

# Growing Green: Thriving in the ASEAN Job Market with Sustainability Careers

Bertrand Vigassa Sirait

## Summary

Indonesia holds a critical role in driving ASEAN's green job transformation through its abundant natural resources and young workforce to meet the rising demand for sustainability-focused employment. Indonesia can align its workforce with the 12.3% annual global growth in green roles by addressing the skills gap (currently, only 1.8 million workers are targeted for green jobs by 2030), integrating sustainability knowledge into technical curricula, and fostering public-private partnerships. Policy interventions and independent initiatives can further support this transition to contribute to Indonesia's national roadmap, which projects an average GDP growth of 6.1 to 6.5% annually by 2050, with green jobs reducing emissions by 68% by 2045 and achieving Net Zero by 2060.

**Keywords:** green jobs, ASEAN, skills gap, emission reduction

## Introduction

The shift toward sustainability has started a new movement of economic opportunities, with green jobs being one of the parts that contribute to ensuring environmental resilience. (Sharpe & Martinez-Fernandez, 2021). These changes involve the utilisation of renewable energy, sustainable agriculture, circular economy, and green finance, which is projected to shape the global trajectory toward a greener future.

As ASEAN's largest economy and most populous nation, Indonesia holds an important position in this transition. With its abundant natural resources and the rapid growth of a young workforce, Indonesia has the potential to lead the green transformation in the ASEAN region. However, this could be achieved by addressing contextual policies on creating green jobs, upskilling workforces, and ensuring collaboration between the public and private sectors (Mercanti, 2022).

As shown by the ASEAN Declaration on

Promoting Green Jobs for Equity and Inclusive Growth adopted at the 2018 ASEAN Summit, Green jobs have already gained significant attention in the ASEAN region. This declaration highlights the importance of green jobs in achieving regional sustainability goals. By driving low-carbon development and adapting to climate change, ASEAN aims to unlock economic momentum that generates inclusive and sustainable employment opportunities (ASEAN, 2018).

This article explores the potential gap of the green job market in ASEAN by highlighting its future prospects and Indonesia's critical role, ensuring sustainable growth for generations to come.

## Sectors of Green Jobs

### 1. Renewable energy

The renewable energy sector is the main contributor to the green job market. It is projected to create 42 million green jobs globally by 2050 (IRENA, 2020).

In ASEAN, where energy demand is rapidly rising, jobs related to renewable energy systems are expected to grow significantly. By 2030, decarbonisation employment is expected to rise to 24 million globally (ILO, 2021). Indonesia, with its huge potential for solar, geothermal, and wind energy, is projected to contribute to regional efforts to create work opportunities on fossil fuel transitions.

## 2. Waste management

This sector offers substantial potential in ASEAN, where waste management challenges are significant due to urbanisation and population growth. As one of the region's largest waste producers, Indonesia has the opportunity to innovate in recycling and waste-to-energy initiatives (Aprilia, 2021). These efforts address environmental concerns and create jobs in waste collection, processing, and treatment.

## 3. Sustainable cities

The development of sustainable cities is another contributor to the green job sector. These cities prioritise efficiency, comfort, and environmental health, creating demand for green jobs in areas such as smart building technologies and bioclimatic construction, sustainable mobility solutions, including electric vehicles and biofuels, and urban planning and infrastructure projects that reduce carbon footprints (Mba et al., 2024).

## Bridging the Green Skills Gap

The green job market in ASEAN is rapidly expanding because of the urgent need for sustainable development and environmental resilience. However, a significant gap exists between the ideal demands of this job market and the current readiness of the

workforce. While roles in renewable energy and circular economy initiatives are growing at a very fast rate, many candidates lack the skills, awareness, and access required to meet these demands.

Globally, green roles have grown by 12.3% annually. Data also reveals that job postings requiring at least one green skill have increased by 22.4% annually during the same period. (World Economic Forum, 2024) Notably, those with green skills have been hired at a higher rate than those without, showing how possessing green skills has been a more considered aspect of an employee's skill set.

In Indonesia, the challenge is real. Bappenas targets 1.8 million workers in the green sector by 2030. However, one of the barriers, skills such as the mismatch between graduates and the labour market's needs, exists as a gap the nation needs to address to ensure the readiness of the job market (Tachev, 2024).

Another contributing factor to the green skills gap is the traditional focus on technical skills that fail to address sustainability. This is shown in how professionals may lack awareness of carbon or greenhouse gas emissions impact on the work process or have incompatible knowledge of energy policy or environmental compliance (Gregg, 2017).

Other than that, no policy or regulation defines well the coverage of green jobs related to employment considerations, and basically, overall policy readiness regarding employment is not sufficient to support labour protection, and clarity despite general laws regarding sustainability or green development has already been quite comprehensive (Tachev, 2024).

In ASEAN, many job seekers lack awareness of the opportunities in green careers or access to the resources needed to pursue

them. Those include limited education and training programs as vocational and higher education systems often do not align with green economy demands and geographic disparity, where rural communities, particularly in Indonesia, often have limited access to training facilities and information on green job opportunities (Maclean et al., 2018).

