

MYANMAR

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

Myanmar¹ is located in South-East Asia and shares a border with India and Bangladesh to the west, Thailand and the Lao People's Democratic Republic to the east and China to the north (Fig. 1). Its population is mostly rural and growing, with a fertility rate of 2.2 children and life expectancy of 66.9 years. Around 67 per cent of the population is of legal working age (15–64 years) (Fig. 2).

Figure 1. Map of Myanmar

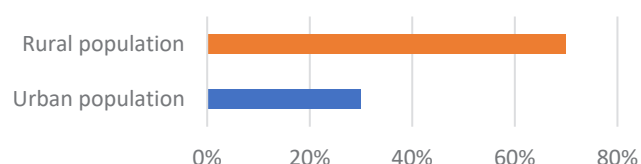


Figure 2. Myanmar population statistics

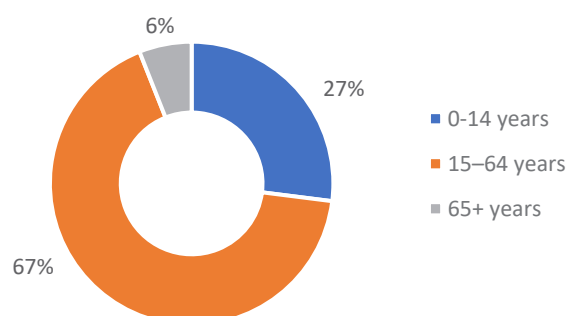
Population:² 53.4 million



Population growth rate	Fertility rate	Life expectancy at birth
0.9%	2.2 children	66.9 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/ (accessed on 30 December 2018).

¹ Myanmar became a member of the International Labour Organization in 1948.

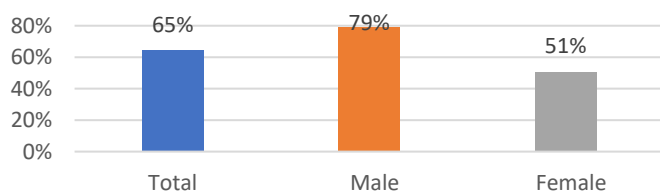
² Population data based on 2017 data.

LABOUR FORCE

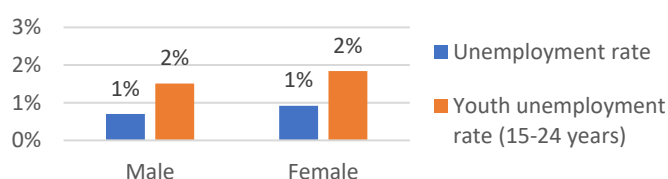
In 2018, the labour force participation rate was 64.9 per cent and the employment-to-population ratio was 64.6 per cent. Both of these rates are more than 28 percentage points higher for men than for women. The total unemployment rate in 2018 was 0.8 per cent, and the youth unemployment rate was 2.0 per cent, both almost at gender parity. The proportion of youths aged 15-24 years not in education, employment or training was 17.4 per cent in 2017.³ Employment is heavily reliant on agriculture and on medium-skilled occupations (Fig. 3).

Figure 3. Basic employment statistics for Myanmar, 2018

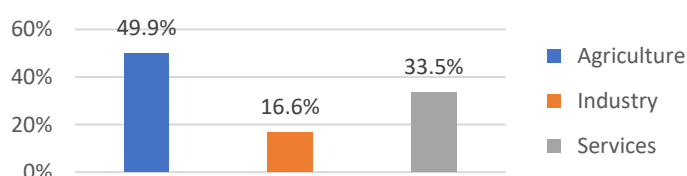
Employment-to-population, 2018 (15+ years)



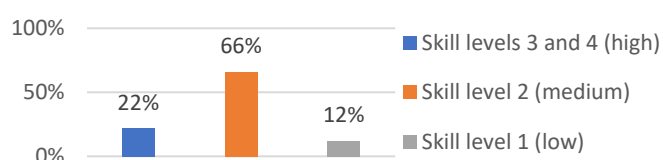
Unemployment, 2018



Employment by sector, 2018 (15+ years)



