

New Zealand's Transition to a Low Emissions Economy

- ***Issues***
- ***Opportunities***

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Energy Efficiency and Conservation Authority (EECA)



New Zealand's Transition to a Low Emission Economy

What is EECA?

- A Crown Entity
- Established in 2000
- Function is to:

Encourage, promote, and support energy efficiency, energy conservation, and the use of renewable sources of energy.



New Zealand's Transition to a Low-Emission Economy

What is EECA?

- Core staff of 80
- Annual appropriation of NZD32M
- Additional funding for one-off Programmes
- Funded from:
 - Levy's (x 3) on energy users (gas, electricity, transport fuels)
 - Core Government revenue



New Zealand's Transition to a Low-Emission Economy

Our Purpose is to:

Mobilise New Zealanders to be world leaders in clean and clever energy use.



Our objective is behaviour change through:

- Information and education
- Financial incentive support
- Regulation



EECA's Strategic Focus Areas

**Low Carbon
Productive
Business**

**Efficient and
Low Emissions
Transport**

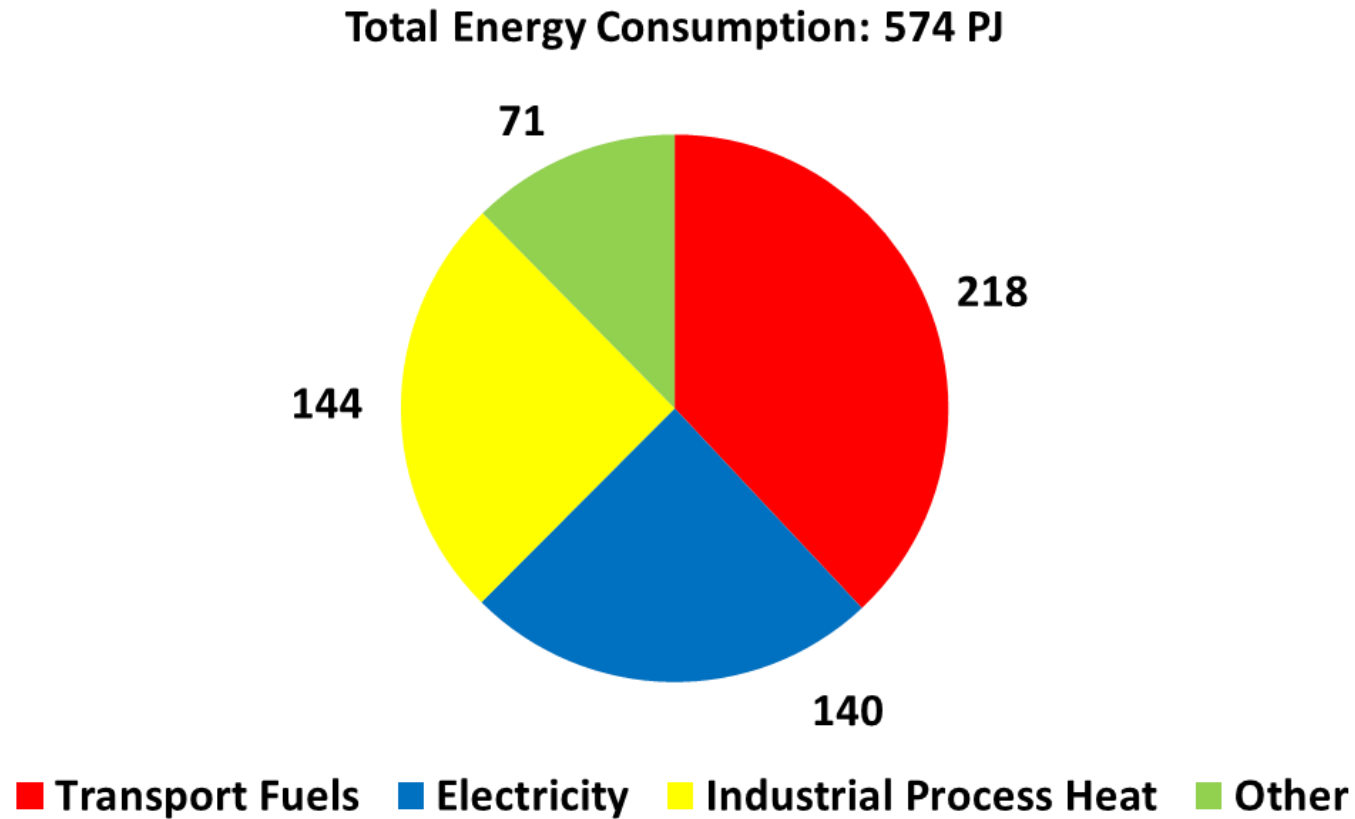
**Energy
Efficient
Homes**

**Government
Leadership**

**Engage Hearts
and Minds**



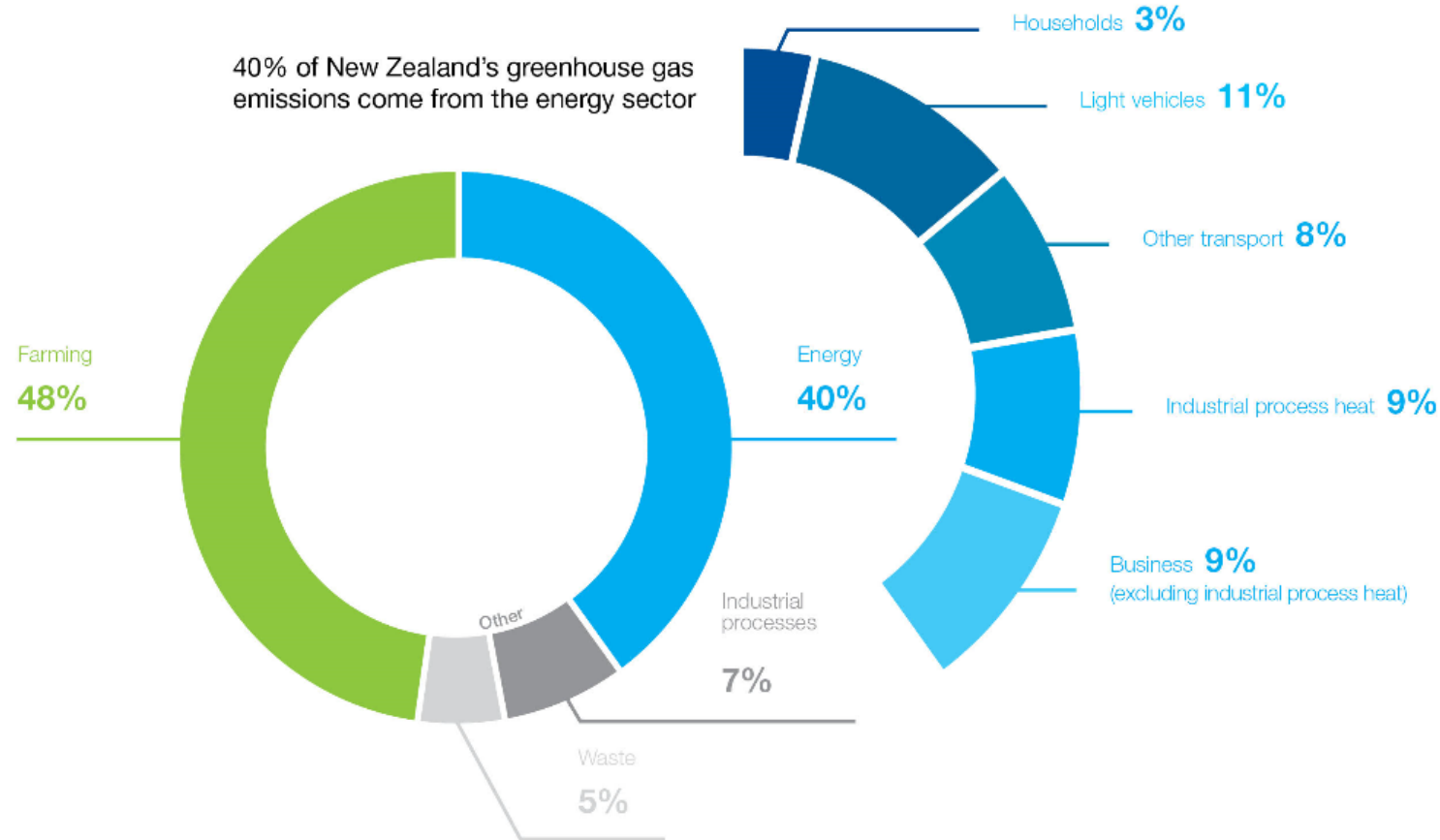
Setting the scene - New Zealand Energy Split (PJ)



