Future Stations

New Zealand Electricity Market Maximum Demand Winter 2003

New Zealand Maximum Demand 4-Aug-2003

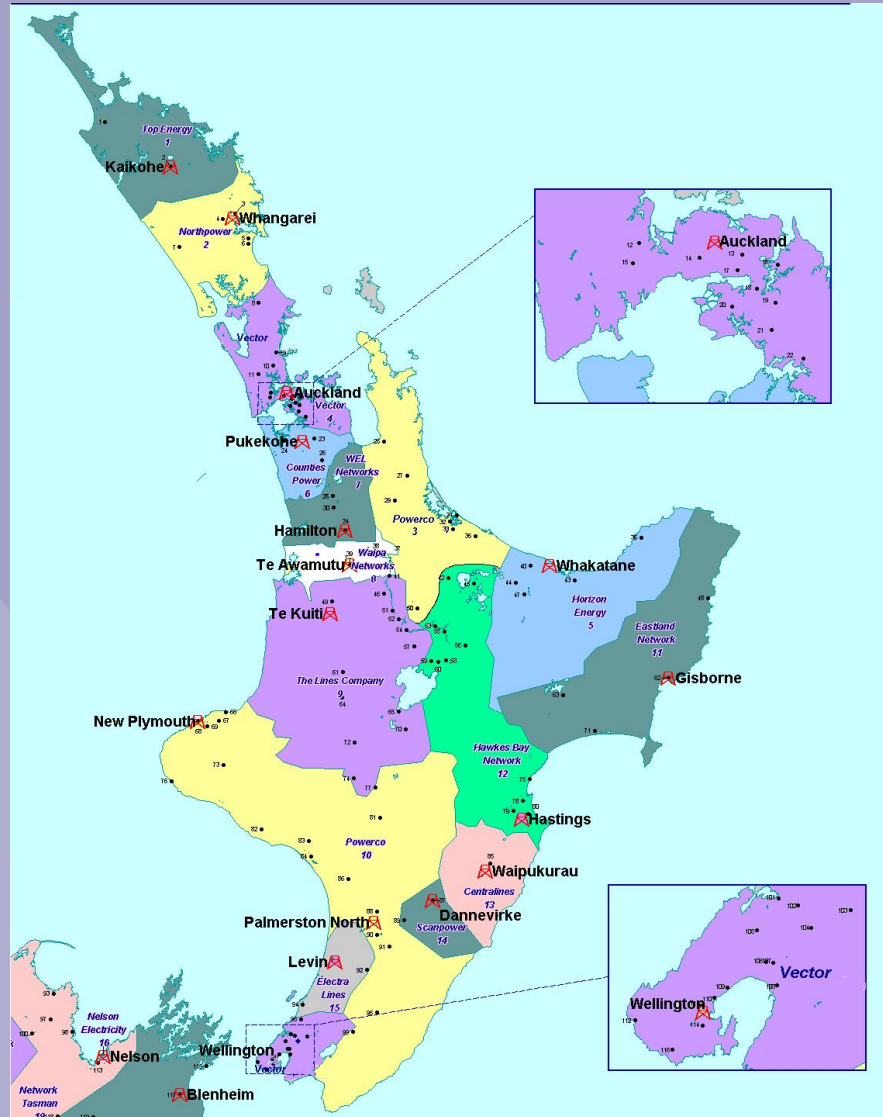
(half hour average from Transpower Information Exchange (TPIX))



