The Employment and Environmental Sustainability Fact Sheets series provides key features of employment and environmental sustainability performance. Jobs that are green and decent are central to sustainable development and resource productivity. They respond to the global challenges of environmental protection, economic development and social inclusion. Such jobs create decent employment opportunities, enhance resource efficiency and build low-carbon, sustainable societies. The fact sheets include the most recent available data for selected indicators on employment and environmental sustainability: (i) employment in environmental sectors; (ii) skill levels; (iii) vulnerability of jobs; (iv) jobs in renewable energy; and (v) scoring on the Environmental Performance Index.

New Zealand encompasses two main islands (North and South Islands) in the southern Pacific Ocean. Australia is approximately 1,500 km across the Tasman Sea (Fig. 1). Its population is mostly urban and growing, with a fertility rate of 2 children and life expectancy at 81.5 years. Around 65 per cent of the population is of legal working age (15–64 years) (Fig. 2).

Figure 1. Map of New Zealand

Figure 2. Demographics for New Zealand

Population: 4.7 million

<table>
<thead>
<tr>
<th>Population growth rate</th>
<th>Fertility rate</th>
<th>Life expectancy at birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1%</td>
<td>2 children</td>
<td>81.5 years</td>
</tr>
</tbody>
</table>

Rural population
Urban population

Population age categories

Note: All data for 2016, except fertility and life expectancy, which are 2015.

1. The fact sheet is based on available data only.
2. New Zealand became a member of the International Labour Organization in 1919, the year it was founded.
As of 2017, the labour force participation rate is 67.2 per cent and the employment-to-population ratio is 63.5 per cent. Both of those rates are more than 11 percentage points higher for men than for women. The total unemployment rate is 5.5 per cent, and the youth unemployment rate is 14.3 per cent, with gender parity in youth unemployment rate. The youth (aged 15–24 years) not in employment, education or training rate was 12 per cent in 2016. Formal employment is heavily reliant on services and on highly and medium-skilled occupations (Fig. 3).

Figure 3. Basic employment statistics for New Zealand, 2017

Employment-to-population ratio (15+ years)

- Total
- Male
- Female

Unemployment

- Unemployment rate
- Youth unemployment rate (15–24 years)

Employment by sector (15+ years)

- Agriculture
- Industry
- Services

Employment by occupation

- Skill level 1 (low)
- Skill level 2 (medium)
- Skill levels 3 and 4 (high)

Vulnerable employment in New Zealand accounts for 11 per cent of the labour force, with the majority of those workers having own-account status (Fig. 4). Own-account and contributing family workers are more likely to experience low job and income security than employees and employers, as well as lower coverage by social protection systems and employment regulation.

Figure 4. Vulnerable employment, by status, 2017

- Own-account workers
- Contributing family workers
- Employees
- Employers

According to the *World Risk Report*, New Zealand has a low World Risk Index score. It ranks 116 (of 171 countries) because, despite its high exposure to natural hazards, it has the institutional capacity to respond and adapt. Only 0.9 per cent of the total land area is below 5 meters above sea level, even though 4.2 per cent of the total population lived in that area in 2010.

According to the *Emergency Events Database*, there was an increase in natural disasters from the 1960s to the 1980s but a notable decline since then (Fig. 5). Associated damage costs since the 1960s has increased substantially (Fig. 5), however, mostly due to storms, floods, tropical cyclones, droughts, heat waves and fires which resulted in 76 deaths (1968–2016). Although New Zealand has well-established institutional capacity, further developing preventive measures to limit infrastructure and property damage and increasing capacity for small businesses to respond to climate events can be a source of decent job creation while increasing resilience.

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3. Informal employment (self-employed and contributing family members) is excluded from the agriculture calculations.
7. Climatological, hydrological and meteorological disasters.
New Zealand ranks 11 of 180 countries in the Environmental Performance Index (EPI), with a score of 88 (with 0 furthest from the high-performance benchmark target of 100). New Zealand outperforms the average score for Asia and the Pacific in most of the EPI categories (Fig. 6). Despite the excellent overall performance in environmental health, there is room for improvement within ecosystem vitality (in agriculture, forests and fisheries). Action to improve ecosystem vitality, climate change and resilience to weather disasters have the potential to provide job creation, green economy growth and innovation in the country.