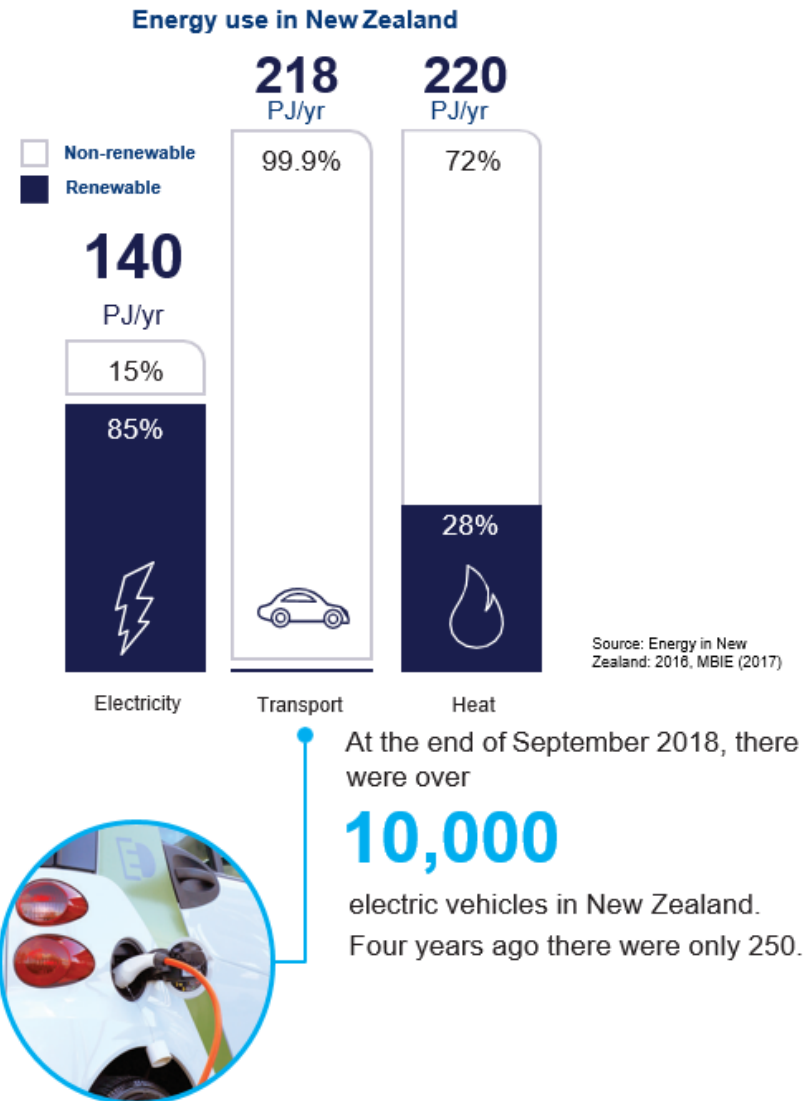
Industrial Process Heat does not include electricity (13 PJ)
Source: EECA, Energy End Use Database 2016

