



Decent  
Work



# JUST TRANSITION, DECENT WORK, AND CLIMATE RESILIENCE



## DECENT WORK AND CLIMATE CHANGE RESILIENCE

The Asia-Pacific region has learned to be resilient in the face of increasing natural disasters and changing climate. New challenges in transitioning to a low-carbon economy to make our communities healthy, safer and even more resilient can bring opportunities for the future of work. Making this transition rich in green and decent jobs is directly connected to the well-being of people and communities and to the sustainability of our livelihoods and societies. This new dynamic makes a strong argument for thinking of processes as enabling the greening of economies and production rather than as a dichotomy between unsustainable dirty jobs to be discontinued and sustainable clean jobs to be created.

We must learn to recognize these opportunities and design strategic policies and interventions, driven by respect for the environment and the Decent Work Agenda. There is an urgent need for green employment

policies in prevention, mitigation and adaptation to the impacts of climate change. This process of change at work will require the combined efforts of governments, employers and workers through social dialogue.

Policy coherence for a just transition and convergence of all actions are vital. More efforts are needed to improve policy coherence of government at all levels, business leaders, workers, financial institutions, research institutions and local communities. The alignment of employment, education, environment, energy and climate finance policies can accelerate climate action and speed up a just transition to more sustainable societies. As we focus on achieving this high ambition in the region, we must also turn our efforts and attention to creating jobs that are decent, jobs that have quality and jobs that develop our human capital with the skills for today's needs and tomorrow's employability.

For representatives meeting to discuss sustainable development and climate change during the 23rd session of the Conference of the Parties, this brochure explains the commitment of the International Labour Organization (ILO) for greening jobs and skills in Asia and the Pacific with decent jobs. Through partnership with ILO member States in Asia and the Pacific, we have made a long journey since our founding in 1919, fostering decent work and job-rich development. Today, we are facing new and complex challenges from the effects of climate change. The situation requires bold efforts – our efforts – to provide solutions that are transformative. It also needs strong leadership from our member States.

We stand ready to continue the journey to deliver solutions for a just transition to societies with green and decent jobs for all.

**Tomoko Nishimoto**

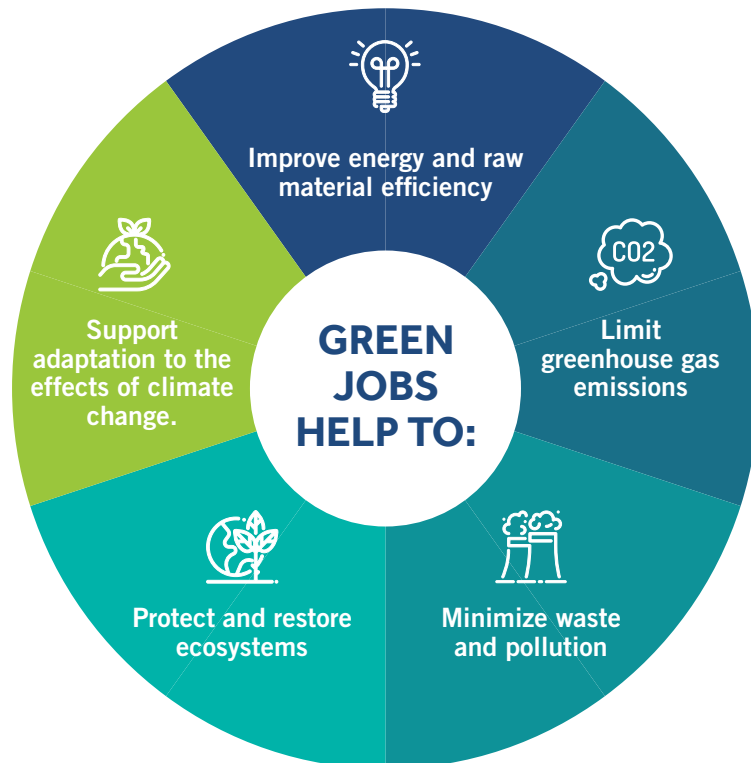
**ILO Assistant Director-General and  
Regional Director for Asia and the Pacific**

# 01

## WHAT ARE GREEN JOBS?

Green jobs<sup>1</sup> contribute towards the preservation and restoration of the environment, be they in traditional sectors, such as manufacturing and construction, or in new, emerging green sectors, such as renewable energy and energy efficiency.

