

# NEW ZEALAND

## EMPLOYMENT AND ENVIRONMENTAL SUSTAINABILITY FACT SHEETS 2019

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 recently 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; (v) scoring on the Environmental Performance Index; and (vi) air quality.

### DEMOGRAPHICS

New Zealand<sup>1</sup> encompasses two main islands (North and South Islands) in the southern Pacific Ocean. Australia is approximately 1,500 kilometres across the Tasman Sea (Fig. 1). Its population is mostly urban and growing, with a fertility rate of 2 children and life expectancy of 82.2 years. Around 65.1 per cent of the population is of legal working age (15–64 years) (Fig. 2).

Figure 1. Map of New Zealand

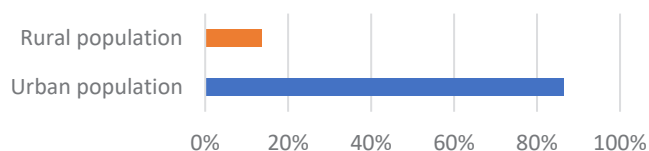


Figure 2. New Zealand population statistics

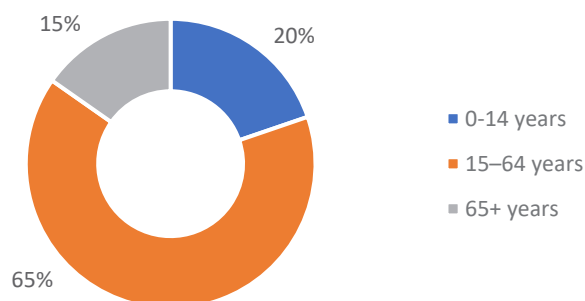
Population:<sup>2</sup> 4.8 million



Population growth rate	Fertility rate	Life expectancy at birth
2.1%	2.0 children	82.2 years



Population age categories



Note: Data is for 2017, except fertility rate and life expectancy at birth (2018 data).

Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> and UN ESCAP Statistics. [http://data.unescap.org/escap\\_stat/](http://data.unescap.org/escap_stat/) (accessed on 30 December 2018).

<sup>1</sup> New Zealand became a member of the International Labour Organization in 1919, the year it was founded.

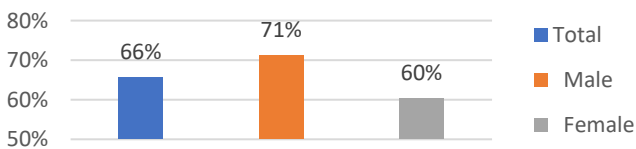
<sup>2</sup> Population data based on 2017 data.

## LABOUR FORCE

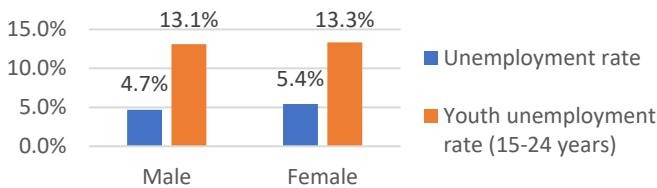
In 2018, the labour force participation rate was 69.1 per cent and the employment-to-population ratio was 65.6 per cent. Both these rates are more than 10 percentage points higher for men than for women. The total unemployment rate was 5.04 per cent, and the youth unemployment rate was 13.22 per cent, with near gender parity in both rates. The proportion of youths aged 15-24 years not in education, employment or training rate was 12 per cent in 2017.<sup>3</sup> Employment is heavily reliant on services, and on medium to high-skilled occupations (Fig. 3).

