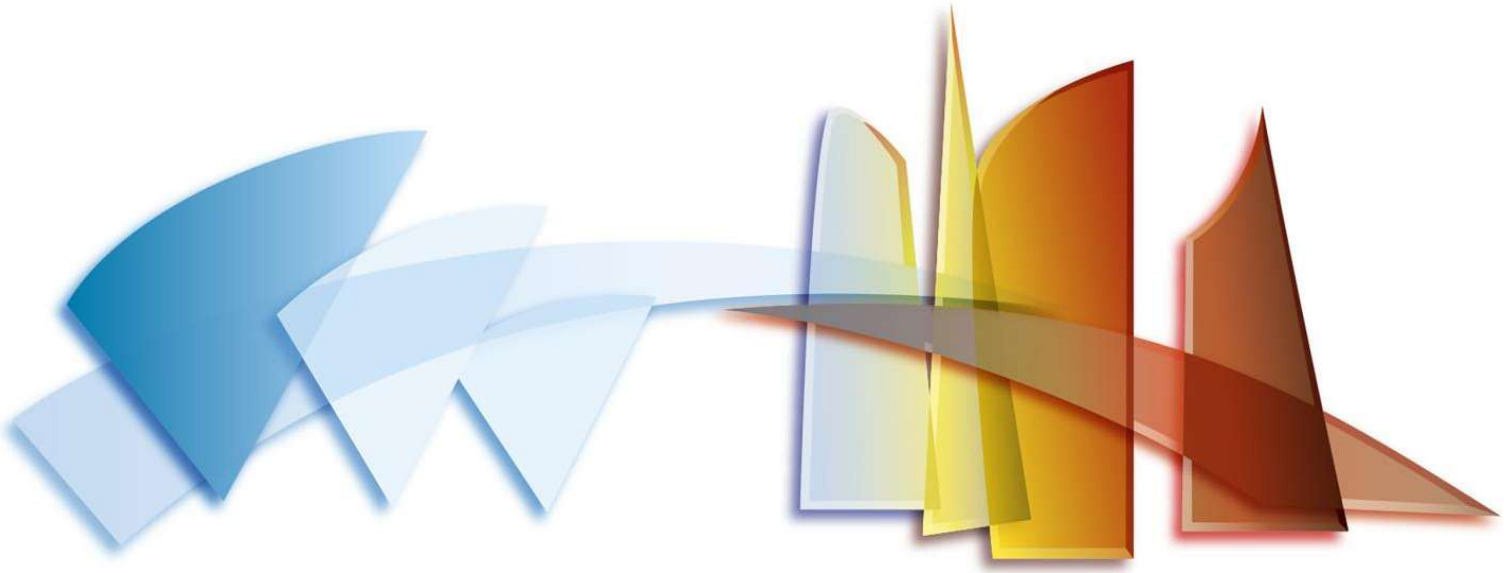
2023 INTERNATIONAL CONGRESS OF ACTUARIES



BRIDGE TO TOMORROW

28 MAY – 1 JUNE 2023 · SYDNEY

Actuaries Institute Australia

IAA AAI International Actuarial Association
Association Actuarielle Internationale

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A national public-private insurance solution

The New Zealand case study

© Andrea Gluyas and Ineke Fergusson, Toka Tū Ake EQC

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Mihi

A greeting in Te Reo Māori, the language of the indigenous people of New Zealand, acknowledging

- those in authority, and
- the traditional guardians of the land here in Sydney

and welcoming you all here today.