Employment by occupation, 2018

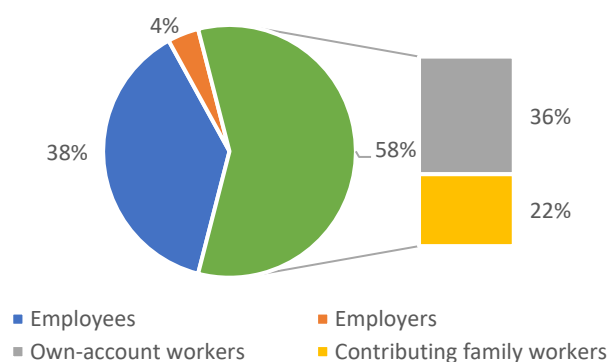


Note: ILO estimates. Labour force participation rate and unemployment: aged 15 years and older. Youth unemployment: aged 15–24 years. Employment by occupation: skill level 1 (low) for elementary occupations; skill level 2 (medium) for clerical, service and sales workers, skilled agricultural and trade 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 (accessed 30 December 2018).

Vulnerable employment in Myanmar as of 2018 accounted for 58.2 per cent of the labour force, with the majority of those workers having family contributing workers 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

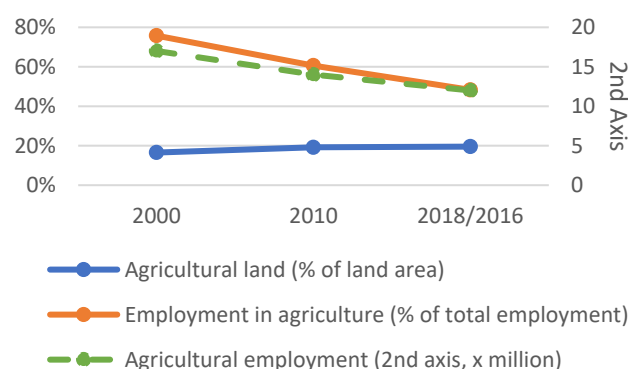


Note: ILO estimates. Vulnerable employment includes own-account workers and contributing family workers from ILO status of employment data.

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

Rural population growth was 0.6 per cent in 2017. The share of agricultural land in total land area increased by 3 percentage points between 2000 and 2016, while agricultural employment decreased from 17 million to 12 million people. The share of agricultural employment within total employment fell by approximately 28 percentage points due to much 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.

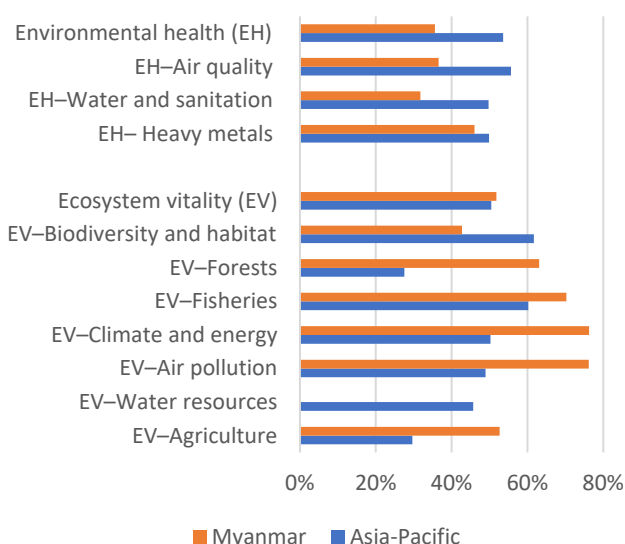
Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 30 December 2018).

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

ENVIRONMENTAL ISSUES

Myanmar ranks at number 138 of 180 countries in the Environmental Performance Index (EPI),⁴ with a score of 45.32 (with 0 being furthest from the high-performance benchmark target of 100). Myanmar outperforms the average score for Asia and the Pacific (Fig. 6) in some of the EPI categories, including forests, fisheries, climate and energy, air pollution and agriculture. However, there is significant room for improvement, especially in environmental health (air quality, water and sanitation, and heavy metals) and ecosystem vitality (biodiversity and habitat, and water resources). 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 Myanmar.

