



NEW ZEALAND  
GEOTHERMAL  
ASSOCIATION

# Nau mai, haere mai



**New Zealand Geothermal Association Seminar**  
**Wednesday 12th October 2011**  
**Clean Energy Centre, Taupo**



# Geothermal Energy - Its Amazing What You Can Do Directly

2011 New Zealand Geothermal Association Seminar

Focussing on Direct Utilisation of Geothermal Energy  
including low temperature technologies

Date 12th October - 9:30am to 4:30pm

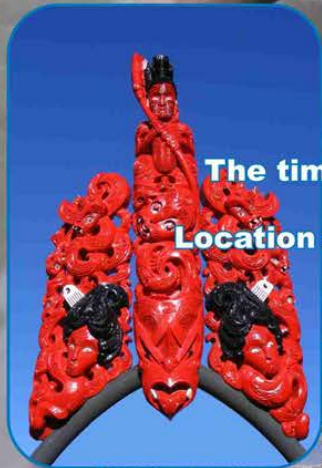
The timing has been set up to suit flights from both Wellington and Auckland.

Location - Clean Energy Centre Taupo – SH1 and SH5 (Napier) roundabout, Taupo

Book early to secure a place

NZGA Seminar Cost \$95 excl GST.  
Coffee and Lunch provided

To Register please contact Kay Elliston  
Email:- [k.elliston@gns.cri.nz](mailto:k.elliston@gns.cri.nz)  
or Phone 07 374 8211





# Introduction

Brian Carey

## Looking forward to today

- Meeting
- Dialogue
- Hearing
- Challenges
- Fun
- Opportunity
  - Grow geothermal use



Welcome  
to  
Clean Energy Centre

Rob McEwen

# Thanks

- **Clean Energy Centre.**
- **Seminar Facility Sponsors.**
- **Registration - Kay Elliston.**
- **Food - Yum.**
- **Speakers**
  - **Dunedin - Auckland**

# Housekeeping

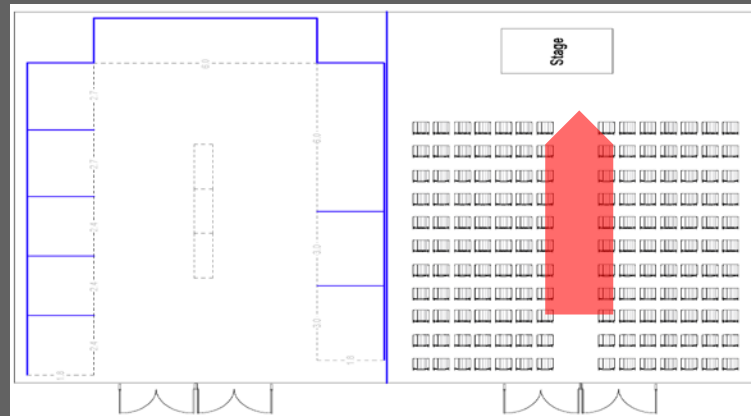
# Presenters

- **At Break ahead of your talk**
  - Load presentation on the computer**
- **Your session**
  - Please come and sit in the front**

