by
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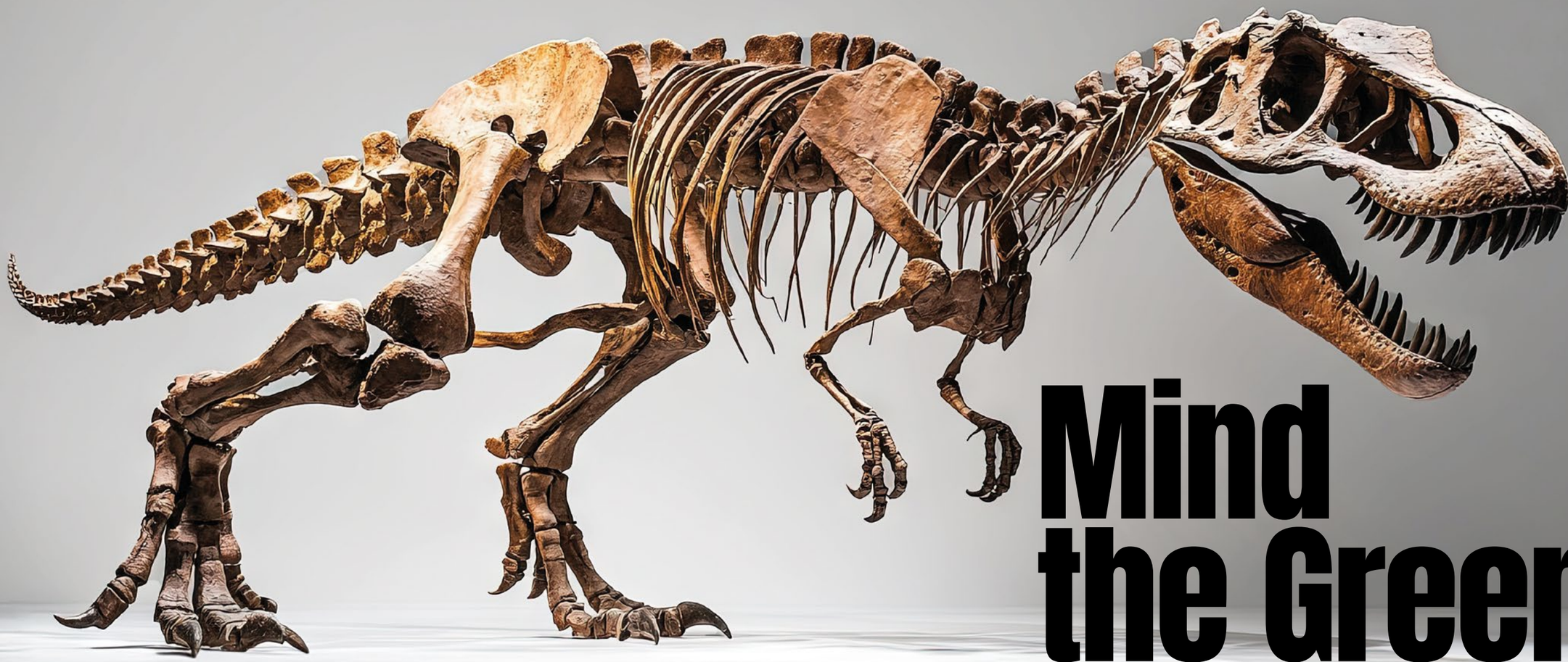
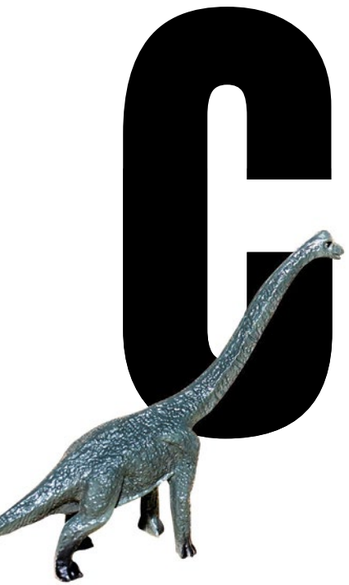


Mind the Green Skills Gap

The need to build tomorrow's sustainable green economy today.