Setting the scene – GHG emissions

New Zealand's greenhouse gas emissions



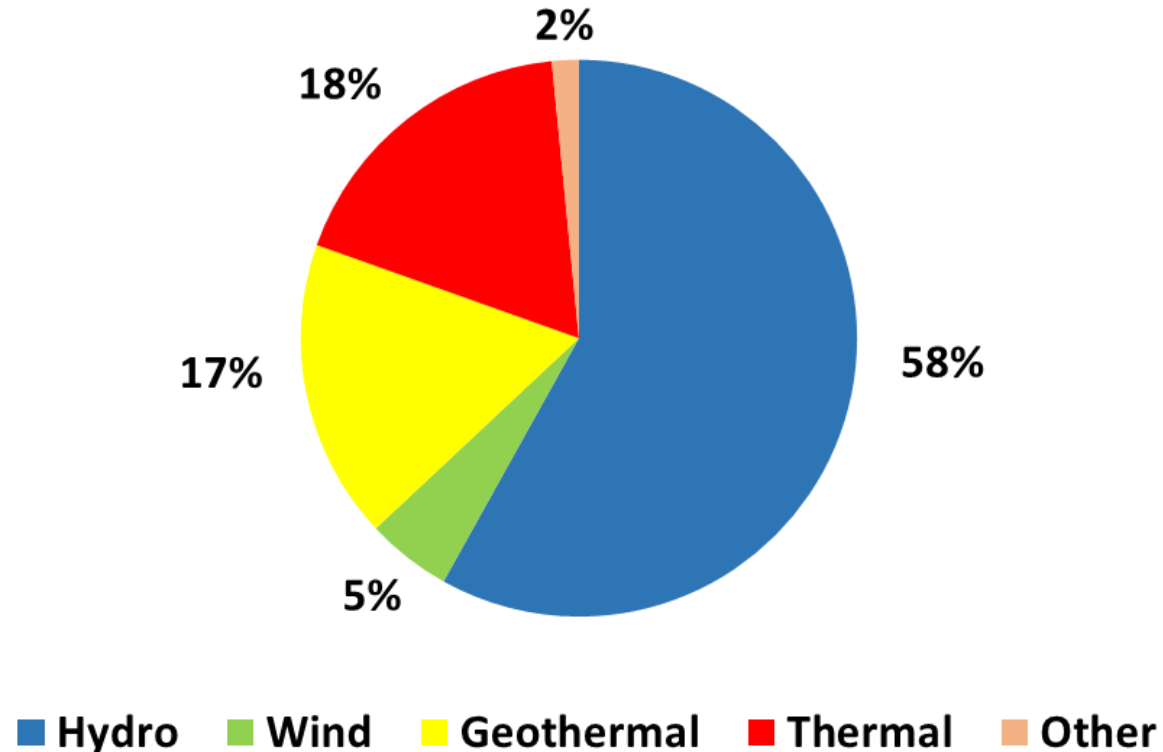
Setting the scene – Energy use & GHG emissions



The Issues - Electricity Generation Split 2017

New Zealand generates its electricity (43 GW) from almost 85% renewable sources.