New Zealand

Mountains

Geothermal regions

Tāmaki Makaurau - Auckland

- New Zealand's largest city
- 1.7 million inhabitants
- Built on a volcanic field

Te Whanganui a Tara – Wellington

- New Zealand's capital city
- 420,000 inhabitants

Te Whanganui a Tara - Wellington

- New Zealand's capital city
- 420,000 inhabitants
- Built on an earthquake fault line

Photo: GNS Science

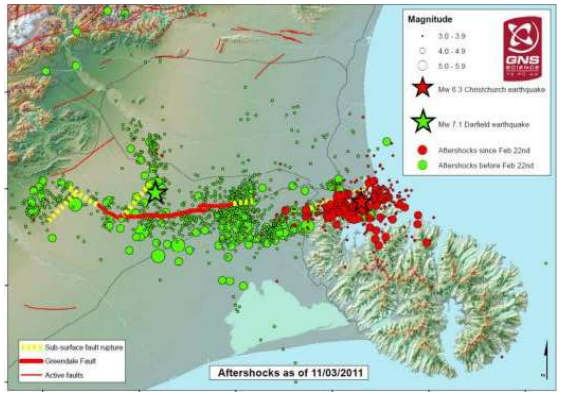
Earthquake fault lines

- Monitoring equipment captures around 20,000 earthquakes in New Zealand each year
- About 250 of these are strong enough to be felt

Photo: GNS Science

Canterbury

2010 - 2011



Kaikōura

2016

Cyclone Gabrielle 2023

Ensuring New Zealanders have access to affordable home insurance

- 1945 – decision to set up a national insurance scheme
- Created through an Act of Parliament
- Funded through a levy collected from all insured homeowners
- Backed by a Crown guarantee

Details of the scheme

- Toka Tū Ake EQC is a **Crown Entity**
- **Community rated levy**
- **EQCover** – Residential Building and land cover for earthquake, tsunami, volcanic activity, geothermal activity and landslip
- **Land cover only** for flood or storm damage
- Covers first **$300,000 per dwelling**