- Climate change and the shift towards a net zero economy pose significant risks to jobs globally unless workers are equipped with green skills and competencies.
- There is already a green skills gap in the labour market that will only widen over time if it is not addressed.
- Comprehensive and coordinated policies must be developed to define and measure green jobs and skills, enhance educational offerings, and provide support for workers and employers during the transition.



Climate change and the transition to a net zero economy to limit its environmental impact are going to profoundly affect the world of work. Globally, a quarter of all jobs are highly vulnerable to shifts induced by both trends, with jobs in Asia Pacific at particular risk.[1] This suggests a significant risk of job losses in the short and medium term unless workers can be swiftly reskilled and redeployed in new industries and occupations. In the longer term, the green economy has the potential to generate significant economic growth and job creation, with some estimates forecasting the creation of 300 million additional jobs by 2050.[2] However, the extent to which these new positions can be filled depends on the extent to which education and skills development systems are successful at equipping people with the right skills and competencies.

What are the right skills and competencies? A quick search for green job vacancies in Singapore on LinkedIn reveals that employers are looking for qualities such as "good understanding of regional sustainability dynamics", "deep commitment to driving positive environmental change and fostering sustainability practices", "strong understanding of the key technologies and economics driving industry decarbonisation", "familiarity with carbon accounting software and tools", and "experience in developing and executing strategies, programs, standards, and policies that drive sustainability goals". These are all examples of green skills, and their relative scarcity in the labour force is already proving to be a key hurdle in the transition to a green economy and the journey to attaining net zero. A recent LinkedIn report based on jobs data from 48 countries highlighted that only one in eight workers has any green skills at all.[3]

As more countries commit to and take action on their net zero carbon dioxide emissions targets, the demand for green skills will only grow. This article explains what green skills are and why it is important to invest in developing them. It also elaborates on the current demand-supply gap in green skills and discusses policy implications for the Asia Pacific region to address this gap.

GREEN SKILLS

Although there is no universal definition of green skills, they are often understood as "the knowledge, abilities, values, and attitudes needed to live, work, and act in economies and societies seeking to reduce the impact of human activity on the environment".[4] They are essential for the performance of green jobs. There is no universal definition of green jobs either, although most definitions suggest that they are jobs that contribute to preserving or restoring the environment, both in traditional industries seeking to reduce their environmental impacts, as well as in emerging green industries.[5]

Transitioning to the green economy is going to create new occupations and change the demand for many existing ones. Climate change mitigation measures such as phasing out fossil fuel use, for instance, are expected to create job losses in conventional energy sectors. On the other hand, other mitigation measures such as the adoption of renewable energy or promotion of public transport, and climate change adaptation measures such as seawall construction or the establishment of rainwater harvesting systems will create new occupations and jobs. Overall, the net effect of climate change adaptation and mitigation measures on jobs is expected to be positive, meaning that job losses will be more than offset by new job creation.[6]

Some of these sectoral and occupational shifts may not have significant implications for workers' skills. For instance, the demand for bus drivers will probably increase in future as city-dwellers embrace more public transport, but bus drivers will still need the same skillset they have now to perform their jobs. In many other existing occupations, however, workers are likely to need new skills as their job scope changes: think of civil engineers who will need to design buildings with reduced carbon footprints, or even marketing managers who will have to promote the sustainability initiatives of the companies they represent. Additionally, new occupations in the green economy will obviously require new skills: imagine biomass plant engineers, whose responsibility will be to design plants that generate electricity from biomass combustion, or greenhouse gas emission report verifiers, who will be tasked with conducting data audits of reported emissions.[7]

The green skills required for these jobs encompass both technical and non-technical aspects.[8] Technical green skills such as engineering, science, operations management, and monitoring skills are the 'hard' skills associated with the use of green technologies and implementation of processes aimed at improving environmental sustainability. They help organisations build green infrastructure and utilise green technology, make requisite changes to organisational structure and processes to support sustainable production and practices, and ensure that the organisation is compliant with regulatory standards and technical criteria.[9] Non-technical green skills are the 'soft' skills or competencies required to develop, communicate, promote, and embed sustainability thinking and solutions. They are cross-sectoral and include skills like critical thinking, problem-solving, collaboration, creativity, adaptability, and resilience. Together, technical and non-technical green skills help organisations and the economy address environmental change and degradation in multiple ways. They limit greenhouse gas emissions, ensure sustainable use of natural resources, support climate change adaptation efforts, and encourage green innovation and economic growth.