### Green and Decent



At the enterprise level, green jobs can produce goods and provide services that benefit the environment, such as green buildings or clean transportation. These green outputs (products and services), however, are not always based on green production processes and technologies. Green jobs are also distinguished by their contribution to environment-friendly processes. For example, green jobs can reduce water consumption or improve recycling systems. Green jobs defined through production processes do not necessarily produce environmental goods or services.

*Jobs that are green 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 a low-carbon sustainable society.*

<sup>1</sup> See <http://www.ilo.org/global/topics/green-jobs/>; ILO, 2015.



## Green jobs must be quality decent jobs and in line with the Four strategic objectives at the heart of the Decent Work agenda

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Set and promote standards and fundamental principles and rights at work



Create greater opportunities for women and men to decent employment and income



Enhance the coverage and effectiveness of social protection for all



Strengthen tripartism and social dialogue

Achieving environmental sustainability in Asia and the Pacific is unlikely without major societal changes and economic risks. Mitigating and adapting to climate change and reducing greenhouse gas emissions while confronting other environmental challenges, such as resource management, is only the start.

Large segments of the workforce will need to depend on environment-sensitive industries and sectors for creating environmental sustainability and decent work.

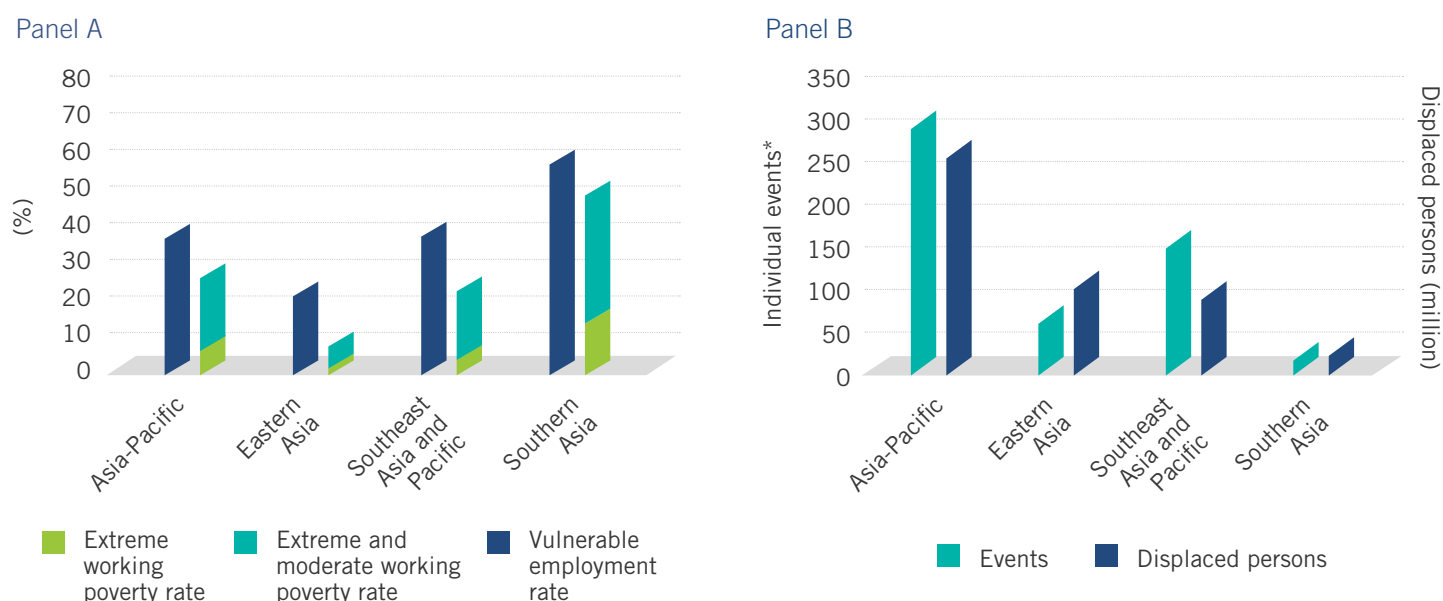
Energy, agriculture, forestry and fishing are all key sectors for creating environmental sustainability and decent work.

# 02

## A REGION AT THE CROSSROADS OF BETTER JOBS AND CLIMATE CHANGE

The Asia-Pacific region accounts for nearly 60 per cent of the global workforce, equivalent to more than 2 billion people.<sup>2</sup> However, 10 per cent of the workforce, or 182 million workers employed in the region, lives on income that is below the extreme poverty threshold of US\$1.90 per person per day, with a further 18 per cent (318 million people) on the margins of poverty (figure 1A).<sup>3</sup> More than half of the workers in this region are classified as in vulnerable employment – as own-account workers or unpaid family workers – and without access to social protection.