Total Generation: 42,924 GWh, Renewables: 81.9%



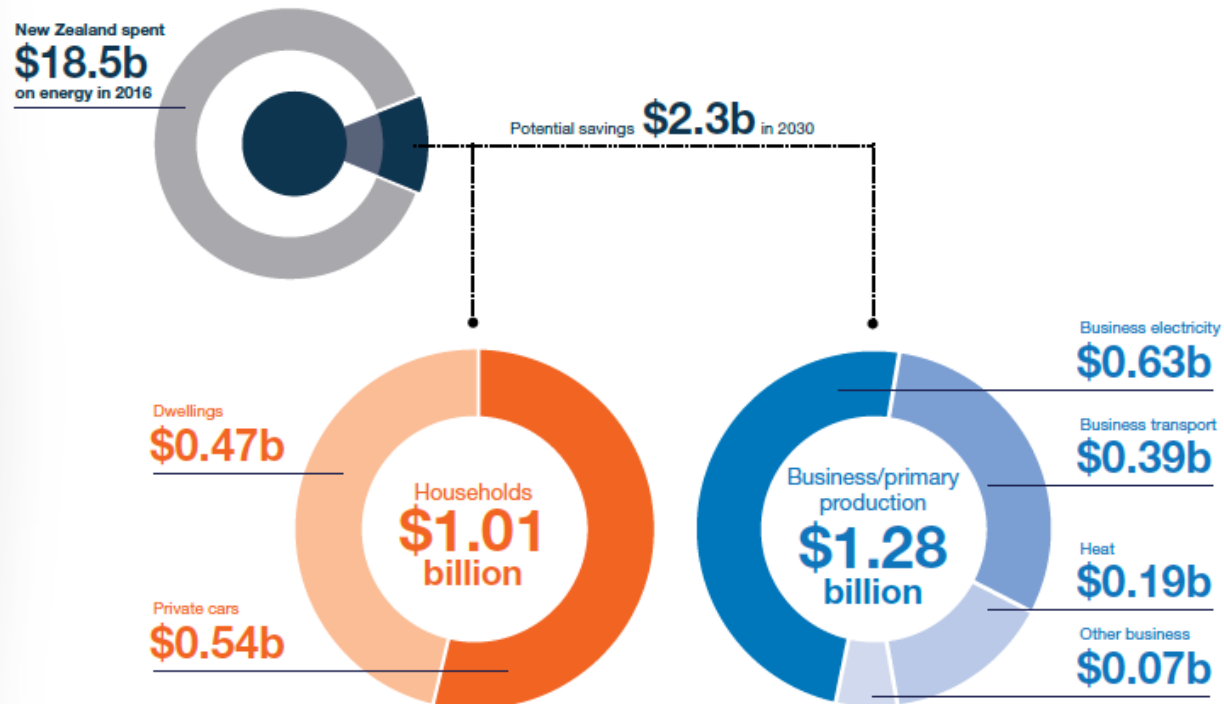
Other: biogas, wood, solar, waste heat
Source: MBIE, Energy in New Zealand 2017

The Issues – Driving Efficiency

- Energy Efficiency remains one of the greatest cost/benefit initiatives

2030 economic energy savings potential

Energy efficient practices and technologies could reduce New Zealand's annual energy use by 20% by 2030.



The Issues – Supply matching demand

- **Creating the investment environment to ensure supply can meet demand**
- **Managing demand to minimise the investment in distribution**
- **Ensuring the system meets the energy trilemmum of security of supply, affordability and environmental sustainability**

The Issues – Government Policy Direction

- The Prime Minister of New Zealand has publically stated:
“Climate change is my generation’s nuclear-free moment”.
- The Government is investigating the objective of generating electricity from 100% renewable sources by 2035.
- The Government is looking to introduce the Zero Carbon Act in 2019 to:
 - Achieve Net Zero Emissions by 2050 (relevant gases still to be determined)
 - Establish a Climate Change Commission to advise on targets for this goal
 - Seeking Cross Party support.

The Opportunities – Driving Efficiency

- Retrofitting existing energy systems
- Utilising the digitalisation revolution
- Price signals through the Emissions Trading Scheme
- Developing professional capability

The Opportunities – Increasing supply of renewable generation

- Geothermal will meet some demand
- Wind (on and offshore) will be key
- Solar
 - Some commercial scale will develop
 - Residential still has high payback scenarios
- Hydro
 - Environmental considerations have prevailed over past decade
- Biomass
 - Options evolving but hampered by security of supply and cost
- Liquid Fuels are still costly



The Opportunities – German Expertise

- Professional knowledge, capability and experience
- Experience in renewables and alternative fuels (eg hydrogen)
- German manufacturing and technology
 - Vehicles eg EV's
 - Individual Process Heat Systems
 - Renewable electricity generation
 - Digital applications

Questions?