**Figure 3. Basic employment statistics for New Zealand, 2018**

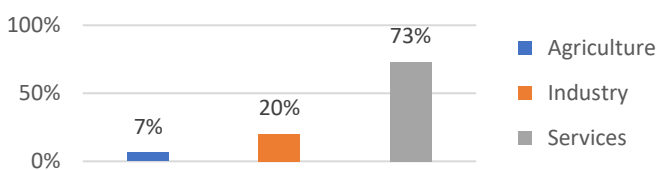
### Employment-to-population, 2018 (15+ years)



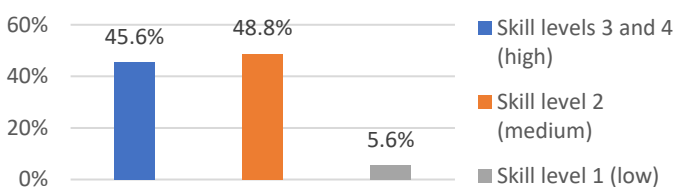
### Unemployment, 2018



### Employment by sector, 2018 (15+ years)



### Employment by occupation, 2018

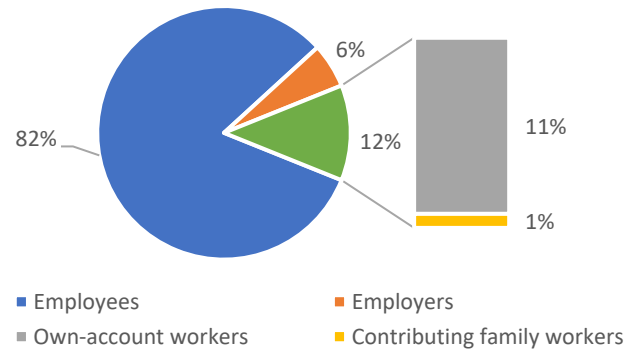


Note: ILO estimates. Labour force participation rate and unemployment: aged 15 years and older. Youth unemployment: aged 15-24 years. Employment by occupation: skill level 1 (low) for elementary occupations; skill level 2 (medium) for clerical, service and sales workers, skilled agricultural and trade workers, plant machinists and assemblers; and skill levels 3 and 4 (high) for managers, professionals and technicians.

Source: ILO estimates and compilation using ILOSTAT, [www.ilo.org/ilostat](http://www.ilo.org/ilostat) (accessed 30 December 2018).

Vulnerable employment in New Zealand as of 2018 accounted for 12.2 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, 2018**

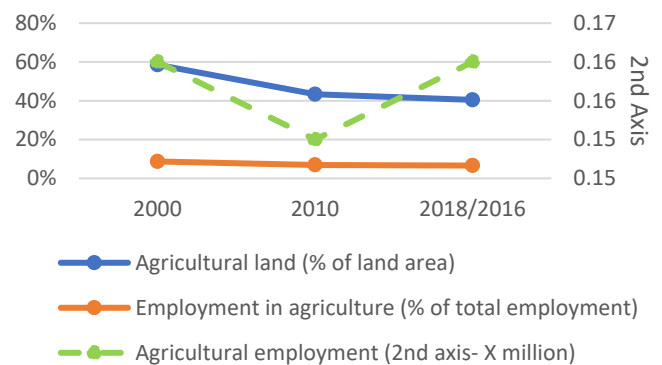


Note: ILO estimates. Vulnerable employment includes own-account workers and contributing family workers from ILO status of employment data.

Source: ILO estimates and compilation using ILOSTAT, [www.ilo.org/ilostat](http://www.ilo.org/ilostat) (accessed 30 December 2018).

Rural population growth was 2 per cent in 2017. The share of agricultural land in total land area decreased by 18 percentage points between 2000 and 2016. Agricultural employment decreased to 0.16 million people. The share of agricultural employment within total employment fell by approximately 2.1 percentage points due to faster job creation in other sectors (Fig. 5).

**Figure 5. Agricultural land and agricultural employment, 2000-2018**



Note: Data for agricultural land is from 2016 and other data is from 2018.