**FIGURE 1. Working poverty rates (%) and displacement from climate events, 2016**



Source: Panel A: ILO, 2017d; Panel B: Internal Displacement Monitoring Centre (IDMC): Internal displacement database (2016), <https://bluehub.jrc.ec.europa.eu/> (accessed 13 Oct. 2017).

\*Note: climate events refer to cyclones, tropical storms, floods and other extreme weather events.

<sup>2</sup> ILO, 2017d.

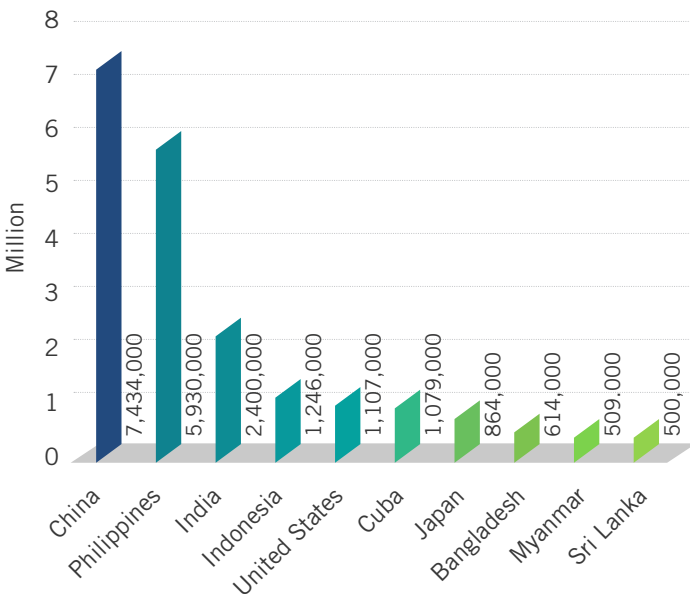
<sup>3</sup> Ibid.

## Natural disasters and displaced people

Under current climate change trends and even in the most optimistic scenarios, the frequency and intensity of natural hazards will increase. This includes rapid onset events (such as typhoons) and slow onset events (such as unhealthy levels of air temperature, changes in precipitation patterns and sea-level rise). When natural disasters or other exogenous shocks occur, it is the vulnerable workers and people living in poverty with limited savings and no social safety net who bear the brunt of the devastation. According to the Internal Displacement Monitoring Centre, **the region accounted for around half of all recorded cases of geophysical shocks or natural hazards in 2016**. As a result, 82 per cent of all natural hazard-induced displaced persons worldwide in 2016, or more than 250 million people, lived in Asia or the Pacific (figure 1B).<sup>4</sup> Figure 2 highlights the ten countries with the most new displacements of people by the sudden onset of natural disasters in 2016.

**FIGURE 2. Countries with the most new displacements by disasters, 2016**

Absolute numbers



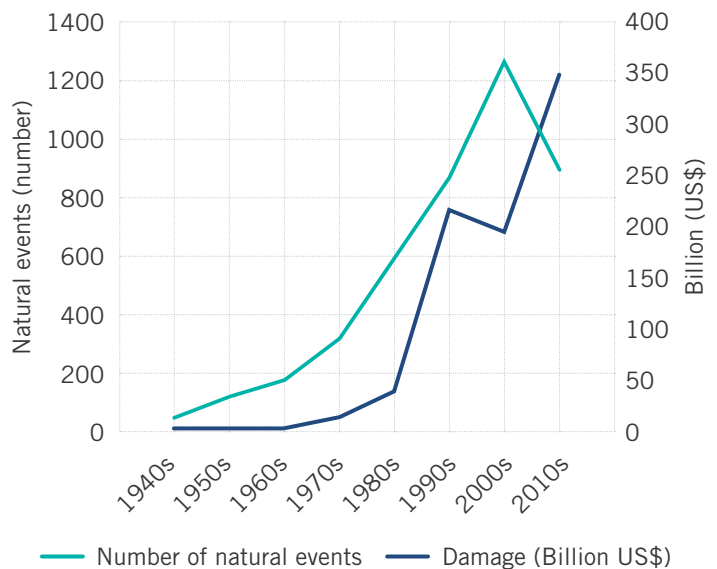
Note: Disasters triggered by sudden-onset hydro-meteorological and climatological hazards include floods, storms, wildfires and extreme winter conditions, while geophysical hazards refer to earthquakes, volcanic eruptions and landslides (IDMC, 2017).