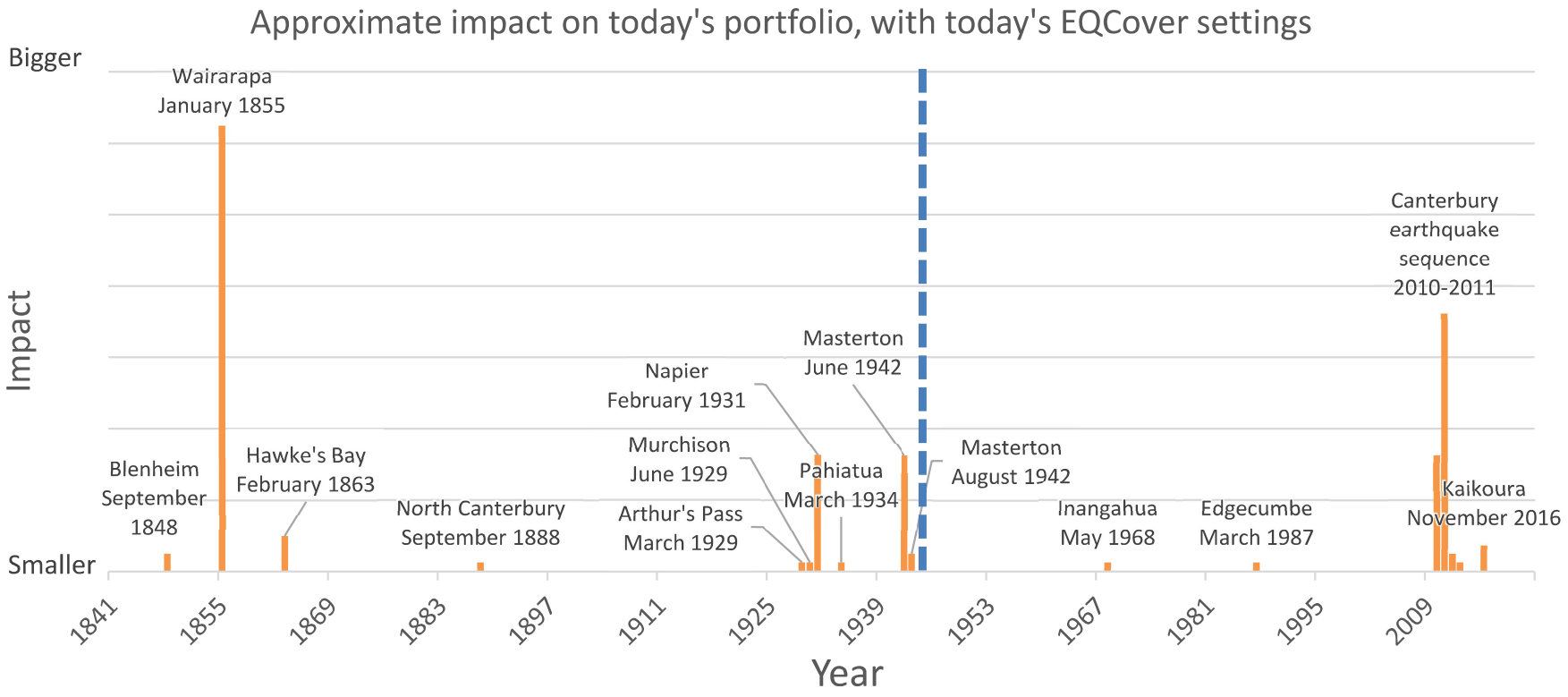
$480 + GST

- Maximum EQC levy per dwelling per annum
- Rate of $0.16 per $100 of cover

$1,600 + GST

- Approximate average national home insurance premium

A brief history of NZ earthquakes

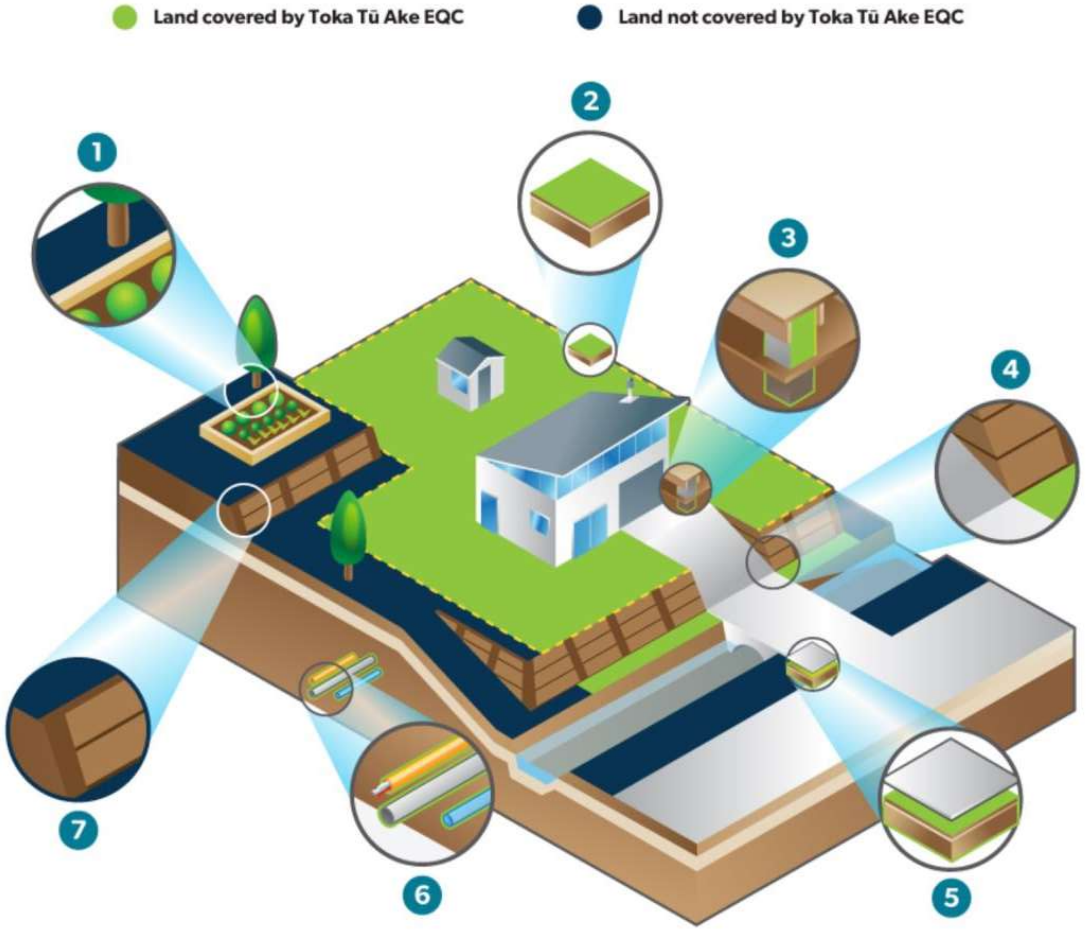


Introduction of land cover

- 1979 Abbotsford landslide destroyed 69 houses
- A Royal Commission recommended cover be extended to include "loss of use of land"