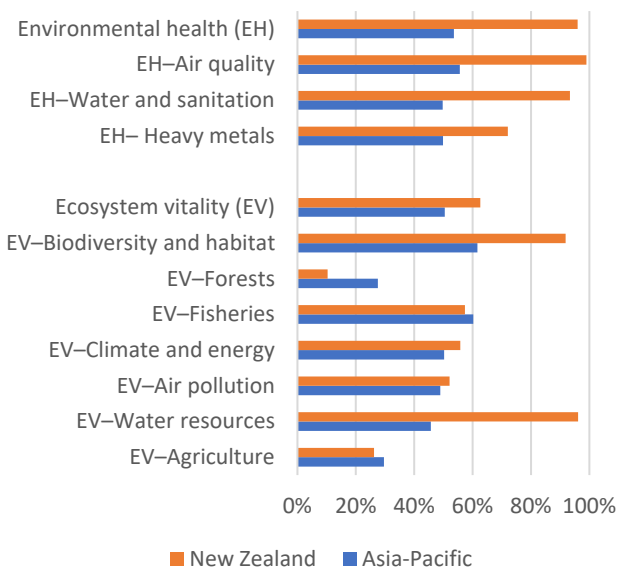
Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 30 December 2018).

<sup>3</sup> World development indicators; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 7 August 2018).

### ENVIRONMENTAL ISSUES

New Zealand ranks at number 17 of 180 countries in the Environmental Performance Index (EPI),<sup>4</sup> with a score of 75.96 (with 0 being furthest from the high-performance benchmark target of 100). New Zealand outperforms the average score for Asia and the Pacific (Fig. 6) in most of the EPI categories. However, there is significant room for improvement ecosystem vitality (forests, fisheries and agriculture). Action to address climate change and improve environmental health, ecosystem vitality and resilience to weather disasters all have the potential to provide job creation, green economy growth and innovation in New Zealand.

**Figure 6. Environmental performance index for New Zealand, 2018**

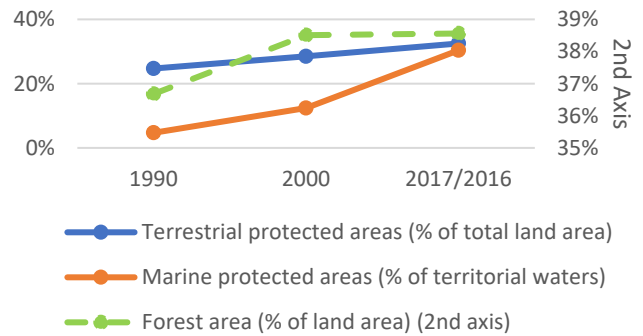


Note: Score 0 (worst) – 100 (best). Asia-Pacific: data is for ILO member states in the region, excluding Cook Islands, Marshall Islands, Palau and Tuvalu.

Source: ILO compilation using “2018 EPI Scores – Current”. EPI Yale.

Forest area increased between 1990 and 2016, to approximately 38.6 per cent of total land area. From 1990 to 2017, the share of terrestrial protected area increased slightly, reaching 33 per cent of total land area. The proportion of marine protected area also increased, by 26 per cent (Fig. 7). There will be greater prospects for employment opportunities if there is a commitment to transition to a low-carbon and resource-efficient economy, such as jobs in resource management and environmental services.<sup>5</sup>

**Figure 7. Forest area, terrestrial and marine protection area, 1990-2017**

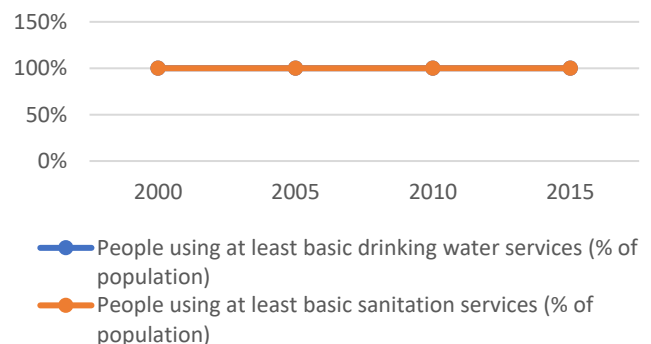


Note: Data for forest area is from 2016 and other data is from 2017.

Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 19 February 2019).