New Zealand Electricity Market Network Service Provider

PECC

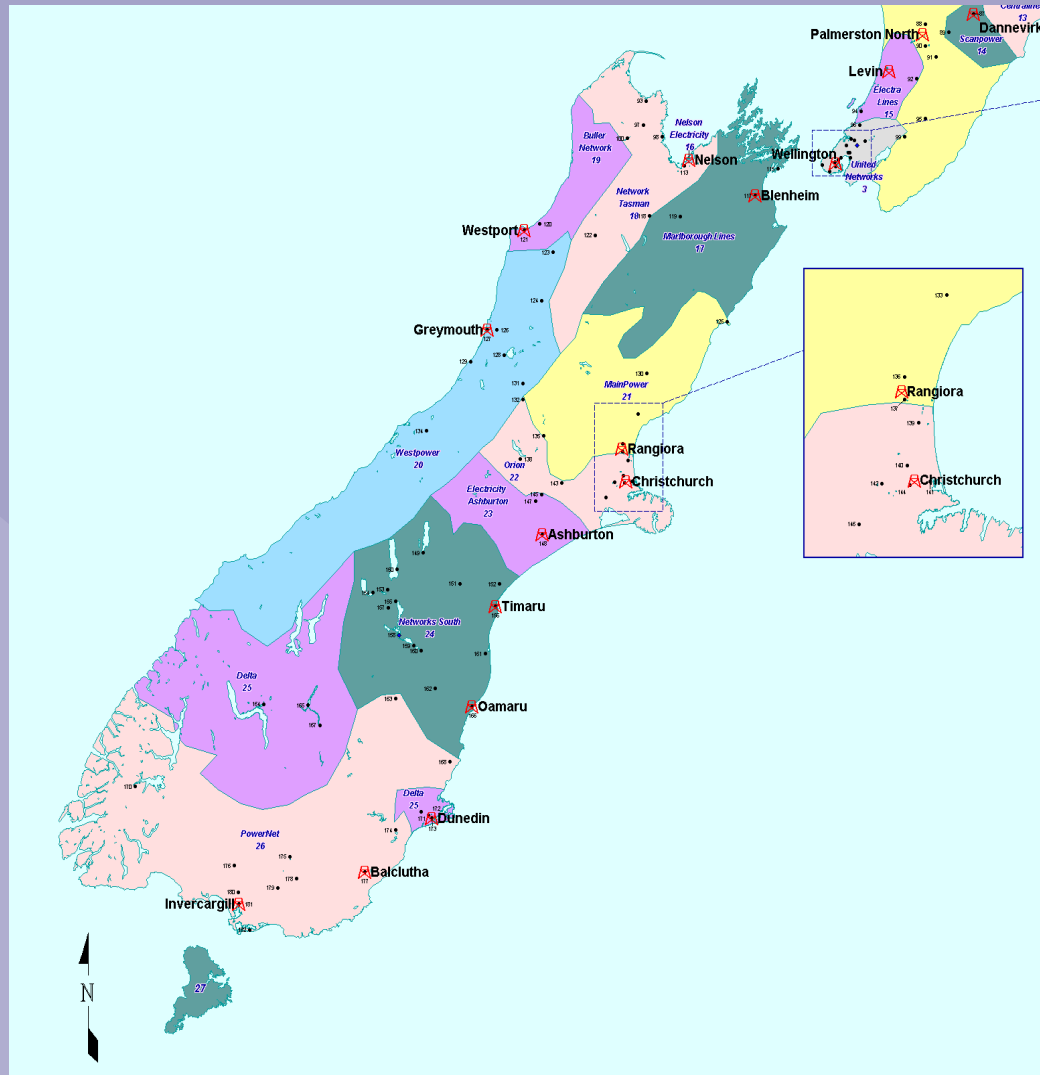
North Island



New Zealand Electricity Market Network Service Provider

PECC

South Island

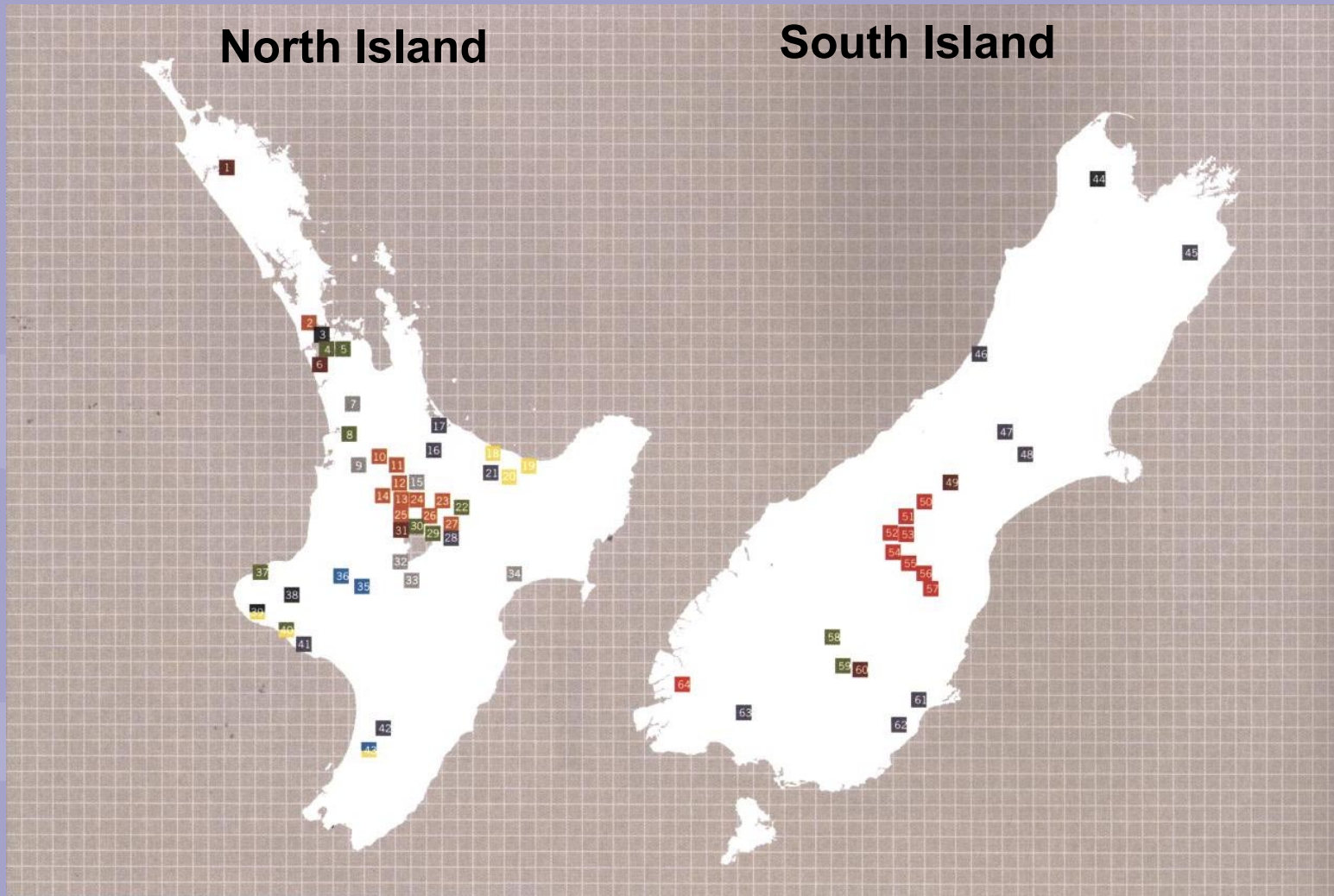


New Zealand Electricity Market

Generator	MW	Retailer	Households
Meridian	2,450	Meridian Energy	230,000
Contact Energy	1,940	Contact Energy	465,000