# NZCEC site plan

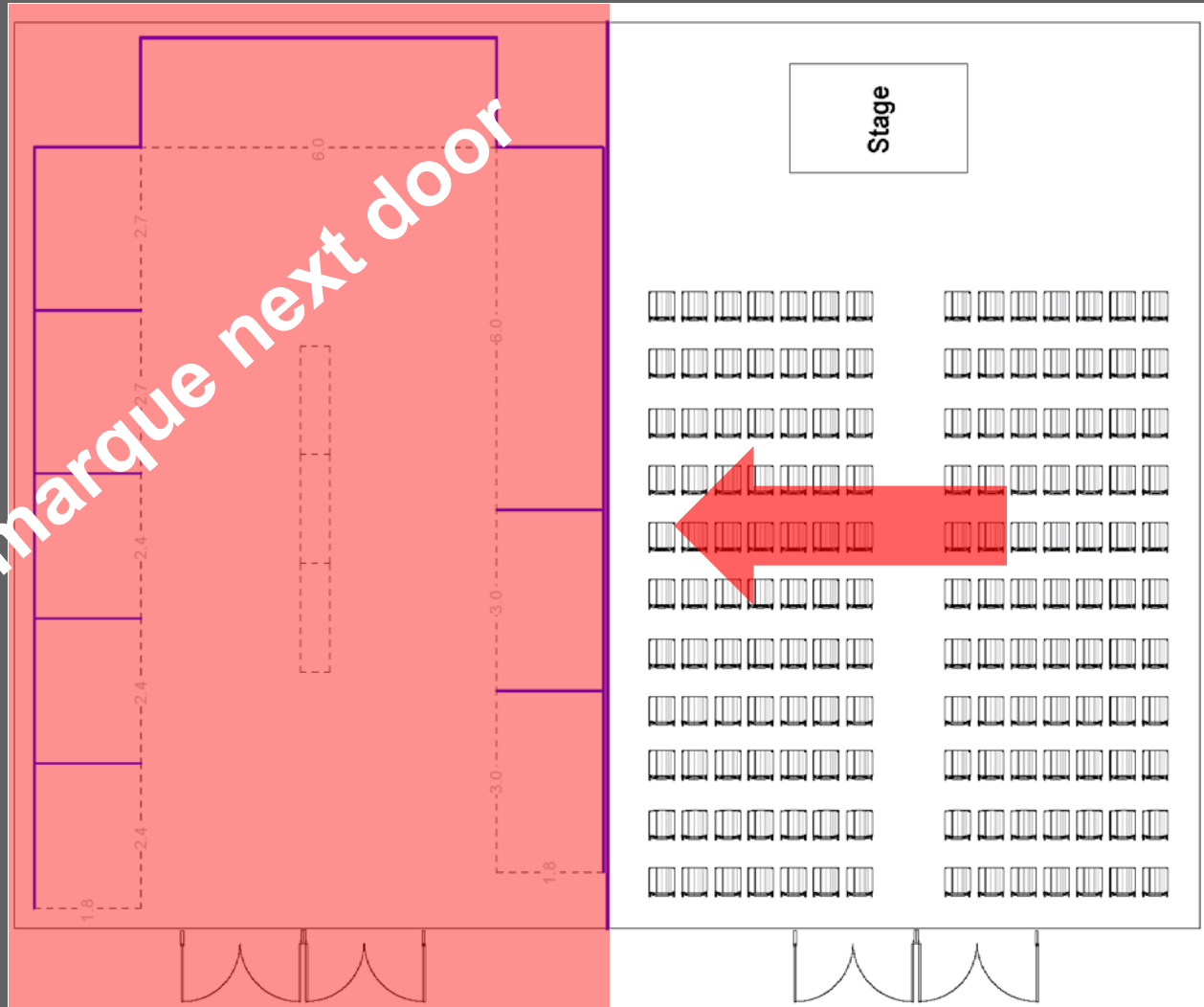
Toilets

Clean Energy Centre



# Coffee, tea and kai

Served in marquee next door



# Cups

- Help us please
- Return cups to food marque
- Thanks



# Emergency muster area



# Phones off or to vibrate please



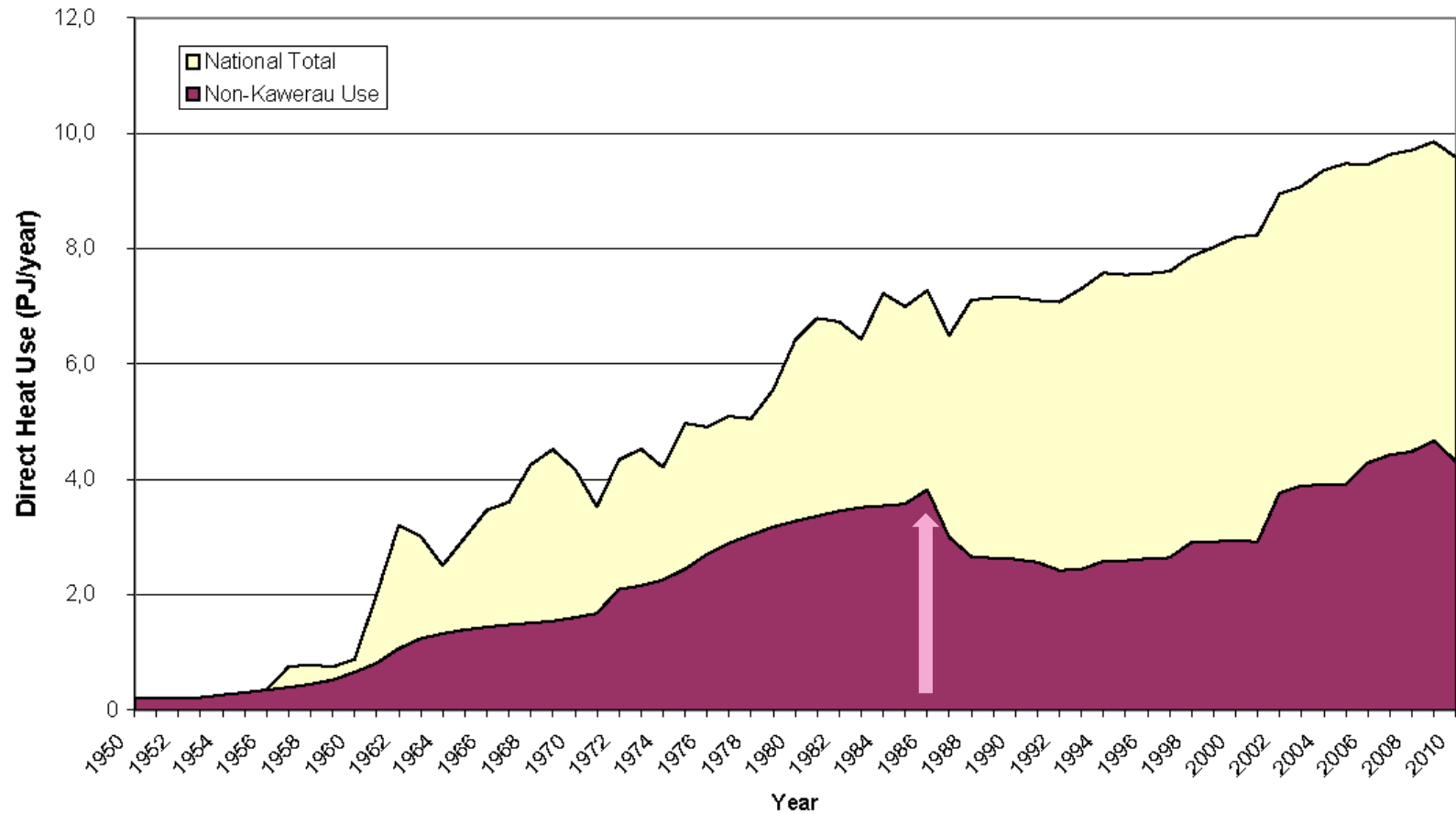
## Please

- Respect other participants / colleagues
- Talk at break times
- Move away from the seminar area to talk



# Direct Use Geothermal

Annual Geothermal Direct Heat Use



## Opportunity

- **Grow geothermal use**
  - **Targets**
  - **Raising Awareness**
- **Making it happen**