Since 2000, access to basic drinking water has remained steady, at an average of 100 per cent in 2015, and access to basic sanitation also remained steady at an average of 100 per cent in 2015 (Fig. 8). Both are at the ideal threshold of 100 per cent. Around 0.4 per cent of the labour force was employed in water supply, sewerage, waste management and remediation activities in 2015 (Fig. 13). Water supply and sanitation sectors could provide more decent job opportunities in the future.

**Figure 8. Basic drinking water and sanitation access, 2000-2015**



Source: ILO compilation using World development indicators, last updated: 21/05/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 30 December 2018).

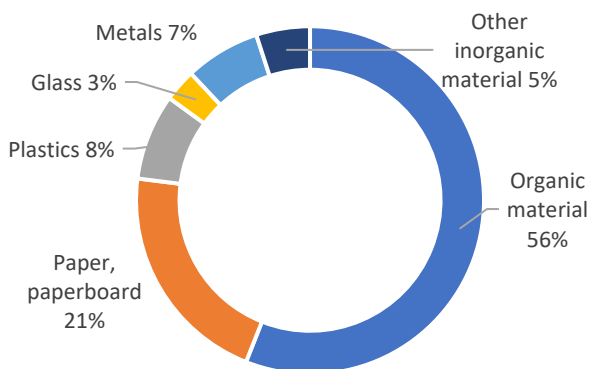
Growth of the urban population in New Zealand has meant an increase in solid waste. Waste collection varies between the inner cities and the country’s outer urban areas. According to the World Bank, municipal

<sup>4</sup> Yale Center for Environmental Law and Policy / Center for International Earth Science Information Network at Columbia University. “2018 EPI Scores – Current”. EPI Yale. Retrieved 14-06-2018. Available: <https://epi.envirocenter.yale.edu>

<sup>5</sup> Organisation for Economic Co-operation and Development: The jobs potential of a shift towards a low-carbon economy, OECD Green Growth Papers, No. 2012/01 (Paris, 2012), <http://dx.doi.org/10.1787/5k9h3630320v-en>.

solid waste generation in New Zealand in 2004 was 3.68 kilograms per capita per day and is expected to decrease to 3 kilograms per capita per day by 2025.<sup>6</sup> The majority of the waste in 1995 was organic (56 per cent), followed by paper and paperboard (21 per cent) (Fig. 9). The implementation of an improved municipal waste management system for collection, safe and sustainable disposal, recycling and composting practices could create more green jobs that help the environment and general health.

**Figure 9. Waste composition, 1995**



Source: ILO compilation using UNSD-Environment statistics (released on 30 April 2018; <https://unstats.un.org/unsd/envstats/qindicators.cshml>) (accessed on 30 December 2018).

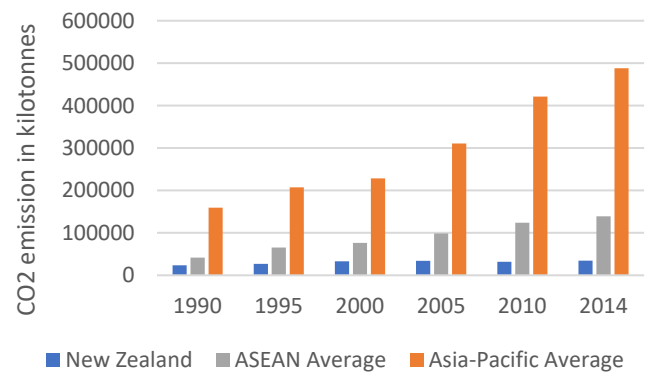
## AIR QUALITY

The carbon dioxide (CO<sub>2</sub>) emission levels for New Zealand increased slightly by an average of 2 per cent from 1990 to 2014 (Fig. 10).<sup>7</sup> The increase was due primarily to the following major sources: agricultural sector (burning of crop residues) and energy sector (power generation and transport); followed by industrial processes and product use, and waste handling.<sup>8</sup> The level of emissions is significantly lower than the Asia-Pacific average and slightly lower than the ASEAN average.