Mighty River Power	1,200	Mighty River Power	279,000
Genesis Power	1,600	Genesis Energy	450,000
Trustpower	400	Trustpower	260,000
Todd Energy	16	Todd Energy	65,000
		Energy on Line	25,000
		King Country	23,000
<i>Total</i>	<i>8,347</i>	<i>Total</i>	<i>1,797,000</i>

New Zealand Electricity Market Generating Sites

PECC



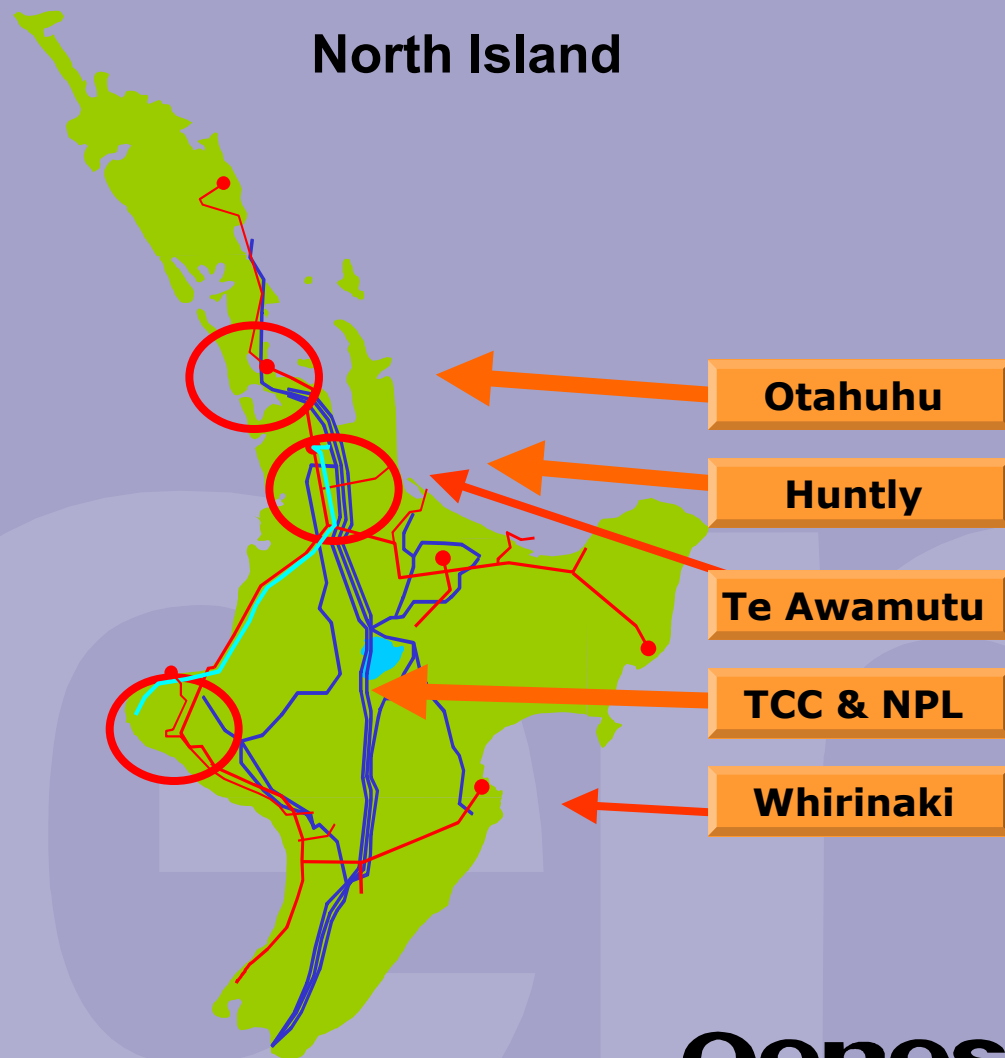
New Zealand Electricity Market Transmission Capacity