Figure 6. Environmental performance index for Myanmar, 2018



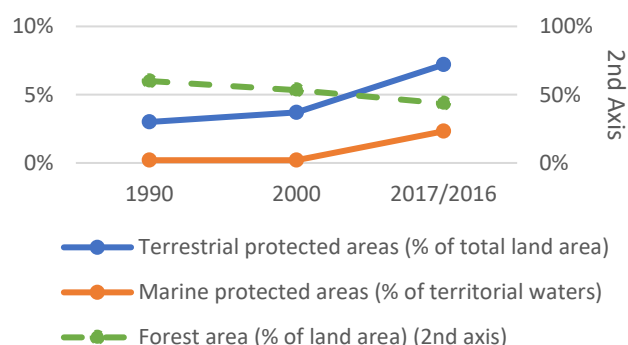
Note: Score 0 (worst)–100 (best). Asia-Pacific: data is for ILO member states in the region, excluding Cook Islands, Marshall Islands, Palau and Tuvalu.

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

Forest area has decreased slightly since the 1990s, covering approximately 44 per cent of the total land area in 2016. From 1990 to 2017, the share of terrestrial protected area increased slightly, reaching 7 per cent of total land area. The proportion of marine protected area increased by 2.1 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.⁵

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

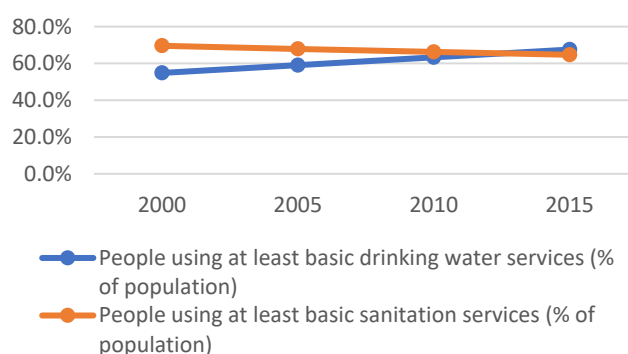


Note: The latest data for forest area is from 2016 and others are from 2017.

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

Since 2000, there has been a slight increase in access to basic drinking water, to an average of 67.5 per cent in 2015, and a slight decrease in access to basic sanitation, to an average of 64.7 per cent in 2015 (Fig. 8). Both are below the ideal threshold of 100 per cent. Around 0.2 per cent of the labour force was employed in water supply, sewerage, waste management and remediation activities in 2017 (Fig. 13). Improvement in water supply and sanitation access could provide more decent job opportunities in the future.

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



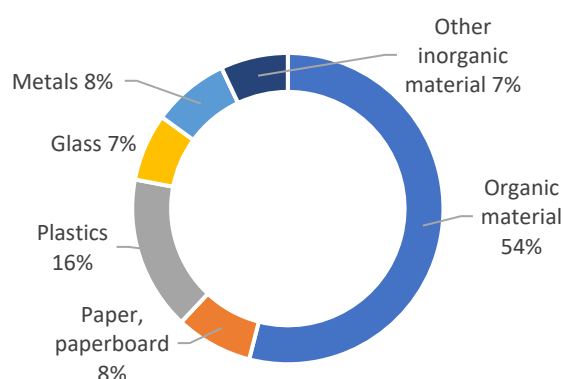
Source: ILO compilation using World Development Indicators, Last Updated: 21/05/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 30 December 2018).

⁴ 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>

⁵ 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>.

Growth of the urban population in Myanmar 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 solid waste generation in Myanmar in 2004 was 0.44 kilograms per capita per day and is expected to increase to 0.85 kilograms per capita per day by 2025.⁶ The majority of the waste in 2000 was organic (54 per cent), followed by plastic (16 per cent) (Fig. 9). The much-needed implementation of a 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, 2000



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

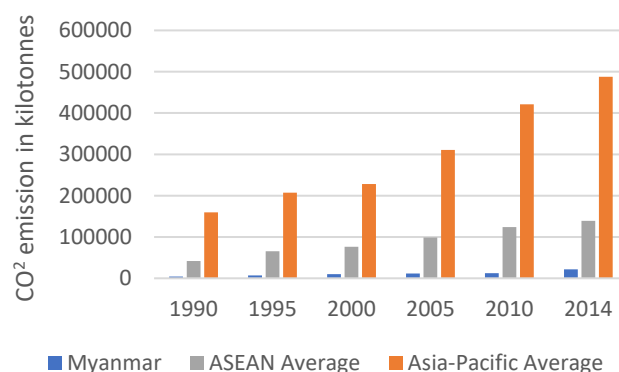
AIR QUALITY

The carbon dioxide (CO₂) emission levels for Myanmar have increased gradually by an average of 7 per cent from 1990 to 2014 (Fig. 10).⁷ The increase was due primarily to the following major sources: fossil fuel combustion; biomass burning; fugitive emissions from coal mining activities; oil and natural gas systems.⁸ The level of emissions is significantly lower than both the Asia-Pacific and ASEAN averages.