THE GREEN SKILLS GAP

Comprehensive education, training, and skills development policies are needed to tackle the challenges and utilise the opportunities associated with the transition to a green economy. Workers in jobs that are being phased out can, with the right support, be reassigned to similar occupations in different industries.[10] For instance, machine operators and metal workers currently working in environmentally-damaging industries can be supported to get re-employed in greener industries. Workers who cannot be thus redeployed have to be equipped with new skills to help them move into new occupations. Finally, both current workers and new entrants into the labour force need the right education and training to prepare them for the new jobs created in the green economy.

However, education and skilling policies have been slow to respond, and consequently green skills gaps have already emerged. The LinkedIn report referred to previously noted that postings for jobs requiring at least one green skill grew by 22.4 percent in 2022 to 2023 while the share of green talent in the labour force grew by only 12.3 percent.[11] In other words, demand grew almost twice as fast as supply. Commentators have cautioned that "[t]he unprecedented acceleration that we have seen in

clean energy transitions is creating millions of new job opportunities all over the world, but these are not being filled quickly enough"[12] and that "skills development policies in support of transition still have a short-term horizon and are implemented on a limited scale."[13]

Unless policies catch up, these green skills gaps will only grow larger over time. Management consulting firm Boston Consulting Group has estimated that the size of the skills gap will grow to seven million people by 2030, with the largest gaps expected in the solar energy, wind energy, and biofuels industries.[14]

GREEN SKILLS IN ASIA PACIFIC

The Asia Pacific region is particularly vulnerable to climate change impacts: six of the 10 countries most affected by climate change-induced extreme weather events between 2000 and 2019 were in Asia.[15] The region is also home to nearly 60 percent of the world's workforce.[16] The transition to the green economy, if properly harnessed and supported by the right policies, has the potential to create significant opportunities for growth. A recent report estimated that US$1 trillion worth of market opportunities and 30 million green jobs could result in Southeast Asia alone by 2030.[17]

So far, however, the signs are not promising. Green skills shortages are already acute for certain sectors—they include wind, wave, and tidal power, green construction, and renewable energy—and skills shortages, especially for highly-skilled jobs, are expected to increase further under business-as-usual conditions.[18] An International Labour Organization (ILO) investigation of green jobs policy readiness in ASEAN concluded that most of the member states, except Malaysia, the Philippines, and Singapore, have been slow to develop policy frameworks for green skills development.[19] It found that Myanmar had no policy elements in place at all, while Brunei, Cambodia, Indonesia, Laos, Thailand, and Vietnam had only introduced some policy elements.

WHAT NEEDS TO BE DONE?

Design policy frameworks for green skills development

The first step is to design policy frameworks that explicitly plan for green skills development. This might sound obvious, but an examination of the Nationally Determined Contributions (NDCs)–detailed plans by national governments outlining climate change mitigation and adaptation measures–of the signatories to the 2015 Paris Agreement shows that such comprehensive policy design is the exception, rather than the norm. In fact, 22 percent of NDCs omit any mention of human capital development measures at all, and most that do mention it only when discussing capacity-building in broad terms without referencing specific sectoral skills needs or systemic national policies and programmes for skills development.[20] A key exception in Asia is the Philippines, which was the first ASEAN member state to pass a law to support the creation of green jobs in the form of the Philippine Green Jobs Act of 2016. Under the Act, the country's Department for Labor and Employment is responsible for developing a detailed national green jobs human resource development plan.

Key aspects of developing a comprehensive policy response include creating operational definitions of green jobs and green skills; collecting real-time data on green jobs and green skills; improving policy coordination; and involving non-governmental stakeholders such as educational institutions, employers, labour unions, and civil society in policy design and implementation.