Source: IDMC, 2017.

According to the 2016 *World Risk Report*,<sup>5</sup> 12 Asian-Pacific countries are among the top 20 countries globally with very high exposure and vulnerability to natural disasters and environmental damage and limited institutional capacity to respond. **Some 300 million to 410 million urban dwellers and 341 million inland residents will be at risk of coastal flooding by 2025**,<sup>6</sup> most of them will likely live in Asia and the Pacific. Small island States are likely to be disproportionately affected.

Although only 8 per cent of the total land area in the region is lower than 5 meters above sea level, 10 per cent of the region's total population lives in this area. With natural disasters and the value of resulting damage increasing since the 1940s (figure 3), developing preventive measures to limit infrastructure and property damage and increasing institutional capacity, particularly for small businesses, **to respond to climate events will be a source of decent jobs creation while building resilience**.

**FIGURE 3. Trends in natural disasters and damage in the Asia-Pacific region, 1940s–2010s**



Note: Sum of data for ILO member States in Asia-Pacific region. 2010s data are only for the first half of the decade.

Source: Emergency Events Database, [www.emdat.be](http://www.emdat.be) (accessed 25 August 2017).

<sup>4</sup> IDMC: Internal displacement database (2016), <https://bluehub.jrc.ec.europa.eu/catalogue/dataset/0041> (accessed 13 Oct. 2017).

<sup>5</sup> BEH and United Nations University, 2016.

<sup>6</sup> HM Treasury, 2006.



# 03

## A POSITIVE OUTLOOK: ASIA-PACIFIC REGION LEADS JOB CREATION IN CLEAN ENERGY

The development of renewable energy capacities and the shift towards more energy efficient production and consumption are fundamental processes for the transition to a greener economy. These processes will have profound implications for the world of work and the creation of green and decent jobs. Globally, total employment in the renewable energy sector grew by 8.1 per cent per year between 2012 and 2016. **The region already accounts for more than 5.8 million jobs in renewable energy, or approximately 60 per cent of the 9.8 million employed in the sector worldwide** (with 40 per cent in China and around 9 per cent in India).<sup>7</sup> Employment in the renewable energy sector most likely will continue to grow, signifying a net gain in job opportunities that will outweigh losses in traditional energy sectors, such as coal production. ILO estimates indicate that 14.2 million jobs could be added in the region by 2030 if countries adopt changes in energy use that limit global warming to 2°C. These changes include a shift to renewable energy sources, construction to increase energy efficiency

and meeting projected electric vehicle sales that also meet the regional obligations towards climate change mitigation. In other words, **the creation of decent work and environmental sustainability can collaboratively promote achievement of the 2030 Agenda for Sustainable Development in Asia and the Pacific.**

The region shows the largest number of renewable jobs in the subsector of solar photovoltaic (at 43 per cent), followed by large-scale hydropower (at 17.5 per cent), solar heating/cooling (at 11.6 per cent) and wind energy (at 9.7 per cent) (figure 4).<sup>8</sup> According to ILO estimates, under a scenario of worldwide climate change mitigation, job creation is expected in the manufacture of electrical machinery, construction and renewable energy subsectors like hydropower, solar and wind power.<sup>9</sup> However, employment in these areas constitute just one component of **the potential future growth in green jobs.** With expanding employment in environmental processes, the future potential of decent job creation could be significantly greater.<sup>10</sup>