Land cover

1. Trees and gardens are not covered.
2. Land within 8 metres of the home and outbuildings.
3. Any damage to the house's foundations is covered by the building claim (not the land claim).
4. Retaining walls that are within 60 metres of the house and are necessary for the support or protection of the house or any insured land areas are covered. Bridges and culverts that are within 8 metres of your house (or up to 60 metres if they form part of the main access way) are also covered.
5. Land within 60 metres of the house which forms the main access way is covered. Any artificial surface like asphalt or concrete is not covered.
6. Water, drainage, sewerage, gas and underground electricity and telephone lines are covered by the building claim (so long as they are serving the home, are within 60 metres of the home and owned by the homeowner).
7. Landscaping (non-structural walls) are not covered.



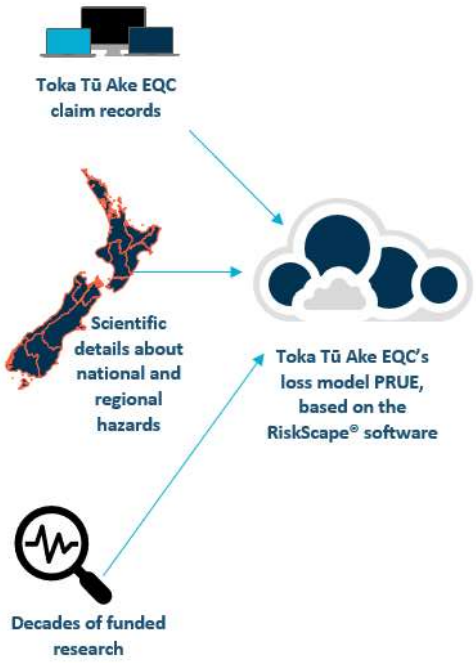
More than just insurance

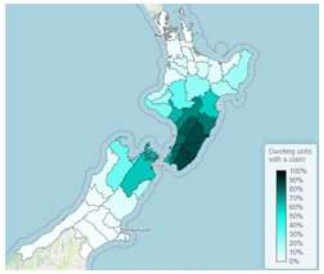
- Resilience
- Risk financing
- Readiness for an event
- Recovery

Loss modelling

Loss Modelling is a key capability to support:

- Risk Financing – probabilistic modelling
- Readiness – scenario planning
- Recovery - post-event analysis
- Resilience – advising on natural disaster risk

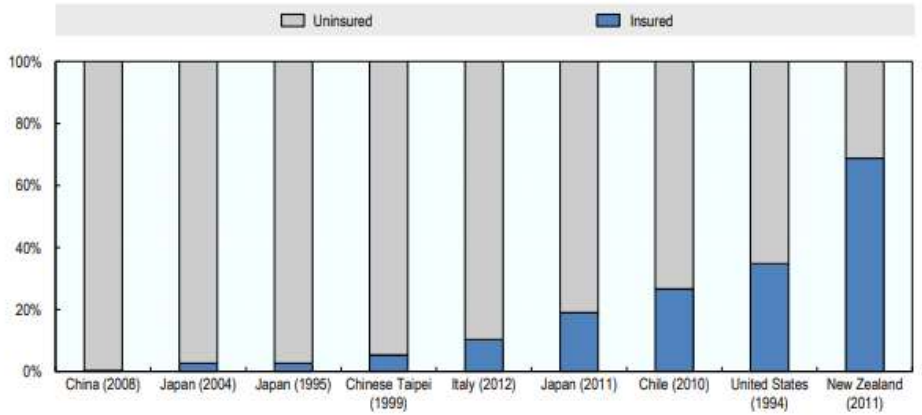




Develop scenarios for planning and
Provide insight and inform the response plan in an actual event

