

Expectations for New Zealand's energy landscape

This short questionnaire seeks to identify areas of consensus and debate in the perception of New Zealand's likely energy future - both prior to 2015 and approaching 2030.

The questions are arranged by energy sector, with Yes / No / Unsure questions that are intended to stimulate thinking about future possibilities, and questions where a probabilistic spread is required. Answer the cost questions as if costs were in 2008 dollars. Your answers to this questionnaire can be sent electronically to the EnergyScape team (i.e. send button) or printed for your records (i.e. print button), but not saved.

The support material (a separate document) provides information that may aid in interpreting and answering the questions below.

Participant details:

If you would like to receive result of this survey, please provide your name and e-mail address:

Name Email

What is your relationship with the energy sector?

- ☐ Supplier ☐ Major End-user ☐ General Public ☐ Other, please specify:
☐ Distributer ☐ Regulator ☐ Researcher

New Zealand society:

	By 2015			By 2030		
	Yes / No / Unsure			Yes / No / Unsure		
Will New Zealanders be better off financially than now?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have a healthy environment (i.e. clean, green image)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will the wealth gap (between significant 'wealthy' and 'poor' NZ'ers) have grown?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand population be greater than 4.4 million by 2015 and 4.85 million by 2030 (i.e. StatNZ mid-mid estimate)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Transport sector

	By 2015			By 2030		
	Yes / No / Unsure			Yes / No / Unsure		
Will world production of oil (conventional) have reached maximum (i.e. peaked)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will international oil demand exceed supply (both conventional and unconventional)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will transport demand be reduced by economic pressures?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The average petrol consumption of a 'NZ new' vehicle is <6L/100km (2015) and <4L/100km (2030)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will more than 20% of passenger transport be by public transport?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have a synthetic crude plant based on coal?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have a synthetic crude plant based on gas?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have a synthetic crude plant based on woody biomass?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand produce more than 10% of oil needs from biomass?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will algae derived biofuels be used to move more than 10% of freight?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will active transport (e.g. cycling & walking) be a major (>10%) component of commuting?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will urban form have changed significantly to noticeably reduce the need for private transport?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will an electric car be your/your family's main form of transport?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What do you expect the crude price to be in 2015? (provide a probability distribution)

Price (US\$/bbl)	< US\$ 50	US\$ 50-100	US\$ 100-150	US\$ 150-200	> US\$ 200	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

What do you expect the crude price to be in 2030? (provide a probability distribution)

Price (US\$/bbl)	< US\$ 50	US\$ 50-100	US\$ 100-150	US\$ 150-200	> US\$ 200	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

Gas Supply

	By 2015			By 2030		
	Yes	No	Unsure	Yes	No	Unsure
Will New Zealand have discovered another large (>70% of Maui) natural gas reserve?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will a lack of new gas finds compromise electricity generation in New Zealand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand be using methane hydrates?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have built an LNG terminal and regularly import LNG?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have a synthetic crude plant based on gas?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand export gas as fertiliser and methanol?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What do you expect the wholesale gas price to be in 2015? (provide a probability distribution)

Price (NZ\$/GJ)	< NZ\$ 6	NZ\$ 6 - 9	NZ\$ 9 - 12	NZ\$ 12 - 15	> NZ\$ 15	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

What do you expect the wholesale gas price to be in 2030? (provide a probability distribution)

Price (NZ\$/GJ)	< NZ\$ 6	NZ\$ 6 - 9	NZ\$ 9 - 12	NZ\$ 12 - 15	> NZ\$ 15	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

Electricity Supply

	By 2015			By 2030		
	Yes	No	Unsure	Yes	No	Unsure
Will New Zealand have a nuclear power plant?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have regular black-outs due to lack of reliable supply capacity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand have a large (>150 MW) marine generation plant (tidal or wave)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will wind turbines supply >10% of electricity in New Zealand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will geothermal power supply >10% of electricity supply in New Zealand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will photovoltaic cells be cost competitive with grid power?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will more than 15% of homes have solar hot water heating?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will coal generation contribute more than 1,000MW of electricity generation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will electricity (co-)generation from synthetic fuel (from coal) plants contribute to electricity generation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will road user charges or fuel tax apply to electric vehicles?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will effects of demand side measures (e.g. insulation, eco-bulbs, solar heaters) be greater than electricity demand growth (e.g. heat pumps, computers etc.)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will more than 20% passenger of trips be with electric vehicles?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will more than 20% of residences have a battery bank for car recharge or peak load levelling?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will electricity growth be greater than the historical trend in urban areas?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grid electricity (excluding Manapouri to Rio Tinto) is > 75% renewable?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will large electricity storage systems (e.g. pumped storage or redox batteries) provide peak load levelling for the grid?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What do you expect the residential (Auckland) electricity price to be in 2015? (provide a probability distribution)

Price (c/kWh)	< 20c	20 - 25c	25 - 30c	30 - 35c	> 35c	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

What do you expect the residential (Auckland) electricity price to be in 2030? (provide a probability distribution)

Price (c/kWh)	< 20c	20 - 25c	25 - 30c	30 - 35c	> 35c	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

GHG Emissions

	By 2015			By 2030		
	Yes / No / Unsure			Yes / No / Unsure		
Will agriculture be in the New Zealand emissions trading scheme?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will carbon capture and storage exist for at least one large (>150MW) thermal plant in New Zealand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will a global Emission Trading market exist?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will global deforestation be reversed to afforestation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand be meeting internationally its agreed GHG emission targets (e.g. Kyoto)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will New Zealand be one of the first truly carbon neutral nations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What do you expect the carbon price to be in 2015? (provide a probability distribution)

Price(NZ\$/tonCO ₂)	< NZ\$ 10	NZ\$ 10 - 30	NZ\$ 30 - 50	NZ\$ 50 - 100	> NZ\$ 100	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)

What do you expect the carbon price to be in 2030? (provide a probability distribution)

Price(NZ\$/tonCO ₂)	< NZ\$ 10	NZ\$ 10 - 30	NZ\$ 30 - 50	NZ\$ 50 - 100	> NZ\$ 100	Total: 100%
Probability (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(If you don't have a forecast, feel free to leave this table empty)