

*Keeping
the energy
flowing*

NORTH
AUCKLAND AND
NORTHLAND
GRID UPGRADE
PROJECT

Transpower's investments in resilience of the Northern Grid

Auckland Life Lines Seminar

15 April 2013

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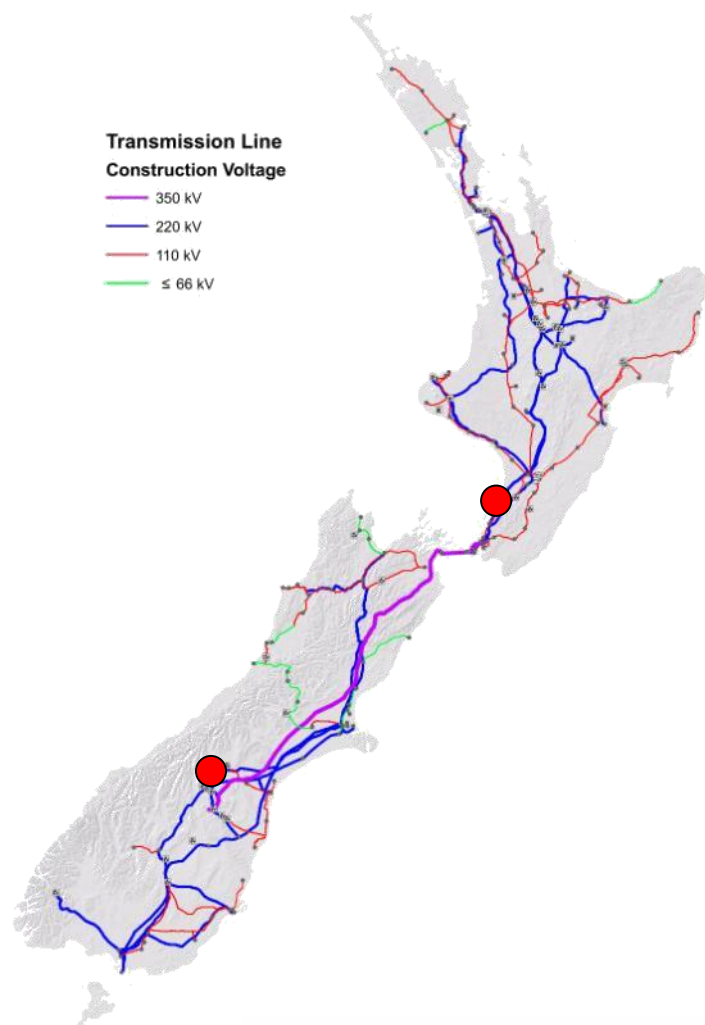
- Who is Transpower?
- North Auckland and Northland Power Supply prior to Major Investments
- North Auckland and Northland Power Supply post Major Investments
- Penrose fire 5th October 2014 case study

Transpower - who we are

- The owner and operator of New Zealand's high voltage electricity transmission grid
- A State Owned Enterprise with:
 - Annual revenues of about \$750 million
 - An asset base of about \$4.1billion
 - A workforce of about 650
 - A capital investment programme of \$5 billion over the next decade

Transpower – what we do

- Assets are located in all 85 regional, district and city councils. These include:
 - 11,800km of high voltage lines,
 - 41,000 towers and poles,
 - 2,300 circuit breakers,
 - 1,000 power transformers and
 - 178 substations



Transpower – who we serve

Our top ten customers

#	Company	What they do
1	Vector Limited	Distribution company
2	Meridian Energy Ltd	Generator
3	Powerco Ltd	Distribution company
4	Orion New Zealand Ltd	Distribution company
5	Meridian Energy Ltd (Tiwai)	For NZ Aluminium Smelters Ltd
6	Wellington Electricity Lines Ltd	Distribution company
7	Unison Networks Ltd	Distribution company
8	Contact Energy Ltd	Generator
9	Aurora Energy Ltd	Distribution company
10	Northpower Limited	Distribution company

Auckland And Northland Power Supply Prior to Major Investments

Auckland (220 kV network)