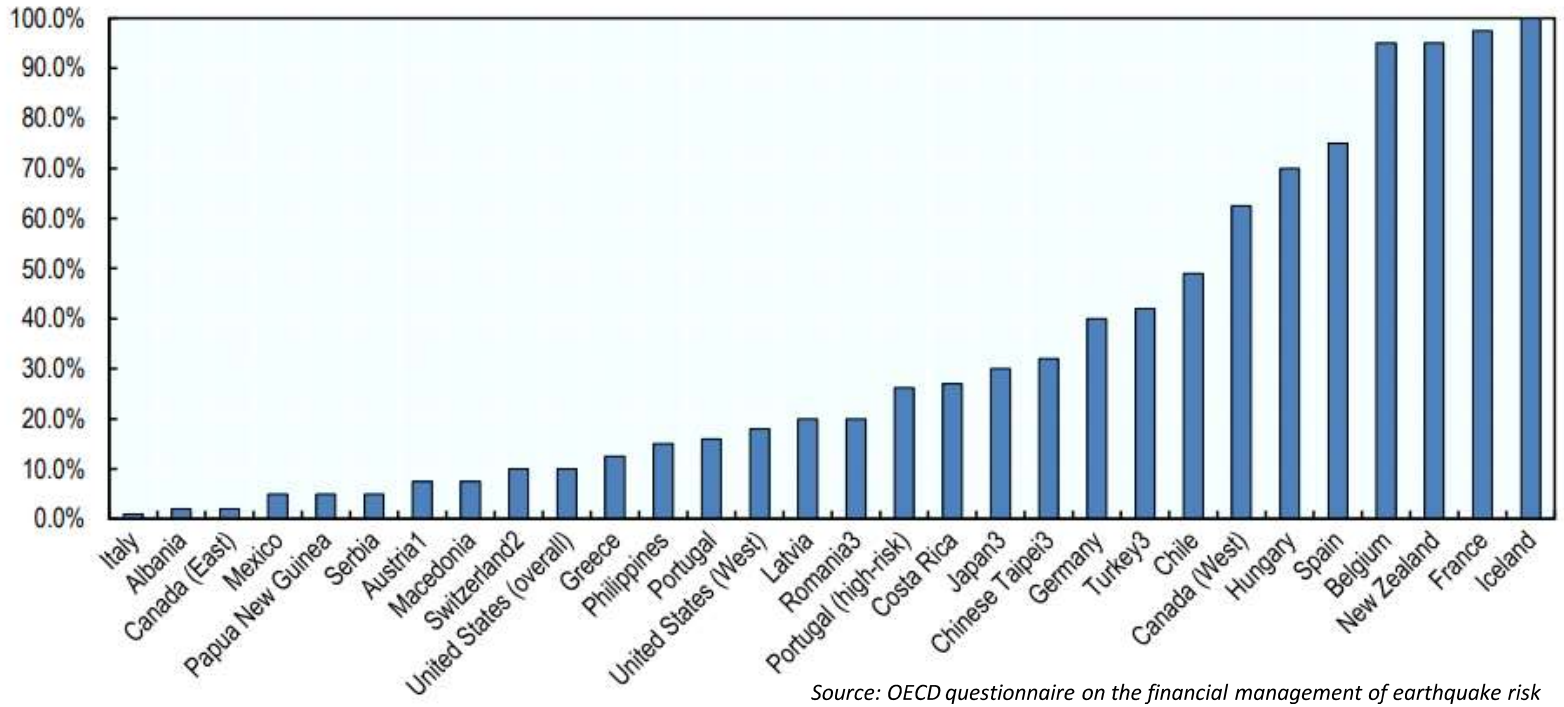
Insurance coverage: major earthquake events

- Since 2000, approximately 85% of reported earthquake losses have been uninsured
- Insured share exceeded 60% for the Canterbury Earthquake Sequence
- High level of uninsured losses mostly from underinsurance of residential and public sector assets