The PM<sub>2.5</sub> (atmospheric particulate matter with a diameter of less than 2.5 micrometres) emission levels for New Zealand showed a decreasing trend from 1990 to 2016 (Fig. 11). Overall PM<sub>2.5</sub> emission levels did not exceed the World Health Organization's Air Quality Guideline threshold level, thus indicating low

emissions. New Zealand shows a significantly lower level of emissions than the ASEAN and Asia-Pacific averages. Biomass burning is the major source of PM<sub>2.5</sub> emission in New Zealand followed by marine aerosol and motor vehicles.<sup>9</sup>

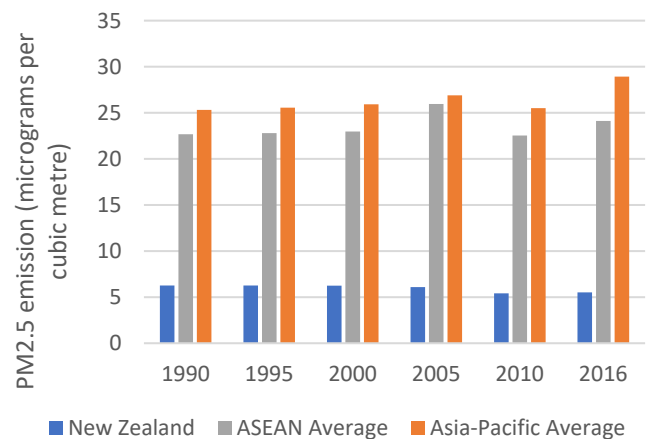
**Figure 10. CO<sub>2</sub> emissions for New Zealand, 1990-2014**



Note: Data for ASEAN and Asia-Pacific are the average of all the ILO member states of the regions. Asia-Pacific: data excludes Cook Islands, Timor-Leste (1990, 1995, 2000).

Source: ILO compilation using World Bank indicators; <https://data.worldbank.org/indicator/EN.ATM.CO2E.KT?locations=IR> (accessed on 30 December 2018).

**Figure 11. PM<sub>2.5</sub> emissions for New Zealand, 1990-2016**



Note: Data for ASEAN and Asia-Pacific are the average of all the ILO member states of the regions. Asia-Pacific: data excludes Cook Islands, Palau and Tuvalu.

Source: ILO compilation using World Bank indicators; <https://data.worldbank.org/indicator/EN.ATM.PM25.MC.M3?view=chart> (accessed on 30 December 2018).

<sup>6</sup> World Bank: What a waste: A global review of solid waste management (Washington, DC, 2012).

<sup>7</sup> The value is calculated on the basis of CAGR (compound annual growth rate).

<sup>8</sup> New Zealand's Expanding Carbon Footprint Analysis of New Zealand's Emissions Trading Scheme; major flaws and barriers to emission cuts; <https://www.greenpeace.org/archive-new-zealand/Global/new-zealand/report/2008/3/expanding-carbon-footprint-report.pdf>

<sup>9</sup> Composition and source contributions of air particulate matter pollution in a New Zealand suburban town. January 2012; <https://www.sciencedirect.com/science/article/pii/S1309104215304645>

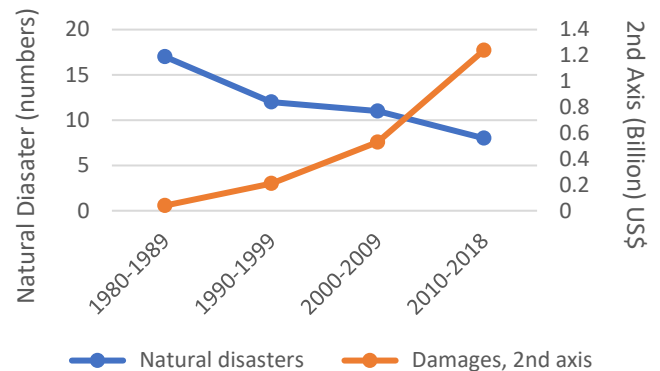
Applying the Just Transition Guidelines, an area of possible intervention includes efforts to reduce harmful emissions, which could potentially generate green jobs in high emitting sectors such as transportation and fuel-intensive industries. Reducing emissions is a significant challenge, which can be achieved not only by mitigation methods, but also by adapting to, and coping with, the new changes required by the transition to a low-carbon economy.