# Hon Hekia Parata

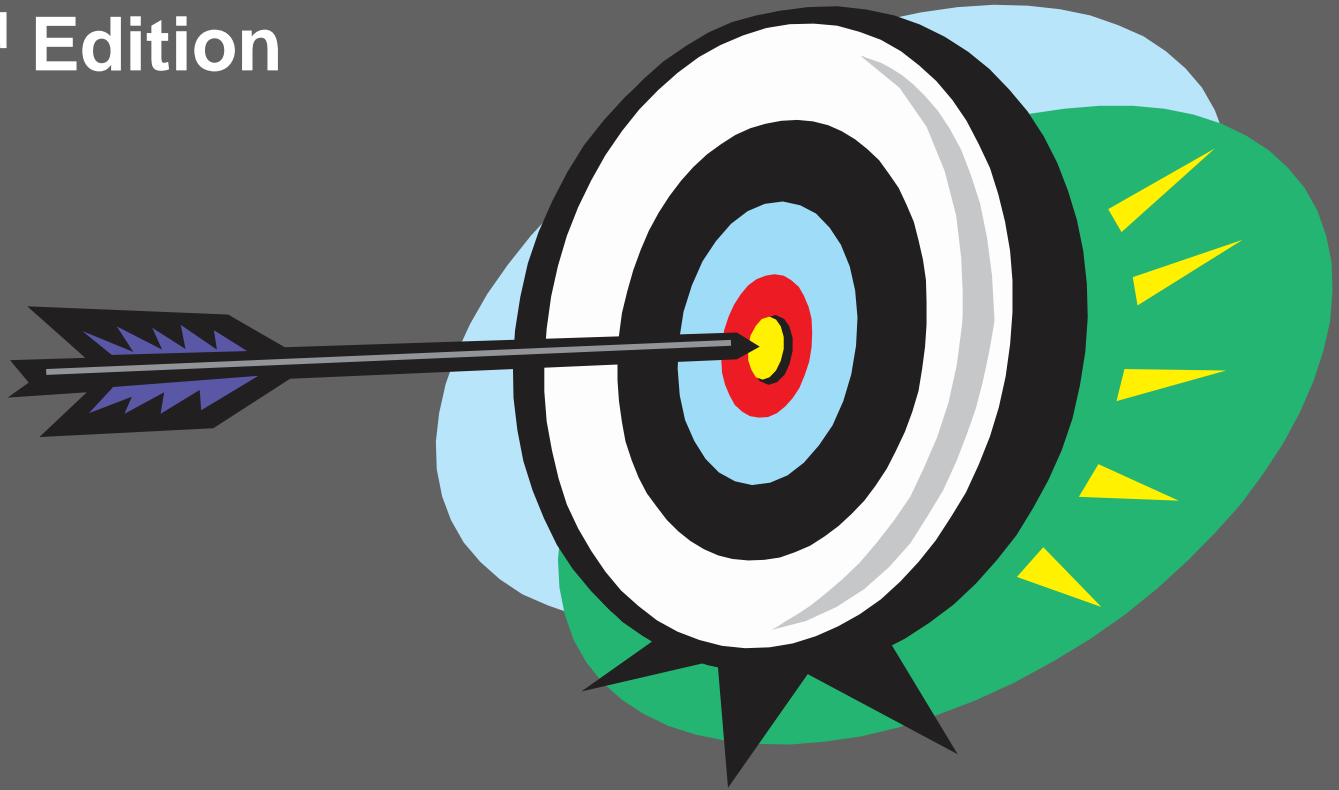


Acting Minister of Energy and Resources



# Current Targets for New Zealand

- **New Zealand Energy Efficiency and Conservation Strategy 2011 – 2016**  
**3<sup>rd</sup> Edition**





New Zealand Energy Strategy 2011–2021

Have  
a  
read

# Developing our energy potential

and the **New Zealand Energy Efficiency  
and Conservation Strategy 2011–2016**



# Business Sector (p18)

## Sector objectives and targets

Objectives	Targets
<b>Transport</b> A more energy efficient transport system, with a greater diversity of fuels and alternative energy technologies.	By 2016: The efficiency of light vehicles entering the fleet has further improved from 2010 levels.
<b>Business</b> Enhanced business growth and competitiveness from energy intensity improvements.	By 2016: An improvement in the commercial and industrial sector energy intensity level (GJ/\$1,000 of GDP). By 2025: We will utilise up to 9.5 PJ per year of energy from woody biomass or direct use geothermal additional to that used in 2005.
<b>Homes</b> Warm, dry and energy efficient homes with improved air quality to avoid ill-health and lost productivity.	By 2013: Insulate 188,500 homes.
<b>Products</b> Greater business and consumer uptake of energy efficient products.	By 2016: Extend minimum energy performance standards, labelling and EnergyStar product coverage to remain in line with major trading partners.
<b>Electricity System</b> An efficient, renewable electricity system supporting New Zealand's global competitiveness.	By 2025: 90 percent of electricity will be generated from renewable sources, providing supply security is maintained.
<b>Public Sector</b> Greater value for money from the public sector through increased energy efficiency.	By 2016: Improve energy use per full-time staff equivalent compared with a 2010 baseline.