PECC

South Island 350kV DC Link

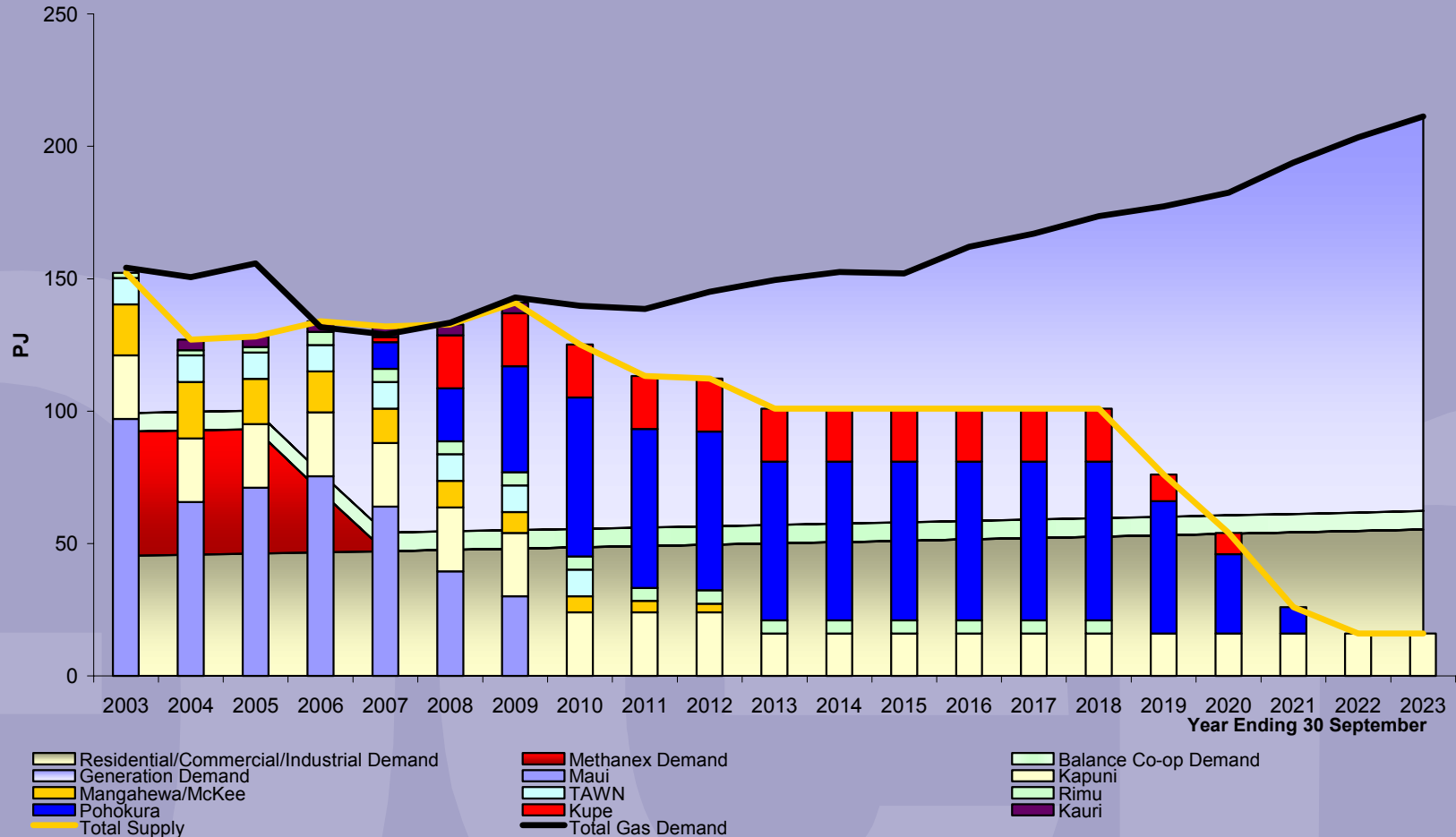


North Island



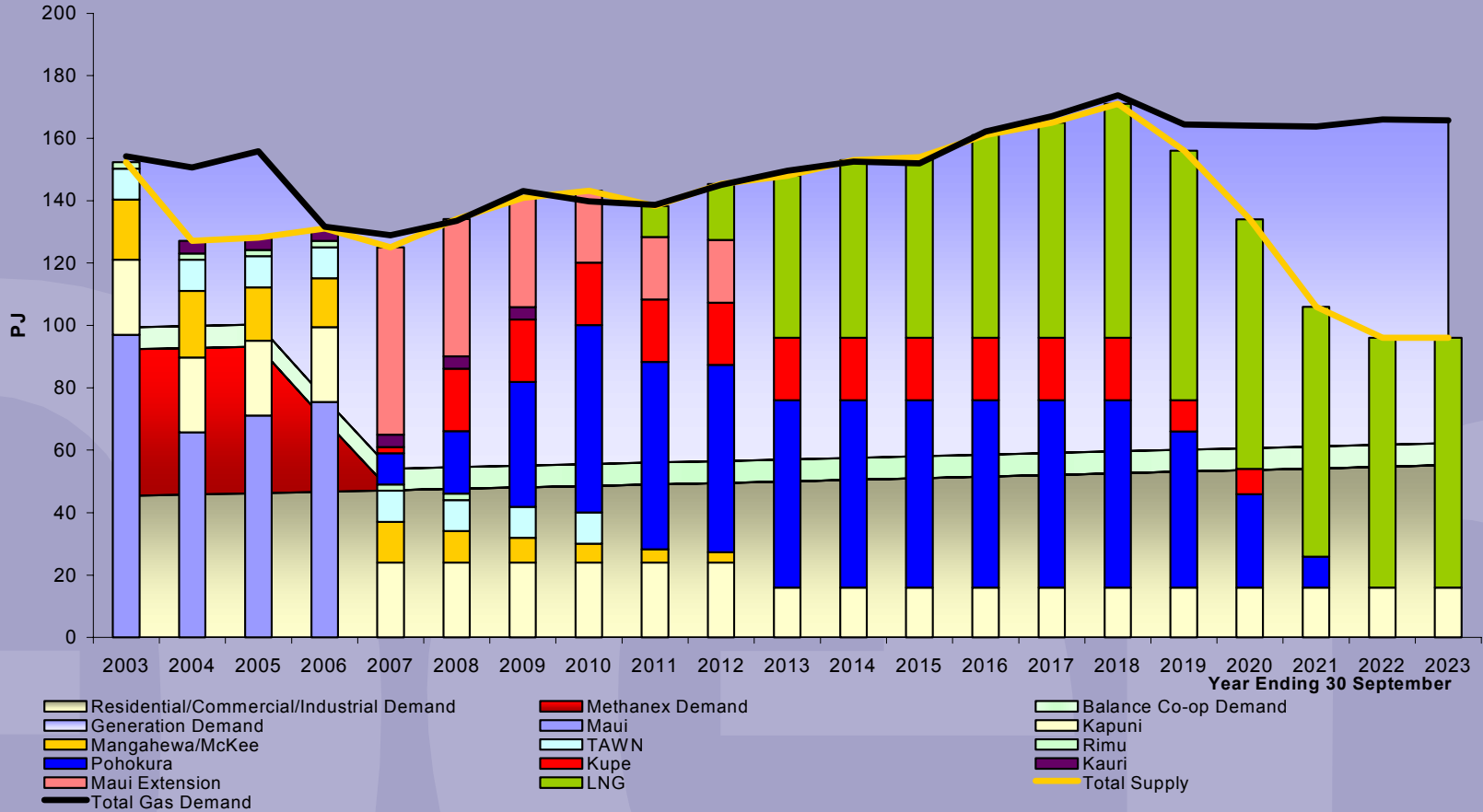
New Zealand Energy Resources

Current Gas Availability






New Zealand Energy Resources

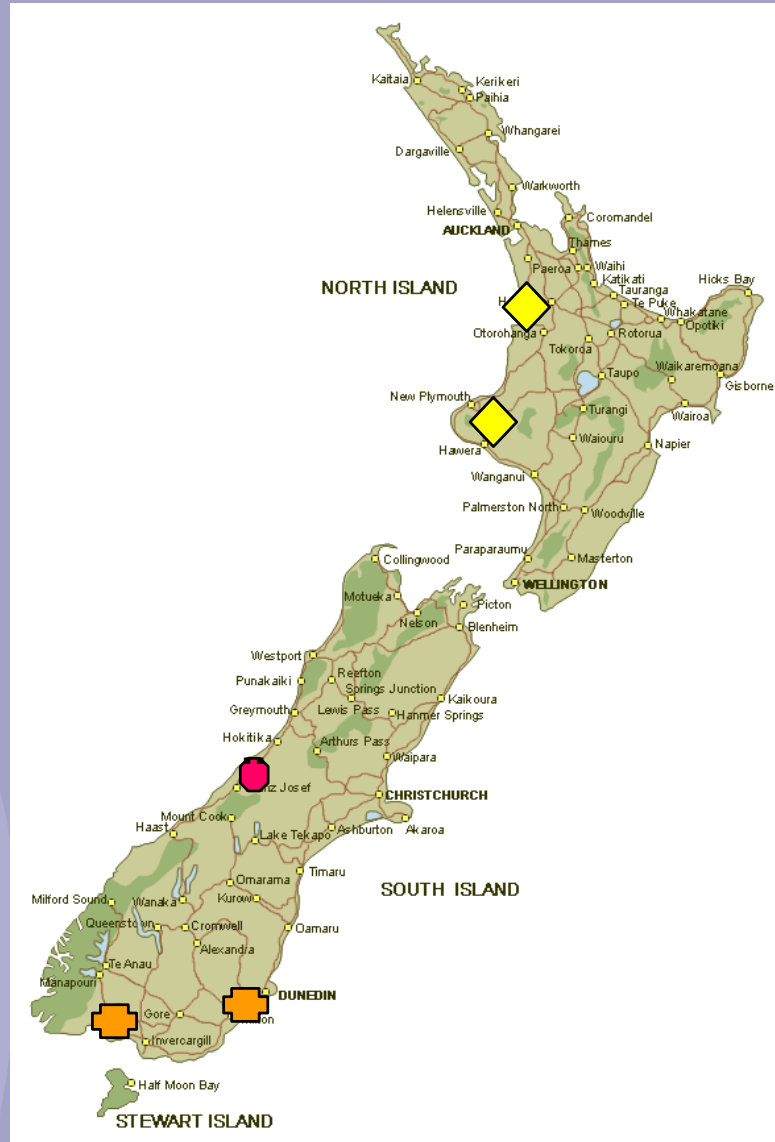
Future Gas Supply, inc LNG



New Zealand Energy Resources