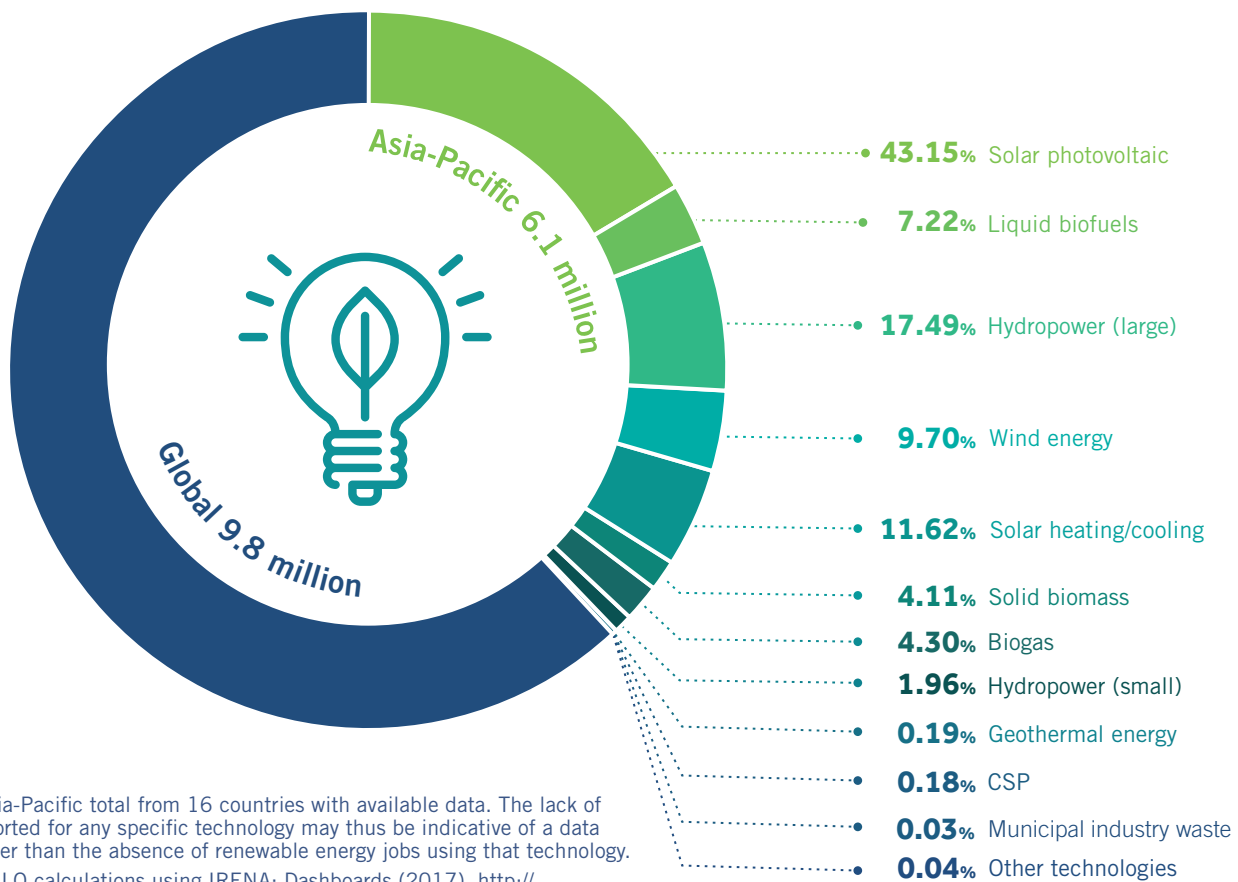
<sup>7</sup> IRENA, 2017.

<sup>8</sup> *ibid.*

<sup>9</sup> ILO calculations using Exiobase database (ILO, forthcoming). For more information on the impact of the just transition on the world of work, see the forthcoming ILO World Employment and Social Outlook Greening with Jobs.

<sup>10</sup> A recent mapping of green jobs in Mongolia found that employment in the production of environmental outputs grew by 6.3 per cent between 2014 and 2016 (fourth quarter) while employment in environmental processes increased by 32.5 per cent (ILO, 2017a).

**FIGURE 4. Renewable energy employment by subsectors, 2016**



The ILO has been increasingly active in promoting environmental sustainability through the lens of the world of work. The concept of “green jobs” summarizes the angle that the ILO takes to preserve and restore a sustainable environment through transformative growth, both in traditional economic sectors (textile, manufacturing and construction) and in emerging green sectors (renewable energy and energy efficiency), such as waste management (box 1).

### BOX 1. Waste management full of green and decent jobs

There is an absence of wastewater treatment in many emerging and developing countries in the Asia-Pacific region. In fact, for 29 Asian-Pacific countries with available data, only 19 have some sort of wastewater treatment. Of them, only seven countries have more than 35 per cent of their wastewater treated.<sup>a</sup> There are potential socioeconomic benefits to be derived from the expansion of wastewater treatment, in addition to the health benefits, particularly for employment. Jobs can be generated in the expansion of plants and systems for the reuse of wastewater treated to “fit-for-purpose” levels and in a range of water-dependent sectors, especially agriculture. In India, for example, wastewater could annually irrigate an estimated 1 million to 1.5 million hectares of farmland, generating up to 130 million person-days of employment.<sup>b</sup>