Creating operational definitions of green jobs and green skills is not easy; as mentioned previously, there are no universal definitions of either. It is, however, a useful starting point, as adopting clear definitions helps achieve clarity on what jobs do (and do not) constitute green jobs, which in turn facilitates identification of the green skills required to perform them effectively, and how these skills differ from those already possessed by the workforce. Malaysia, for instance, has adopted a definition of green jobs and is using it to identify key sectors and job titles or occupations that are going to be affected.[21]

Once operational definitions are in place, data collection on green jobs and green skills is essential for green skills policy development and planning. In general, there is a lack

of green labour market forecasts in Asia Pacific.[22] Overcoming this is going to be easier for some countries than others. While countries such as Japan, Singapore, and South Korea have sophisticated labour market data collection systems in place, some Asia Pacific countries such as Tonga or Papua New Guinea do not undertake labour force surveys; instead, they glean labour force data from the population census or household income and expenditure surveys.[23]

Policy coordination is key to ensuring that green skills development is embedded in sector-specific strategies. Policy development must also engage all relevant stakeholders to ensure that the policies being formulated are practical and implementable, inclusive, and responsive to actual labour market needs.

Increase and extend educational offerings

Once the relevant green skills have been identified, policies must be put in place to ensure that they are being taught. Key actions include expanding the range of technical and vocational education and training (TVET) offerings, updating higher education curricula and introducing new course offerings, remembering to address both technical and non-technical competencies, developing clear pathways for lifelong learning to enable workers to reskill and upskill to adapt to changing labour market demands, and emphasising the importance of micro-credentials that provide flexible upskilling options for working professionals.

To inculcate sustainability knowledge and attitudes from an early age, schools should revise their curricula to incorporate climate change and sustainability topics.

It is important to ensure that the transition to the green economy is equitable. Education and skills policies must take equity issues into account and address the unique needs of specific groups (e.g., women, older workers, youth, and individuals with disabilities) to ensure that they are not left behind.

Governments must also ensure that there is a pipeline of educators who can deliver green skills education, since there are concerns about the lack of teachers and trainers, particularly in new green areas.[24]

Increase awareness and provide support

Policies to increase the availability of education and training options for green skills development must be accompanied by policies to extend green careers guidance services, and increase the public's awareness about green jobs and skills development pathways. Asia Pacific has an advantage as there is high interest in green jobs in the region, particularly among younger people. In a global survey conducted by Accenture, 77 percent of people aged 15 to 39 in Asia Pacific said that they aspired to work in the green economy within the next 10 years, compared to only 57 percent in Europe and 52 percent in the US.[25] However, there is a lack of knowledge about the skilling or training pathways that can lead to green jobs. Non-governmental organisation (NGO)-led research on rural youth in Indonesia, Myanmar, Thailand, and Vietnam concluded that "[f]or many students, working in an environmentally-responsible way is important, but they do not know how to access the skills and knowledge they need."[26]

It is not only employees who need support; employers too require assistance as they transition to green jobs and seek to hire workers with green skills. Often, they need practical, on-the-ground support to implement high-level policy decisions effectively. For example, while many Asian countries have policies in place to promote work-based training, the actual adoption of work-based training schemes is low because employers face a host of implementation challenges, ranging from a lack of knowledge about which educational or training institutions they can partner with, to uncertainty about how they should define trainees' roles and responsibilities in the workplace.[27] Providing practical support to overcome such challenges would go a long way.

Finally, we must not lose sight of the fact that the transition to the green economy will invariably create job losses and disruptions for workers. While having good skills development policies in place will make it easier for them to be redeployed eventually, it is also important for governments to put in place social safety nets such as unemployment benefits to ensure that they are protected through periods of job loss. This is an area in which many ASEAN nations, with the exception of Singapore, Thailand, and Vietnam, are lagging behind.[28]

FILLING THE GREEN SKILLS GAP

The transition to a green economy poses both challenges and opportunities for Asia Pacific nations. Although a significant proportion of the workforce is vulnerable to climate change and economic transition impacts, there is also considerable potential for green growth and job creation. However, the extent to which this potential can be realised depends, in large part, on the ability of governments to implement policies for green skills development. Unless a comprehensive policy framework is put in place, the green skills gaps that have already emerged are likely to only get larger over time.

The policy framework must enable clear definition and measurement of green jobs and green skills; identify the key green skills required by the economy and put skills development plans in place to grow them; expand the range of education and vocational and on-the-job training pathways to develop green skills; ensure that these pathways address the needs of diverse groups including females, older workers, youth, and people with disabilities; increase public awareness of these pathways; improve coordination amongst government agencies, and between government and non-governmental actors; and ensure that social safety nets are available to protect displaced workers.

Investing in green skills development today will ensure that the workers of tomorrow are well-equipped to meet the demands of the green economy, ensuring a sustainable future for all. AMI

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