Available Coal Deposits

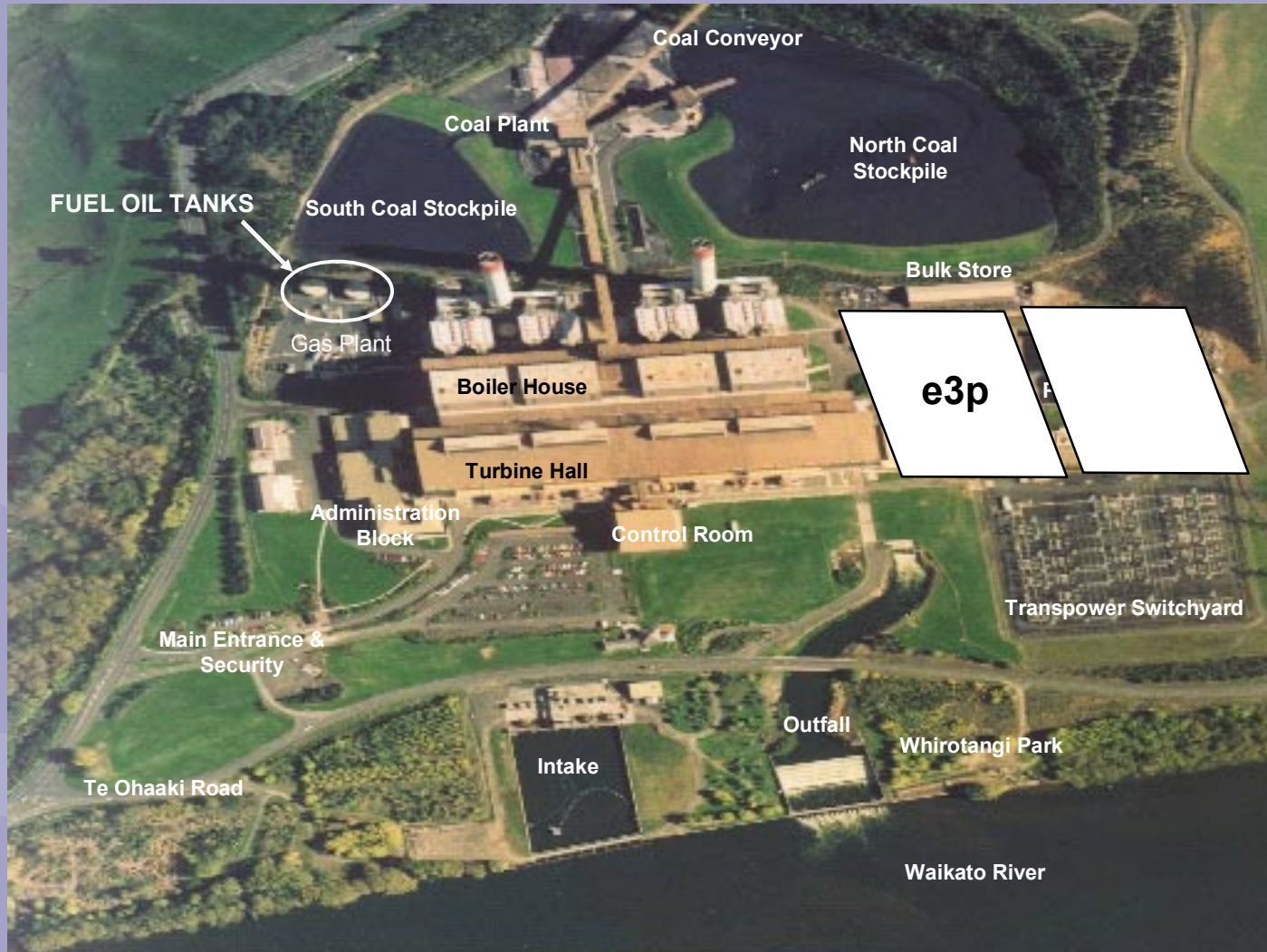
-  Bituminous Coal
-  Metallurgical Coal
-  Lignite



New Zealand Energy Resources

Huntly Power Station

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New Zealand Energy Resources

Australia and New Zealand Wind Development

	Installed (MW)	Planned/Under Construction (MW)	Total (MW)
South Australia	0.2	1275.0	1275.0
Tasmania	11.3	569.7	581.0
Victoria	39.3	489.8	529.0
West Australia	24.7	348.2	372.9
New South Wales	16.6	115.3	131.9
Queensland	12.5	40.0	52.5
Northern Territory	0.1	0.0	0.1
Total	105.2	2838.2	2943.4
New Zealand	40	110	150