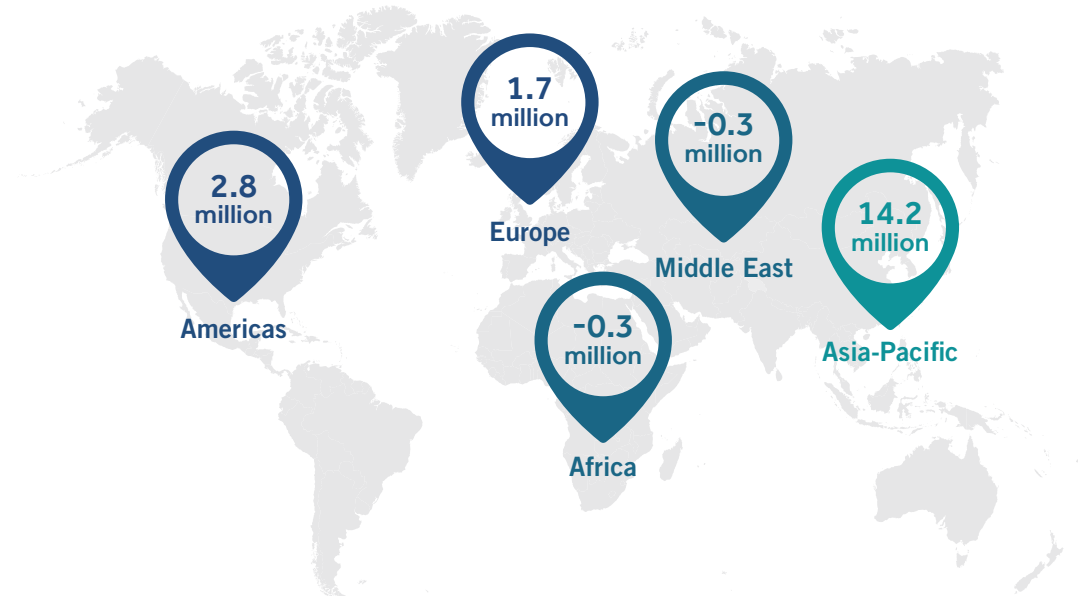
<sup>a</sup> ESCAP Online Statistical Database, based on data from the United Nations Environment Programme and the Global database of National Wastewater Treatment (8 July 2016), [http://data.unescap.org/escap\\_stat/](http://data.unescap.org/escap_stat/) (accessed 15 Sep. 2017).

<sup>b</sup> ILO, 2017c.



## Jobs to be created by climate change mitigation

FIGURE 5. Net change in employment in the climate change mitigation scenario, 2030



Note: Climate change mitigation scenario refers to the IEA 2°C scenario, which compares with a baseline 6°C scenario.  
Source: ILO calculations using Exiobase database (ILO, forthcoming).

The ILO estimates that reducing climate change through mitigation of the rise in global temperatures would have a positive net impact on jobs worldwide. Achieving the International Energy Agency's (IEA) 2°C scenario – an energy system development pathway and emissions trajectory to limit average global temperature increase by 2°Celsius, and considering how these energy demands impact the production of electric vehicles and the construction sector – would result in a net addition of 18 million jobs worldwide by 2030, compared with business-as-usual conditions (a 6°C scenario). The vast majority (79 per cent) of the new jobs would be in the Asia-Pacific region. In fact, the net increase for Asia and the Pacific is estimated at around 14.2 million jobs, offsetting the losses derived from the reduction of carbon-emitting industries in the Middle East and Africa as well as within the Asia-Pacific region (figure 5).

Mitigation alone will not stop the climate change impacts. Adaptation and coping capacities will be equally necessary. These adjustments to the natural and human systems also have the potential to moderate harm and create new economic opportunities.

Adaptation and coping capacities include infrastructure and services, such as transport, water and waste

management and emergency response services, as well as the management of environmental resources, including water supply, marine and terrestrial protection and biodiversity preservation. These adjustments will come with opportunities and challenges, which, with appropriate policy action, can be shaped to build economic, environmental and social resilience.

Agriculture is just one industry outside of renewable energy production that is impacted by climate change mitigation and adaption strategies but is extremely relevant, given that agriculture is a major contributor to greenhouse gas emissions (methane from rice paddies, cow dung or land use change, for example) and accounts for around a third of all workers in Asia and the Pacific.