The PM_{2.5} (atmospheric particulate matter with a diameter of less than 2.5 micrometres) emission levels for Myanmar show the highest level in 2016 (Fig. 11). Overall PM_{2.5} emission levels exceeded the World Health Organization's Air Quality Guideline threshold level, thus indicating high emissions.

Myanmar shows a significantly higher level of emission than the ASEAN and Asia-Pacific averages. Transportation and coal power plants are the major sources of PM_{2.5} emissions in Myanmar. A very high proportion of households still rely on the use of solid fuel – such as wood, crop waste, charcoal, coal and dung – for cooking purposes.⁹

Figure 10. CO₂ emissions for Myanmar, 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).

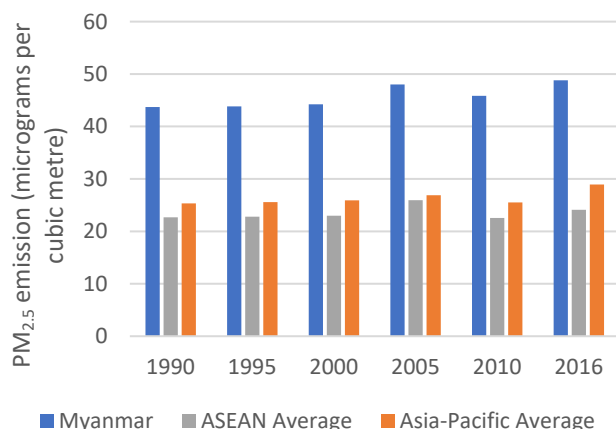
Source: ILO compilation using World Bank indicators <https://data.worldbank.org/indicator/EN.ATM.CO2E.KT?locations=IR> (accessed on 30 December 2018).

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

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

⁸ Initial National Communication for Myanmar under the UNFCCC, 2012; <https://unfccc.int/resource/docs/natc/mmmc1.pdf>

⁹ Myanmar's air pollution among the worst in the world: World Health Organization; <https://www.mmimes.com/national-news/22840-myanmar-s-air-pollution-among-the-worst-in-the-world-who.html>

Figure 11. PM_{2.5} emissions for Myanmar, 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).

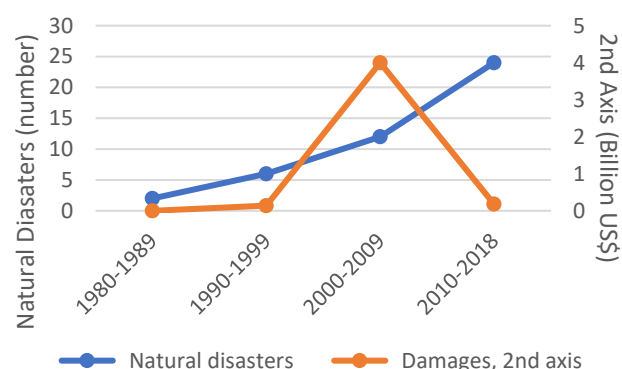
Applying the Just Transition Guidelines, an area of possible intervention includes efforts to reduce harmful emissions, which could potentially generate green jobs in high emitting sectors such as transportation and fuel-intensive industries. Reducing emissions is a significant challenge, which can be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

CLIMATE CHANGE IMPACTS

According to the *World Risk Report*,¹⁰ Myanmar has a high World Risk Index score. It ranks number 42 of 171 countries because of its high exposure to natural hazards and limited institutional capacity to respond and adapt. Part of the country's vulnerability relates to the 11 per cent of the total population who, in 2010, lived in the 4 per cent of the total land area below 5 metres above sea level.¹¹

According to the *Emergency Events Database*,¹² there was a substantial increase in natural disasters¹³ between 1980 and 2018 (Fig. 12). The natural disasters in that time were mostly tropical cyclones, storms, floods and landslides. Damage costs increased significantly between 2000 and 2009. 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.