New Zealand Energy Resources

Hau Nui Wind Farm



New Zealand Energy Resources

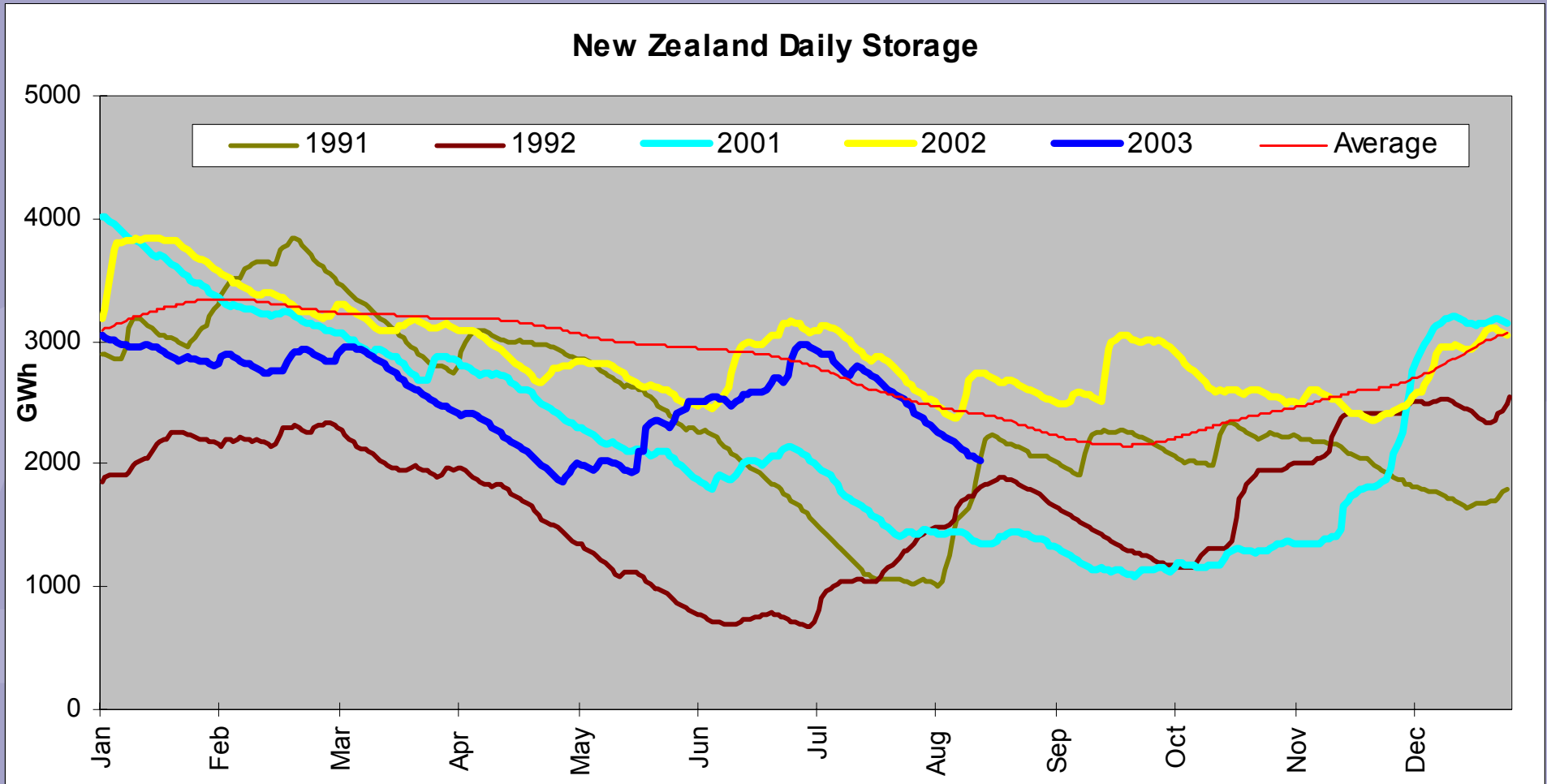
Awhitu Peninsula – 25MW Wind Farm Site

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New Zealand Energy Resources