The impact on job creation or destruction will depend on a country's approach to sustainability, such as adopting conservation agriculture, which may be less labour intensive, or applying quotas that can impact fishing and productivity in the sector. At the same time, there is potential to bolster decent work in other sectors as part of the transition to a greener society, particularly in construction, the circular economy (waste management and resource extraction) and transport.

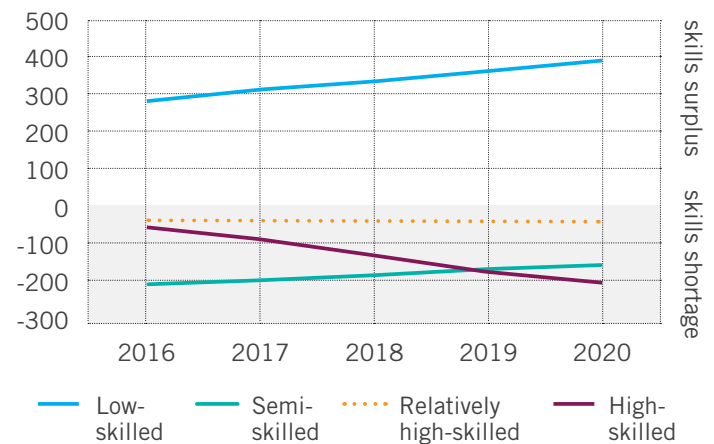
# GREENING JOBS AND SKILLS IS NECESSARY FOR ALL ECONOMIC SECTORS

A major challenge for greening labour markets and job creation is to make sure that workers, especially youth, have the right skills. More than eight in every ten workers in the region are in either low-skilled occupations (16 per cent) or medium-skilled occupations (67 per cent). Many countries in Asia and the Pacific will experience a surplus of low-level skills increasing by 2020 (figure 6). Skills shortages will continue to increase, particularly for jobs requiring highly skilled workers. Skills shortages already present a major hurdle for the just transition to environmental sustainability, particularly for certain sectors and occupations, such as wind, wave and tidal power; renewable energies for manufacturing, construction and installation; expansion of the environmental industries; and the green building and construction sector.<sup>11</sup>

The just transition needs to address reform of education systems and the lack of teachers and trainers in new green areas. For less developed countries, modernizing their skills production, both in the general education system and in the specialized vocational training system, is a complex exercise in which horizontal policy coordination across ministries of education, labour and environment is needed.



**FIGURE 6. Skills shortage and surplus in selected Asian countries, 2016–20 (thousand)**



Note: Forecasted employment by education approximates the skills supply, and the forecasted employment by occupation approximates the skills demand. The figures presented are sums based on estimates for the selected countries. The positive numbers capture skills surplus, while the negative numbers capture skills shortage. Selected countries: Bangladesh, Cambodia, India, Indonesia, Mongolia, Pakistan, Philippines, Thailand, Timor-Leste and Viet Nam.

Source: Bulaor and Matsumoto, forthcoming.

<sup>11</sup> ILO, 2011.



# 04

## A JUST TRANSITION FOR ALL IN ASIA AND THE PACIFIC

*“The role the ILO must take up is to promote the considerable potential for creation of decent work associated with the transition to a low-carbon sustainable development path and to minimize and manage the inevitable dislocation that will accompany it.”*

Guy Ryder, ILO Director-General

The importance of decent work in achieving sustainable development is highlighted by Sustainable Development Goal (SDG) 8 to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. In addition, the recognition in the Paris Agreement of “the imperative of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities” urges countries to undertake climate change actions that equally advance job creation and social justice. Efforts to promote climate action and environmental sustainability (SDG 13) can contribute to achieving SDG 8.

ILO actions will help advance the just transition to environmental sustainability by (i) maximizing opportunities in terms of positive social and economic outcomes, on the one hand, and environmental outcomes on the other and/or (ii) by addressing the risks to the world of work associated with environmental challenges and response measures.

Based on the Conclusions of the 2013 International Labour Conference, the ILO adopted in November 2015 the **Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All**. These guidelines offer the ILO and its constituents a framework and practical tool to ensure that national and global efforts to tackle climate change and other environmental challenges also advance employment creation goals, social justice and fair transitions for workers, enterprises and communities on an equal footing.

These guidelines can also help countries at all levels of development manage the transition to a low-carbon economy and help them achieve their Intended Nationally Determined Contributions and the 2030 Agenda goals. Designed to promote decent work on a large scale and ensure that social protection operates where needed, these guidelines also include mechanisms for social dialogue between governments and workers’ and employers’ organizations throughout policy-making processes.