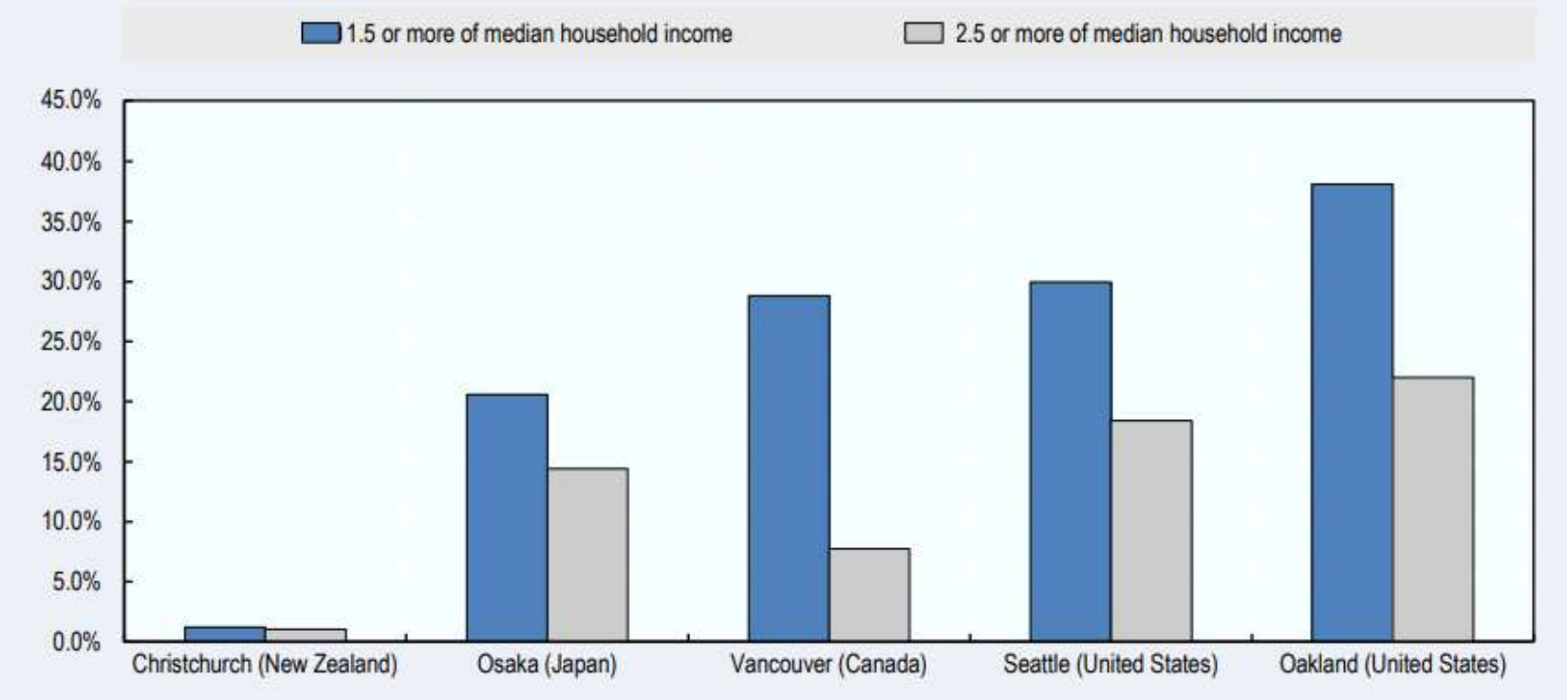
Source: OECD calculations based on Munich Re (2016).