## CLIMATE CHANGE IMPACTS

According to the *World Risk Report*,<sup>10</sup> New Zealand has a low World Risk Index score. It ranks number 119 of 171 countries. Although it has high exposure to natural hazards, it has the institutional capacity to respond and adapt. Part of the country's vulnerability relates to the 4.2 per cent of the total population who, in 2010, lived in the 0.9 per cent of the total land area below 5 metres above sea level.<sup>11</sup>

According to the *Emergency Events Database*,<sup>12</sup> there was a notable decline in natural disasters between 1990 and 2018 (Fig. 12).<sup>13</sup> Natural disasters in that period were mostly been storms, floods, tropical cyclones, droughts, heatwaves and wildfires. Damage costs increased significantly between 2010 and 2018. Developing preventative measures to limit infrastructure and property damage and increase institutional capacity to respond to climate events, particularly for small businesses, can be a source of decent job creation while building resilience.

**Figure 12. Natural disaster occurrence and damage costs in New Zealand**



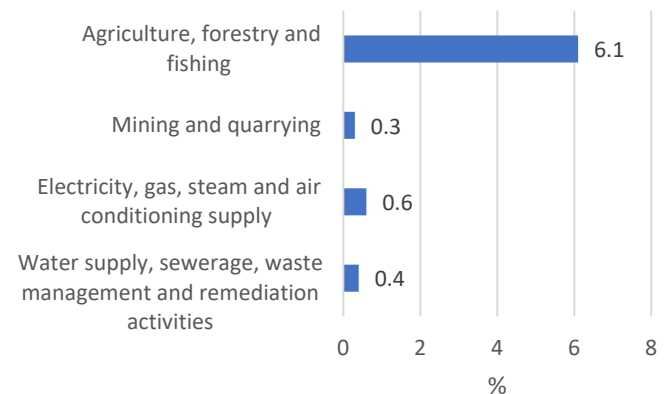
Note: Natural events include climatological, hydrological and meteorological disasters.

Source: EM-DAT: The emergency events database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - [www.emdat.be](http://www.emdat.be), Brussels, Belgium. Data accessed on: 30 December 2018.

## GREEN JOBS POTENTIAL

In 2015, 6.1 per cent of total employment was in the agriculture, forestry and fishing sector (Fig. 13). Although reliance on agriculture is not significant, there are opportunities for job creation in sustainable production and organic farming.

**Figure 13. Employment in sectors with strong green jobs potential in 2015**



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

Source: ILO estimates and compilation using ILOSTAT, [www.ilo.org/ilostat](http://www.ilo.org/ilostat) (accessed on: 30 December 2018).

<sup>10</sup> Bündnis Entwicklung Hilft and United Nations University - EHS (2017) *World Risk Report 2017*, available at: <http://weltrisikobericht.de/english/>

<sup>11</sup> World development indicators; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 7 August 2018).

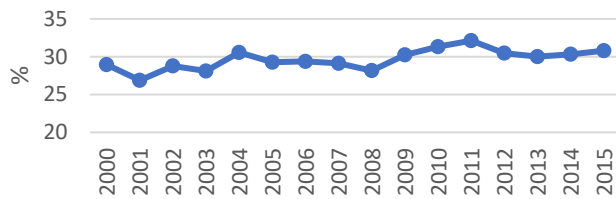
<sup>12</sup> EM-DAT: The Emergency Events Database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - [www.emdat.be](http://www.emdat.be), Brussels, Belgium. Data accessed on: 20 July 2018.

<sup>13</sup> Climatological, hydrological and meteorological disasters.