## Official records of programme details

The NZEECS does not contain a full list of Government energy efficiency initiatives. As a statutory document with a five-year life, the NZEECS has been presented so as to ensure it won't be out-of-date as initiatives come and go over that period.

Initiatives provided by the public sector agencies listed in this strategy will be noted in their public documents, such as their statements of intent, which are published on their websites.

### Information about energy efficiency and renewable energy

The Energy Efficiency and Conservation Authority (EECA), is the primary Government agency charged with promoting energy efficiency and renewable energy. Information about EECA's programmes can be found at:

[www.eeca.govt.nz](http://www.eeca.govt.nz) – all EECA programmes for householders, communities, business, Government, and local government.

[www.eecabusiness.govt.nz](http://www.eecabusiness.govt.nz) – energy advice and support targeted at businesses.

[www.energywise.govt.nz](http://www.energywise.govt.nz) – energy advice and support targeted at householders.

These website links are also helpful:

[www.rightlight.govt.nz](http://www.rightlight.govt.nz) – information about efficient lighting.

[www.transport.govt.nz/ourwork/climatechange](http://www.transport.govt.nz/ourwork/climatechange) – Ministry of Transport information and initiatives relating to climate change and energy.

[www.safednz.govt.nz](http://www.safednz.govt.nz) – Safe and Fuel Efficient Driving New Zealand website, a driver development course for truck, bus and coach drivers.

[www.rightcar.govt.nz](http://www.rightcar.govt.nz) – information on how vehicles rate for fuel economy, safety, CO<sub>2</sub> emissions and pollutants.

[www.fuelsaver.govt.nz](http://www.fuelsaver.govt.nz) – information on vehicle fuel efficiency and tips on improving efficiency through driving behaviour

# Geothermal Targets are not new

- **2<sup>nd</sup> Edition of NZEECS October 2007**
- **Up to an additional 9.5 PJ per year of energy from woody biomass or direct use geothermal by 2025 (p12)**
- **By 2025 increase direct use geothermal by 2 PJ per annum off a 10 PJ per annum 2005 base (p38)**

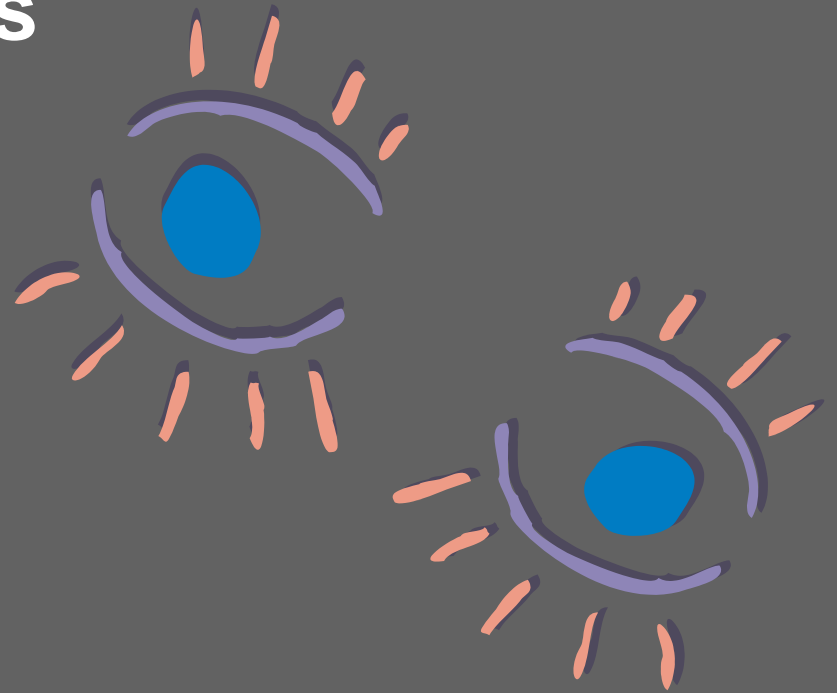
# Increasing Direct Use of Geothermal Resources