North Auckland and Northland

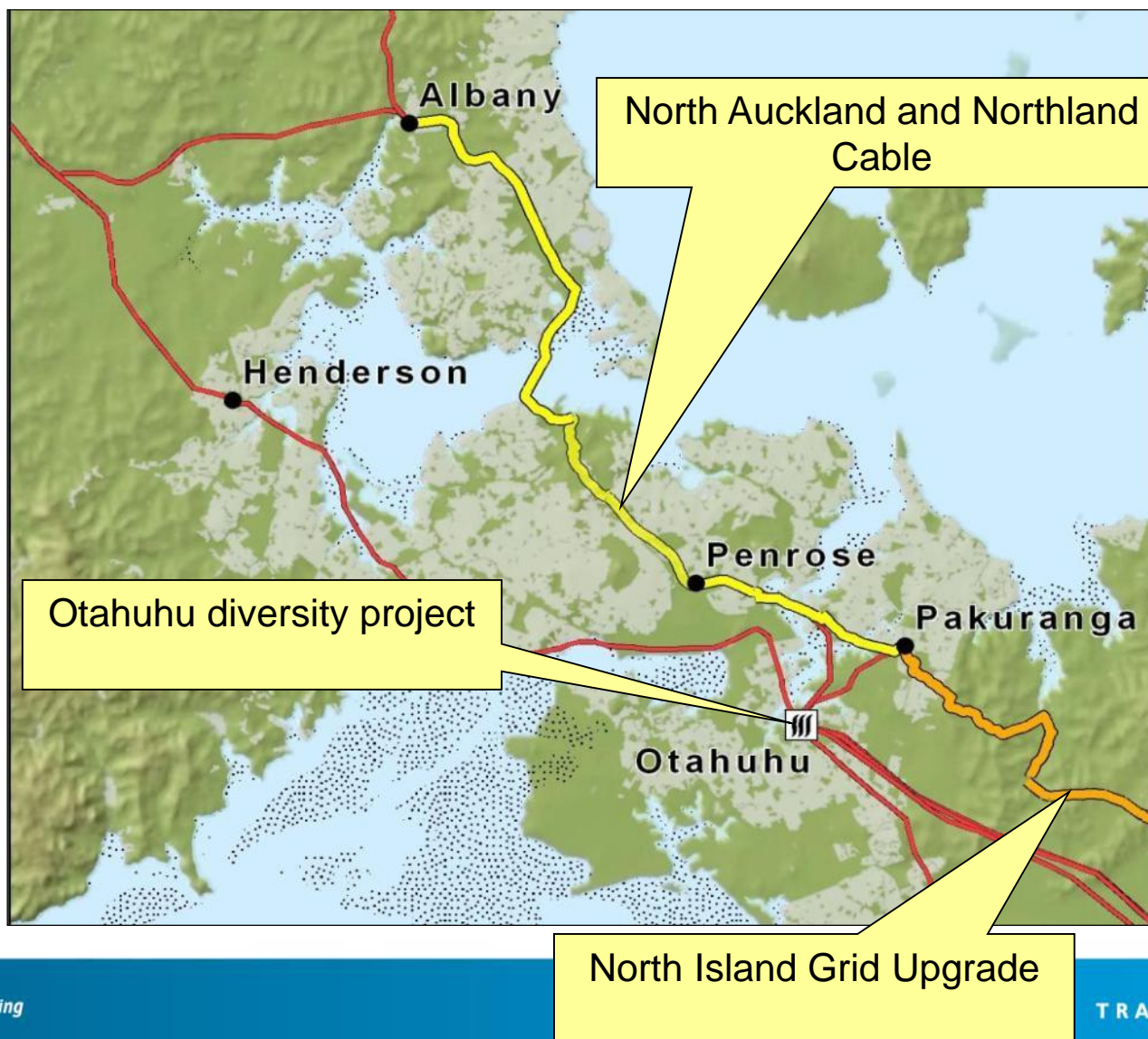


30 October 2009



Auckland And Northland Power Supply Post Major Investments

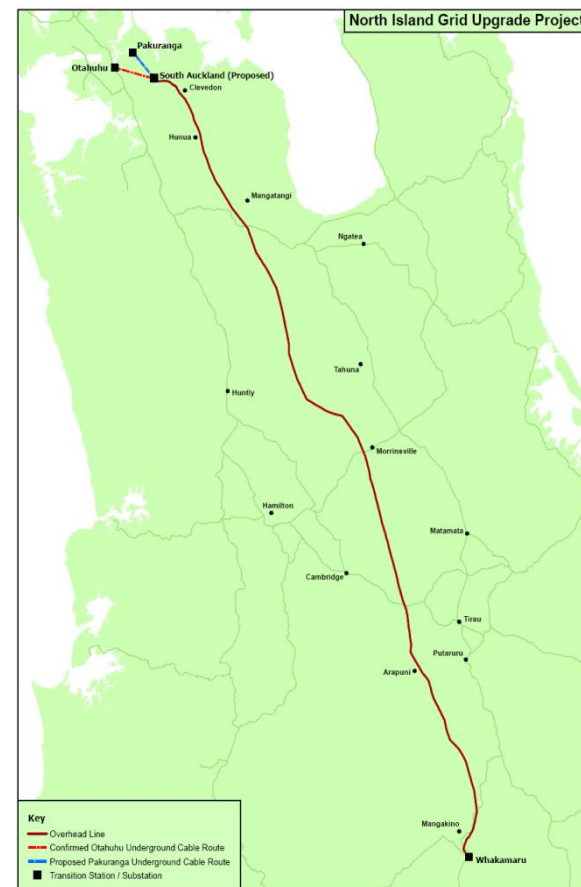
Major Investments



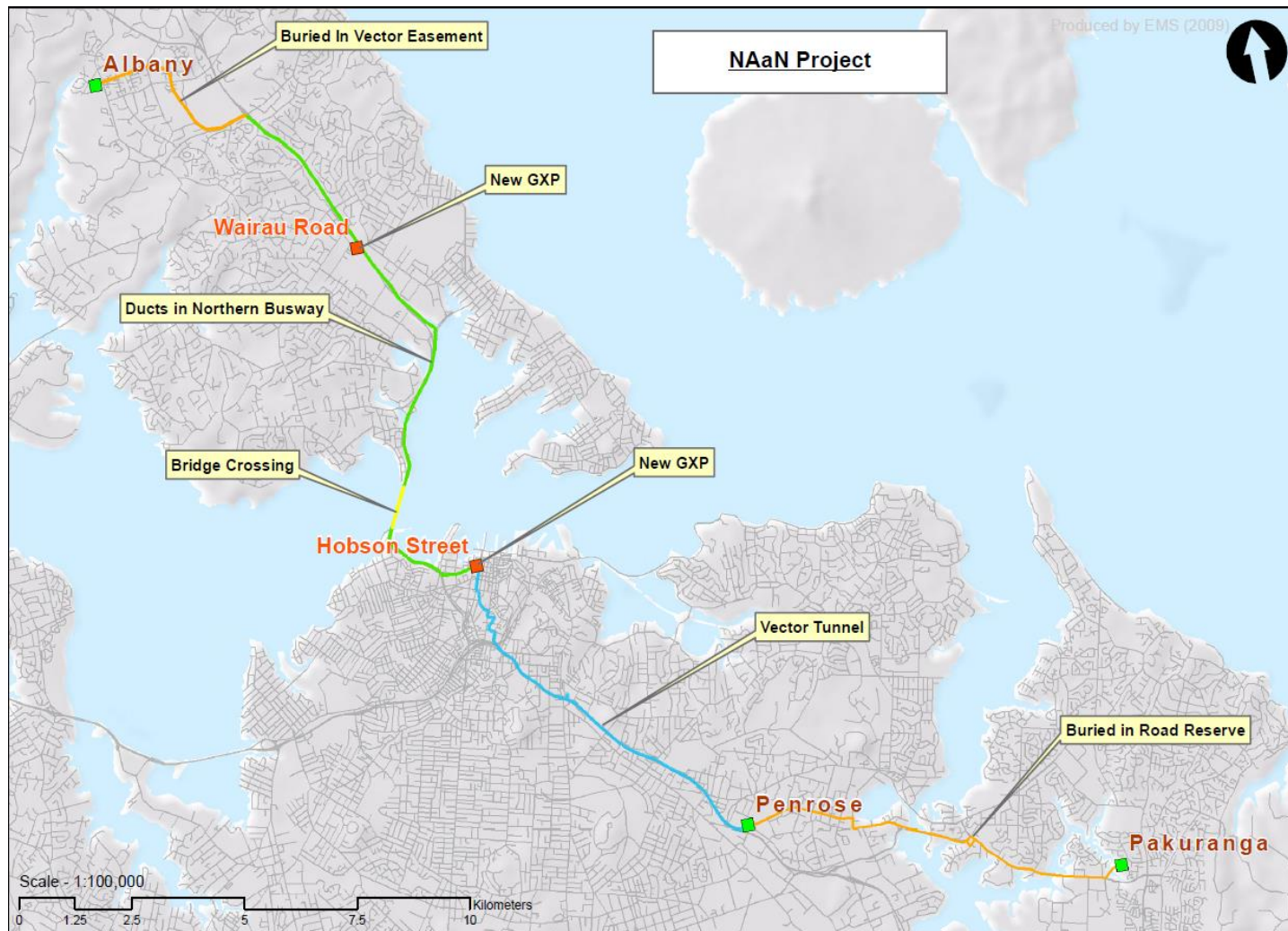
NIGU Project

North Island Grid Upgrade

1. 186 km, 400 kV capable overhead transmission line runs from Whakamaru to Whitford
2. Substations
 - Whakamaru
 - Brownhill
 - Pakuranga
3. Two underground 220 kV capable cables
 - Two circuits to a new switch yard at Pakuranga substation
4. Upgrading of the OTA-PAK line to 220 kV