Rural population growth was 1.6 per cent in 2015. The share of agricultural land in total land area, although still large, decreased between 1991 and 2014, while agricultural employment dropped from 161,000 to 146,000 people. The share of agricultural employment in total employment fell by approximately 5 percentage points due to the combination of declining agricultural employment and job creation in other sectors (Fig. 7). Forest area slightly increased its share of total land area between 1990 and 2014, to 38.6 per cent, while the terrestrial protected area increased 7.9 percentage points, to 32.5 per cent in 2014. Marine protected area increased, from 4.7 per cent in 1990 to 12.5 per cent of total territorial waters in 2014 (Fig. 8). In 2015, 6.1 per cent of all employment was in the agriculture, forestry and fishing sector (Fig. 9). Although the country’s reliance on agriculture is stagnating, there are opportunities for job creation for sustainable production and organic farming. There will be greater prospects for employment...
opportunities with the commitment to transition to a low-carbon and resource-efficient economy, such as jobs in resource management and environmental services.\( ^8 \)

**Figure 7. Agricultural land and agricultural employment, 1991–2014**

![Agricultural land and agricultural employment, 1991–2014](image)

- Agricultural land (% of land area)
- Employment in agricultural (% of total employment)
- Agricultural employment (thousand, 2nd axis)


**Figure 8. Forest area and terrestrial and marine protected areas, 1990–2014**

![Forest area and terrestrial and marine protected areas, 1990–2014](image)

- Terrestrial protected area (% of total land area)
- Marine protected area (% of terrestrial waters)
- Forest area (% of land area)


**Figure 9. Employment in sectors with strong green jobs potential, 2015**

![Employment in sectors with strong green jobs potential, 2015](image)

- Agriculture, forestry and fishing
- Mining and quarrying
- Electricity, gas, steam and air conditioning supply
- Water supply, sewerage, waste management and remediation activities

Note: These sectors have the most potential for green job opportunities. Employment by selected 1-digit sector level (ISIC-Rev. 4, 2008).


All New Zealand households have access to improved water supply and sanitation.\(^9\) According to the World Bank and based on the most recent available data,\(^10\) the country's municipal solid waste generation in 2006 was 3.68 kg per capita per day and is expected to drop slightly, to 3 kg per capita per day, by 2025. The majority of the waste in 1995 was organic (at 56 per cent), followed by paper (at 21 per cent) and plastics (at 8 per cent) (Fig. 10). In 1995, 85 per cent of waste was disposed into landfill and 15 per cent was recycled.\(^11\) Only 0.4 per cent of the country’s labour force was employed in water supply, sewerage, waste management and remediation activities in 2016 (Fig. 9). There will be great potential for further job creation as the reliance on landfill decreases and recycling and composting become standard practice.

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11. ibid.
In 2014, more than 95 per cent of the country’s population relied primarily on clean fuel and technology, in the sense that they do not create indoor pollution within the home. The share of renewable energy in total energy consumption fluctuated between 2000 and 2014, although there was a slight increase. In 2014, the share of renewable energy was 30.9 per cent (Fig. 11). Renewable energy generation declined between 2011 and 2012, but it has since been on the increase, with hydropower and geothermal the main sources in 2015 (Fig. 12). In 2016, 3,600 people were employed in the renewable energy sector, with 64 per cent of them in hydropower (Fig. 13). The New Zealand employment rate in electricity, gas, steam and air conditioning was 0.6 per cent in 2015 (Fig. 9). With the need for increasing reliance on renewable energy, these utility subsectors will provide job opportunities in the future.

Figure 12. Renewable energy generation, 2011-15
Total renewable energy electricity generation (GWh)

<table>
<thead>
<tr>
<th>Year</th>
<th>Hydropower</th>
<th>Marine</th>
<th>Wind</th>
<th>Solar</th>
<th>Bioenergy</th>
<th>Geothermal</th>
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<tbody>
<tr>
<td>2011</td>
<td>33,826 GWh</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2012</td>
<td>31,810 GWh</td>
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<tr>
<td>2013</td>
<td>32,129 GWh</td>
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<tr>
<td>2014</td>
<td>34,457 GWh</td>
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<tr>
<td>2015</td>
<td>35,400 GWh</td>
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</tr>
</tbody>
</table>


Figure 13. Renewable energy employment, by energy source, 2016

- Wind energy: 17%
- Geothermal energy: 19%
- Hydropower (large): 64%

Note: Data limitations apply for certain technologies in certain countries. The lack of data reported for any specific technology may thus be indicative of a data gap, rather than the absence of renewable energy jobs using that technology.


12. The proportion of population with primary reliance on clean fuels and technology is calculated as the number of people using clean fuels and technologies for cooking, heating and lighting divided by total population reporting any cooking, heating or lighting, expressed as a percentage. “Clean” is defined by the emission rate targets and specific fuel recommendations (against unprocessed coal and kerosene) included in the normative World Health Organization guidelines for indoor air quality; see the data for household fuel combustion, https://unstats.un.org/sdgs/metadata/files/Metadata-07-01-02.pdf.
Better data collection relating to the green economy and the environmental sector would be valuable for policymakers in New Zealand and Asian-Pacific countries. Better data on green and decent jobs is particularly needed to assess the impact of climate change and climate-related policies on social inclusion. Without better data, it will be difficult to determine what policy changes are needed to assure a just transition to environmental sustainability and to monitor progress going forward.