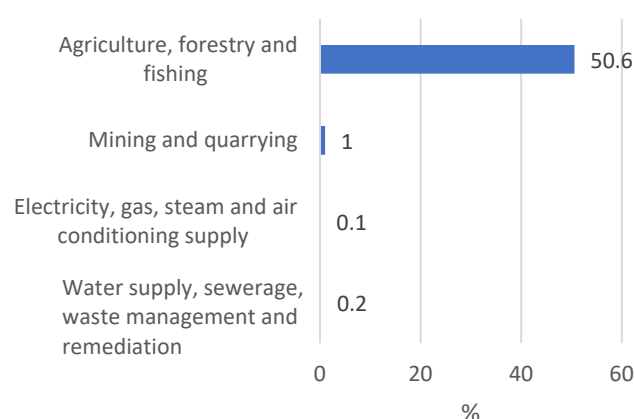
Figure 12. Natural disaster occurrence and damage costs in Myanmar

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, Brussels, Belgium. Data accessed on: 30 December 2018.

GREEN JOBS POTENTIAL

In 2017, 50.6 per cent of total employment was in the agriculture, forestry and fishing sector (Fig. 13). Although reliance on agriculture is significant, there are opportunities for job creation in sustainable production and organic farming.

Figure 13. Employment in sectors with strong green jobs potential in 2017

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 (accessed on: 30 December 2018).

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

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

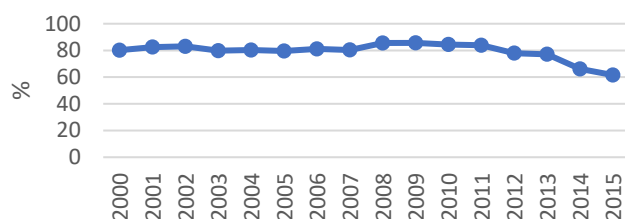
¹² EM-DAT: The emergency events database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium. Data accessed on: 20 July 2018.

¹³ Climatological, hydrological and meteorological disasters.

In 2016, more than 18 per cent of the population relied primarily on clean fuel and technology, in the sense that these do not create pollution within the home.¹⁴ The share of renewable energy in total energy consumption has not kept pace with overall consumption. In 2000, it was 80.2 per cent then increased to 84.4 per cent in 2010 and, after some fluctuation, reached 62 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 16 thousand people were employed in the renewable energy sector, with 100 per cent employed in hydropower (large) (Fig. 16). The country's employment rate in electricity, gas, steam and air conditioning was only 0.1 per cent in 2017 (Fig. 13). With the push for increasing reliance on renewable energy, there is the potential for decent job opportunities in the future.

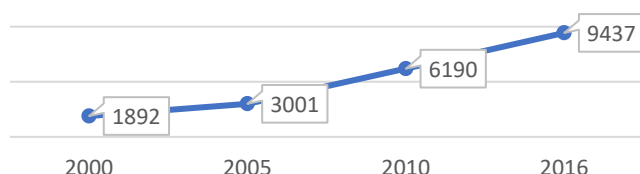
Figure 14. Renewable energy share in total energy consumption, 2000-15



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 2018).

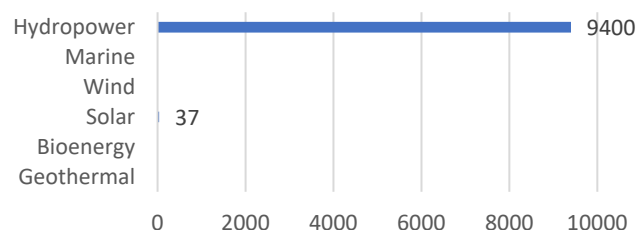
Figure 15. Renewable energy electricity generation, 2000-2016

Total renewable energy electricity generation (gigawatt hours - GWh)



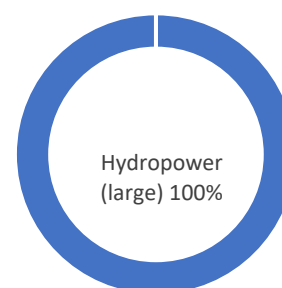
¹⁴ The proportion of the population with primary reliance on clean fuels and technology is calculated as the number of people using clean fuels and technologies for cooking, heating and lighting divided by the total population reporting any cooking, heating or lighting, expressed as a percentage. "Clean"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



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