**Foster**



# Today

- Share information
- Share your insights
- Identify
  - Benefits
  - Gaps
  - Questions
  - Challenges
- Talk about the next steps



# Programme

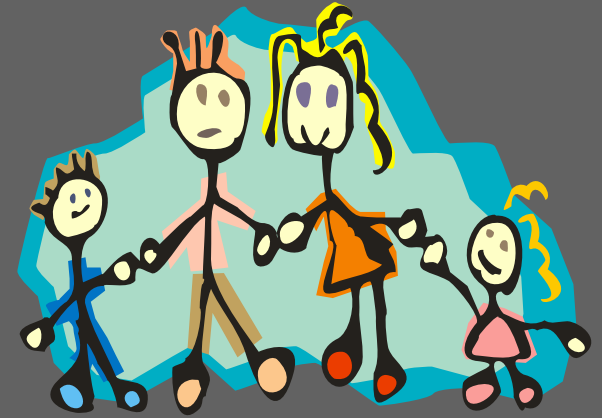
- **Two topic areas**
  - Four sessions
  - Programme sheets available
- **Lunch and Coffee breaks**
- **A discussion forum ?**
- **Finishing at 16:30 hours**
- **Presentation Pdf's**
  - on the NZGA web site next week

# Amazing array of Technologies

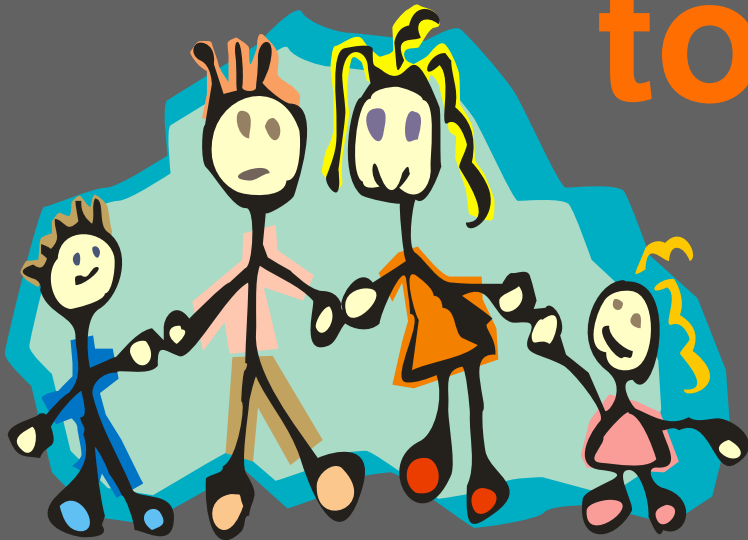
- Heat
- Heat can also cool
- Pump
- Boiler quality water
- Desalinate water
- Swim
- Soothed and Healed
- Visit and View
- Grow things with it

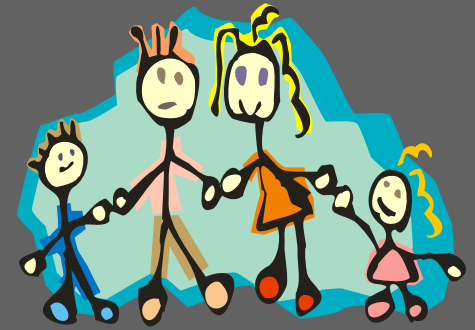
## Two Primary Topic Areas

- **Pumping Heat**
- **Direct use geothermal**

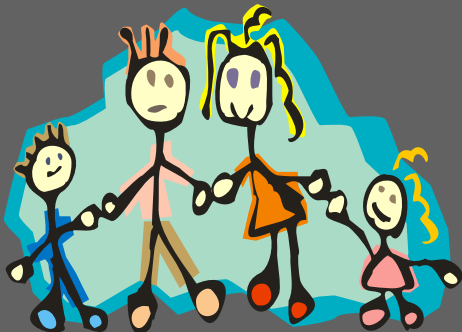


# Making it happen together





**Its Amazing what  
you can do directly**



# Kia Ora