In 2016, more than 95 per cent of the population relied primarily on clean fuel and technology, in the sense that these do not create pollution within the home.<sup>14</sup> The share of renewable energy in total energy consumption has not kept pace with overall consumption. In 2000, it was 28.96 per cent but increased to 31.3 per cent in 2010 and, after some fluctuation, reached 30.8 per cent in 2015 (Fig. 14). However, renewable energy electricity generation has increased over the last 16 years, with hydropower being the main renewable energy source in 2016 (Fig. 15).

In 2018, almost 3.4 thousand people were employed in the renewable energy sector, with 62 per cent employed in hydropower (large) (Fig. 16). The country's employment rate in electricity, gas, steam and air conditioning was only 0.6 per cent in 2015 (Fig. 13). With the push for increasing reliance on renewable energy, there is the potential for decent job opportunities in the future.

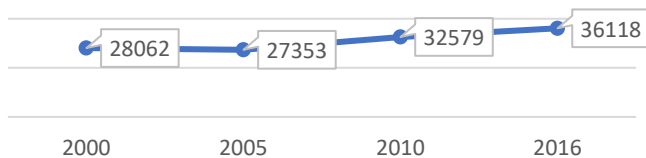
**Figure 14. Renewable energy share in total energy consumption, 2000-15**



Source: ILO compilation using United Nations statistics division. SDG indicators: Global database. Available at: <https://unstats.un.org/sdgs/indicators/database/> (accessed on 30 December)

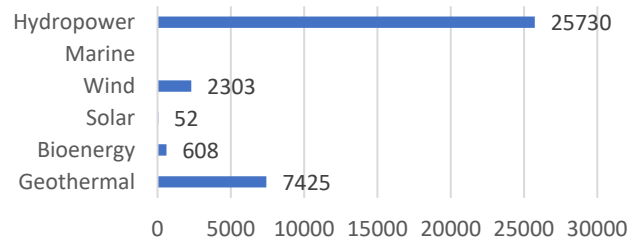
**Figure 15. Renewable energy electricity generation, 2000-2016**

**Total renewable energy electricity generation (gigawatt hours - GWh)**



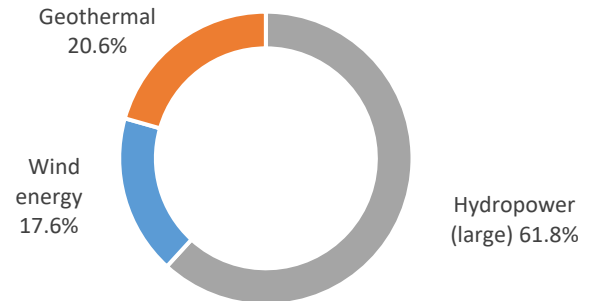
<sup>14</sup> The proportion of the population with primary reliance on clean fuels and technology is calculated as the number of people using clean fuels and technologies for cooking, heating and lighting divided by the total population reporting any cooking, heating or lighting, expressed as a percentage. "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>.

**Renewable energy electricity generation (GWh) in 2016, by technology**



Source: ILO compilation using Source: IRENA (2018); Renewable electricity capacity and generation statistics, June 2018. Available at: <http://resourceirena.irena.org>

**Figure 16. Renewable energy employment, by energy source, 2018**



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.

Source: ILO compilation using source: IRENA (2018); Available at: <http://resourceirena.irena.org>

Better data collection relating to the green economy and the environmental sector would be very valuable for policy-makers in Asia-Pacific countries. In particular, better data on green and decent jobs is 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 ensure a just transition to environmental sustainability and to monitor progress going forward.



## EMPLOYMENT AND ENVIRONMENTAL SUSTAINABILITY FACT SHEETS 2019

Decent  
Work



### **ILO Regional Office for Asia and the Pacific**

United Nations Building, 11th Floor  
Rajadamnern Nok Avenue  
Bangkok 10200  
Thailand

 +66 22 88 12 34

 GreenjobsAP@ilo.org

 ilo.org/asiapacific

 @iloasiapacific

© International Labour Organization  
All photos: © ILO

Disclaimer: These factsheets are collated on a bi-annual basis and use the most up-to-date available data that meets ILO data collection standards. The designations used in ILO publications, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the International Labour Office concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers.

