

Meeting Date: 22 June 2018

## WELLINGTON ELECTRICITY'S EARTHQUAKE PREPAREDNESS

SECURITY  
AND  
RELIABILITY  
COUNCIL

**Note:** This paper has been prepared for the purpose of the Security and Reliability Council (SRC). Content should not be interpreted as representing the views or policy of the Electricity Authority.

## Wellington Electricity's earthquake preparedness

Wellington Electricity is the company responsible for distributing electricity in the Wellington region. Following an investment approval in March 2018, Wellington Electricity began implementing a multi-year project to improve the earthquake preparedness of its network.

The SRC's secretariat invited Wellington Electricity to present to the SRC on this topic. Wellington Electricity's presentation is appended to this paper and their Chief Executive will present the material to the SRC on 22 June 2018.

The purpose of this paper is not to review the merits of the investment, or the Commerce Commission's price:quality regime, or the approval process for this investment.

The SRC's interest in this matter is best focussed on understanding the local circumstances that led to Wellington Electricity making this investment and to consider whether it is likely that there are other networks that ought to be considering such investment.

## Questions for the SRC to consider

The SRC may wish to consider the following questions.

- Q1. What further information, if any, does the SRC wish to have provided to it by the secretariat?**
- Q2. What advice, if any, does the SRC wish to provide to the Authority?**