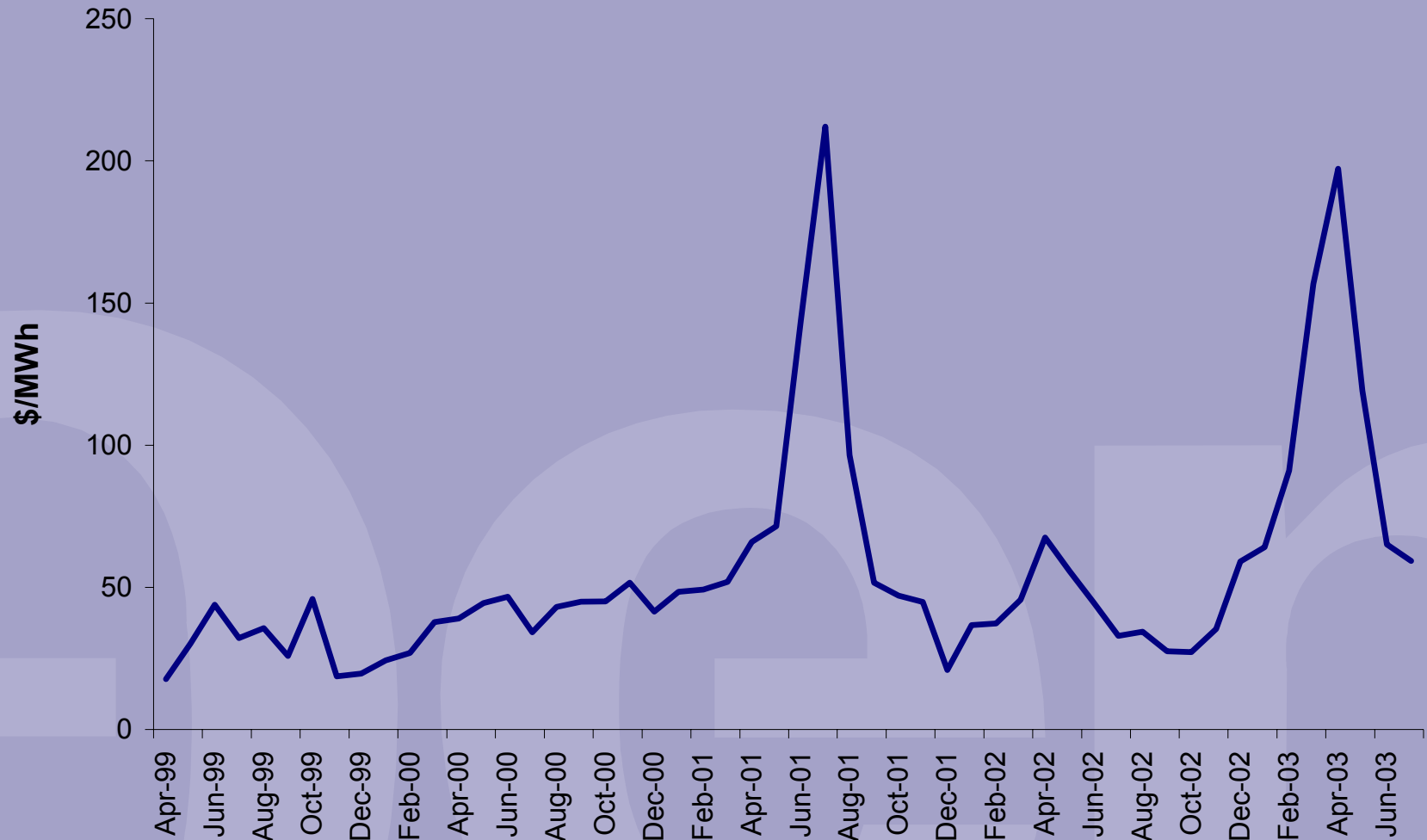
Hydro Generation Reserves



New Zealand Energy Resources

Dry Year Risk – Wholesale Prices

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New Zealand Energy Investment Opportunities

1. Kinleith Biomass Generation Plant



New Zealand Energy Investment Opportunities

2 Steel Smelting



New Zealand Energy Investment Opportunities

3 Appliance Manufacturer



New Zealand Energy Investment Opportunities

4. Dairy Industry



New Zealand Energy Investment Opportunities

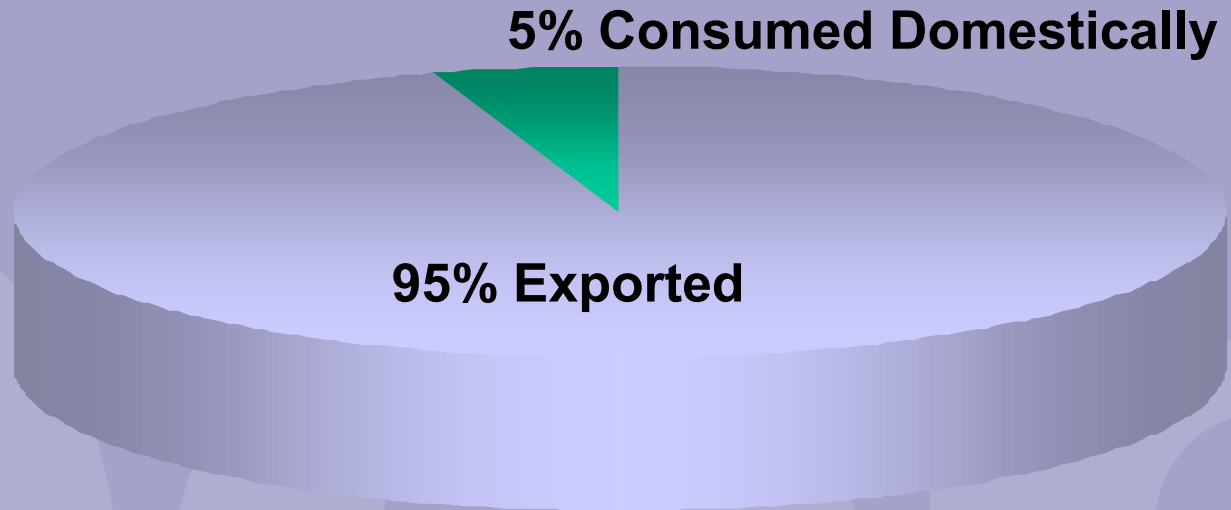
4. Dairy Industry

- New Zealand is renowned as a clean, green country. With clean air, pasture and water, it's the ideal environment for dairy products.
- New Zealand has a dairy herd of 3.5 million cows, milked by over 13,000 dairy farmers.
- Dairy herds are predominantly Jersey and Holstein-Friesians cows which graze on grass based feedstocks, even in winter.
- This all-year outdoor pasture farming results in dairy products that are acclaimed worldwide for their goodness, nutrition, energy and taste.



New Zealand Energy Investment Opportunities

4. Dairy Industry - Milk Production



New Zealand has a small domestic dairy market with 95% of all milk produced being exported.

SOURCE: STATISTICS NZ 2001

New Zealand Energy Investment Opportunities

4. Dairy Industry - 23% of New Zealand Export Revenue