As was underlined by the Gender Action Plan that was adopted at the COP23, a just transition to sustainable development can only be achieved if women are actively involved in developing and implementing all aspects of climate change mitigation and adaptation. Women are overrepresented among vulnerable workers and climate change risks widening existing gender gaps. At the same time, addressing gender equality as an integral part of climate action can contribute to achieving both gender equality and effective mitigation and adaptation measures. Particularly in the rural economy, for instance in agriculture and forestry, grassroots women, including indigenous and tribal women, are already playing an important role as workers and entrepreneurs. A just transition in such sectors opens up enormous avenues to strengthen the participation of women in decision-making across all levels, secure sustainable livelihoods, improve working conditions, as well as advance traditional and local knowledge necessary for strong climate action.<sup>12</sup>



The ILO Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All include:

- employment-centred macroeconomic and growth policies;
- environmental regulations in targeted industries and sectors;
- creating an enabling environment for sustainable and greener enterprises;
- social protection policies to enhance resilience and safeguard workers from the negative impacts of climate change, economic restructuring and resource constraints;
- labour market policies that actively pursue job creation, limit jobs loss and ensure that adjustments related to greening policies are well managed;
- occupational safety and health policies to protect workers from occupational hazards and risks;
- skills development to ensure adequate skills at all levels to promote the greening of the economy;
- the establishment of mechanisms for social dialogue throughout policy-making processes at all levels; and
- policy coherence and institutional arrangements for the mainstreaming of sustainable development and ensuring stakeholder dialogue and coordination between policy fields.

<sup>12</sup> ILO, 2017b.



**FIGURE 7. ILO guidelines for a just transition**



Source: ILO, 2015.

**FIGURE 8. ILO support for implementation of the just transition guidelines**





## ABOUT THE INTERNATIONAL LABOUR ORGANIZATION

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The ILO was founded in 1919, in the aftermath of the First World War, to pursue a vision based on the premise that universal, lasting peace can be established only if it is based on social justice. The ILO became the first specialized agency of the United Nations in 1946. The main aims of the ILO are to promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues. The only tripartite UN agency, the ILO brings together government, employer and worker representatives from 187 member States to set labour standards, develop policies and devise programmes promoting decent work for all women and men.

The ILO Regional Office for Asia and the Pacific covers one of the most diverse regions of the world – ethnically, culturally, religiously and economically. The population of more than 4 billion people includes some of the wealthiest countries on earth as well as two-thirds of the world's poorest households. The Regional Office in Bangkok supports work in 36 member States, from Afghanistan to the Pacific islands and from Mongolia to New Zealand. Two teams of decent work specialists, based in Bangkok and New Delhi, provide a range of technical services and expertise that support work throughout the region and provide assistance to ILO constituents – governments and employers' and workers' organizations. In addition, there are country, liaison or project offices in more than 17 countries in the region.

### BOX 2. Pilot application of policy guidelines for a just transition

The ILO has increased support to member States on just transition issues, including in Ghana, the Philippines and Uruguay. These are the first countries to explore the application of the Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All.

In the Philippines, the initiative aims to enable constituents – government and workers' and employers' organizations – in leveraging the process of structural change towards a sustainable, low-carbon, climate-resilient economy to create decent jobs on a significant scale and in a sustained and inclusive manner. The project, funded by the Swedish International Development Cooperation Agency, is in support of the recently passed Green Jobs Act and the framework of national goals as well as international commitments, such as the 2030 Agenda for Sustainable Development and the country's Nationally Determined Contributions to address climate change.

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## GREEN CENTENARY INITIATIVE

In 2019, the ILO will celebrate its 100th anniversary. In the run-up to the anniversary, seven centenary initiatives are being implemented as part of a package of activities to equip the organization to successfully manage the challenges of its social justice mandate in the future.

The Green Centenary Initiative aims to scale up ILO knowledge, policy response and capacity to manage a just transition to a low-carbon, sustainable future. The objective of the Green Centenary Initiative is to better equip the world actors to understand the challenges and opportunities of the coming transition to a low-carbon economy and help them take an active role in managing this change. It will further build the case that decent work approaches and social dialogue are indispensable for transformative change.



This brochure was prepared by the Decent Work Technical Team in Bangkok and the ILO Regional Office for Asia and the Pacific, with contributions from the GREEN jobs division of the ILO Enterprise Department, the ILO Research Department and the ILO International Training Centre.



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