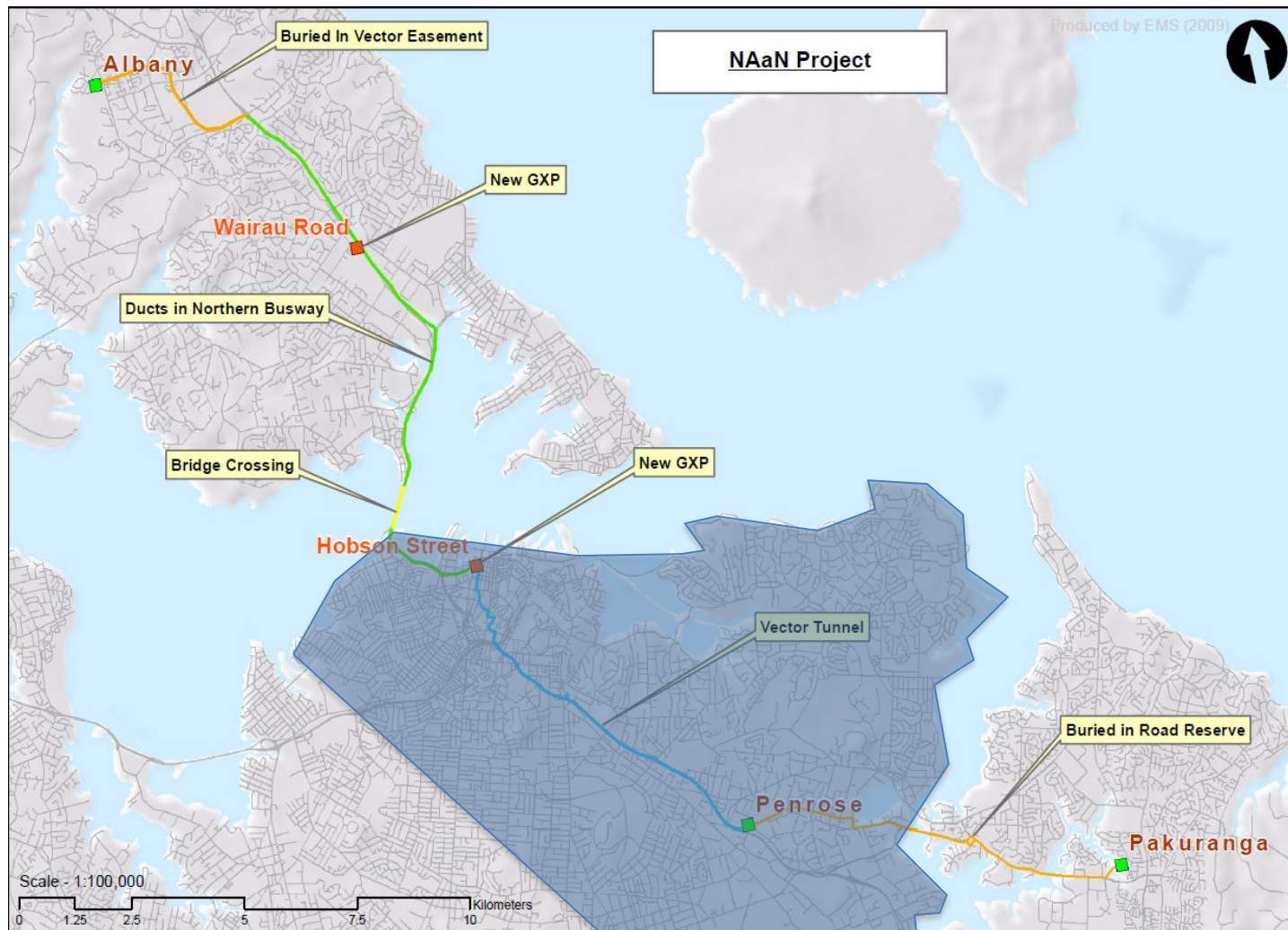


NAaN project



Penrose fire 5th October 2014 case study

Possible Impact if NAaN Project was not complete



Actual Impact with the new 220 kV cables