# Earthquake Preparedness

## Steps to improving major event readiness

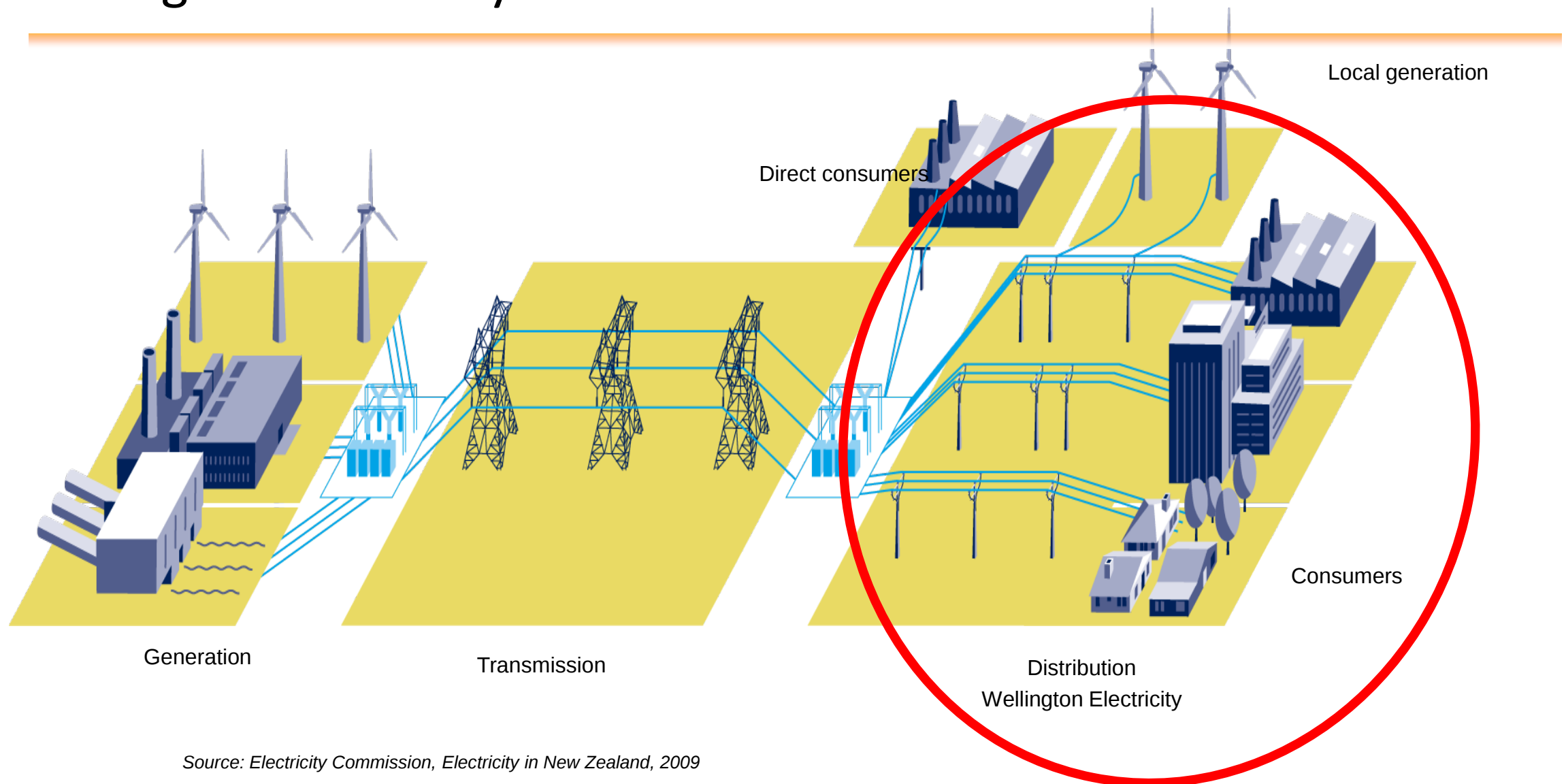
SRC Meeting 22 June 2018

Greg Skelton, CEO  
Wellington Electricity

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# Wellington Electricity - Distribution



# Lessons from Christchurch

- 2010-11 Earthquake Sequence
- Benefit of 1990's seismic reinforcement of buildings
- Critical spares & deployment of response & recovery gear
- Impacts on displaced families
- Structural Engineering lessons
  - Utility building strengthening
  - Criticality of Substation assets
  - Network vulnerabilities
  - Orion: Plan to plan, 4R's



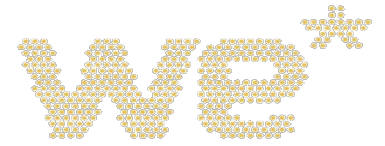
Seismic Strengthening



No Seismic Strengthening

# Wellington Context – Lifelines Report 2012

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- Operational Restore Times:
  - Roading – 60 to 120 days
  - Gas – 60 to 80 Days
  - Power – 40 to 95 Days
  - Water – 25 to 75 Days
- Vulnerabilities investigated
- Flow on effects
- Interdependency conversation
  - Roading, Power, Water



# Facing Reality – No Regional Access

- 2013 Opus Report
- Christchurch grid unlike Wellington single corridors
- Challenge of 7 Islands
- WELL 2014 Submission for 2015 DPP Earthquake funds declined



Initial Project Report  
March 2013

Wellington Region  
Transport Access: Initial project report – March 2013

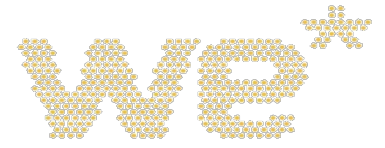
## Earthquake- Day

- Port not functioning
- Airport not functioning
- Port and airport not linked
- No road access into Kapiti, Porirua, Hutt Valley or Wellington city
- Wairarapa probably linked to rest of NZ
- Region fragmented into **six** main areas. Suburb-sized parts of these areas may be cut off

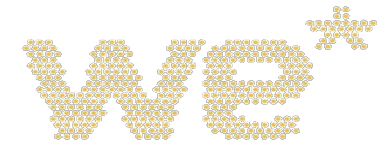


# Readiness trumps Response – spares stock

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- Government asks what can be done for after-shocks?
- No dice – Policy & Regulation aimed at post event support
- CDEM: pre-event Readiness & Reduction considerations
- Government Policy Statement September 2017
- WE seek exemptions from ComCom for SCPP & IM review
- Models showing impact on prices (PTB/SCPP = flat)
- Business Case development – Independently reviewed
- Stakeholder consultation – Council & Businesses
- Application Nov 17, Decision March 18.
- Readiness Investment April 2018 to March 2021

# Port & Rail reopen post Kaikoura – 360 days

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