Estimated share of households with earthquake insurance coverage



Source: OECD questionnaire on the financial management of earthquake risk

Households with losses above median income thresholds



Source: Financial Management of Earthquake Risk – OECD 1028

Why it works

- Compulsory and community rated – no anti-selection and improved affordability
- Diversification benefit through national, multiperil coverage (reinsurance)
- Insurance market still functions
- Enables government led response; reduces demand surge
- Cheaper cover through state (non-profit) insurer

Criticisms

- Obscures risk pricing signal
- Cross subsidisation impacts price for low-risk areas
- Impact on insurance market

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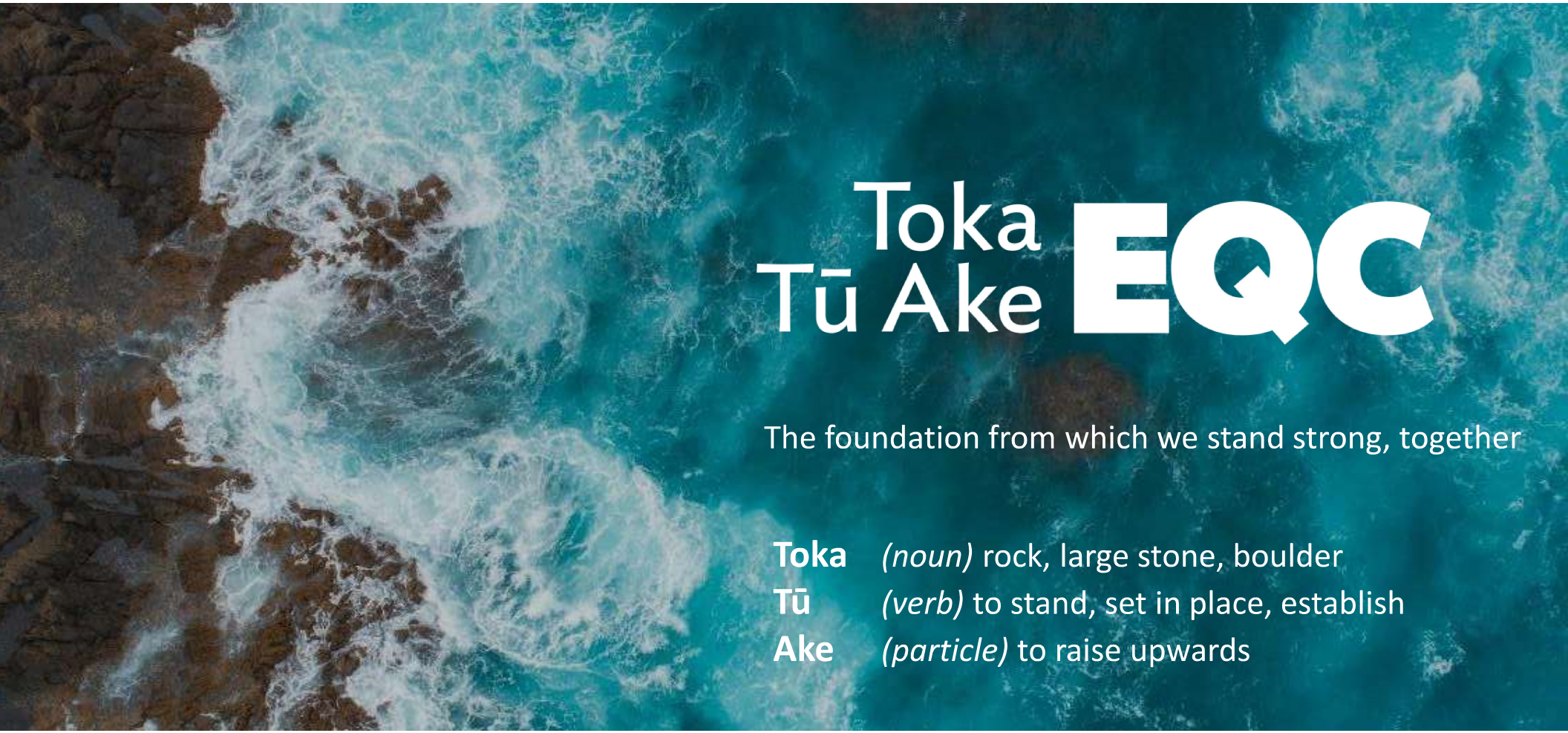

Toka Tū Ake EQC

The foundation from which we stand strong, together

Toka *(noun)* rock, large stone, boulder
Tū *(verb)* to stand, set in place, establish
Ake *(particle)* to raise upwards