A comprehensive knowledge of sustainability applied in interdisciplinary skills, for example, one that connects a process from design, planning, construction, demolition, or refurbishment, is crucial in pressing the carbon footprint potential of the project. Yet, many professionals lack the comprehensive training needed to see this problem from a holistic view, resulting in the failure to create a sustainable value chain. Integrating sustainability into the value chain of a company will prevent risks of making harmful profits that are made at the expense of the planet’s welfare (KPMG, 2013).

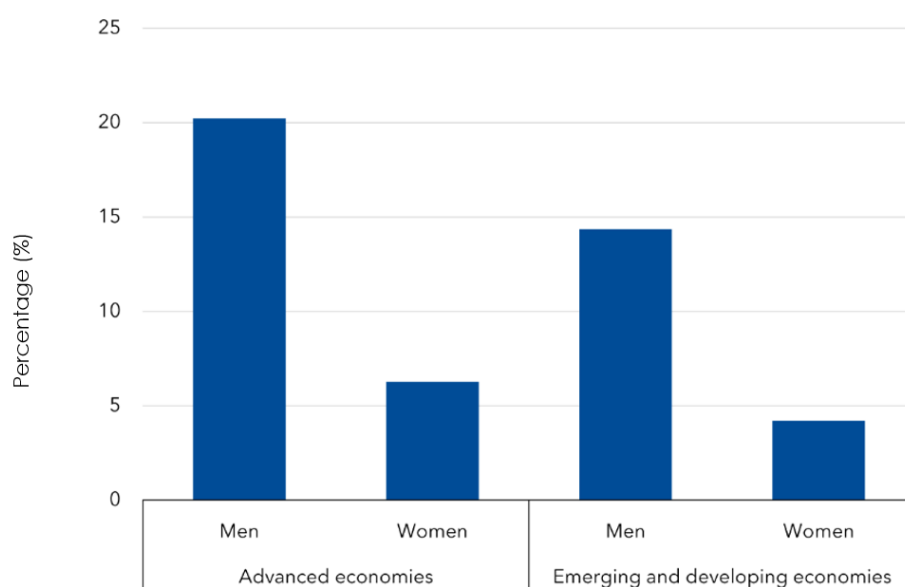
Moreover, the gap that is created by the lack of knowledge and employment readiness is also related to how women are being left

behind in green jobs participation. The worldwide share is shown in **Figure 1**.

The most determining reason for this gap circles back to the disparity in STEM education, reflected in the fact that less than a third of STEM graduates are women, which clearly hinders women from getting green jobs (Fabrizio et al., 2024).

This issue does not only highlight inclusivity. The equality of green jobs participation reflected through equal STEM education for both men and women impacts more significant greenhouse gas emissions reduction, resulting in 2 to 4 percentage points lower (Fabrizio et al., 2024).

The dilemma faced regarding green jobs growth is the increasing economic growth of the ASEAN countries like Indonesia, Malaysia, Thailand, the Philippines, and Myanmar is followed by higher emission growth (Hidayah et al., 2023). This becomes a challenge for the government to ensure that the creation of green jobs can bring economic growth to a nation, ensuring the stability of the nation’s green transitions.



**Figure 1.** Share of working men and women in green jobs  
Sources : Fabrizio et al., 2024

## **Conclusion: Indonesia's Position on the Green Job Status Quo**

Indonesia has the potential to close this gap and position itself as a regional leader in green jobs by including sustainability knowledge in technical curricula, especially those in areas of study that are related or considered interdisciplinary to ensure connectivity between one niche area and the others. One of the initiatives done in this scope is from the urban construction sector, working with organisations like Building in Indonesia Sustainability Alliance (BISA) to enhance facilitated support for education and awareness for sustainability implementation in Indonesia, something uncommon for students in Indonesia to receive as qualifications from overseas in both undergraduate and postgraduate degrees. (Iyer-Raniga and Dalton, 2017).

Creating public-private partnerships to design training programs tailored to industry needs would also be relevant to ensure participation from various sectors on a mission of delivering sustainability education. One good study case example for this is In France, where main federations and business associations in the construction sector launched Qualit'ENR, which aims to develop training standards for the installation of renewable energy equipment that has improved training provision (Strietska-Ilina, 2011).

Another crucial thing to ensure is policy inclusion. Policies should enable workers to fulfil basic needs or even leave the poverty constraints as a form of incentive, which can be intervened just like how the United States Department of Energy has a Green Jobs Tax Credit that allows qualified employers to receive USD 500 tax credit for each new green job created that offers a salary of at least USD 50,000.

These initiatives together aim for a national roadmap of green jobs in Indonesia that projects how a green economy can support the creation of average GDP growth of 6.1 to 6.5% per year until 2050 and create job opportunities that contribute to reducing emissions by 68% by 2045 and achieving Net Zero by 2060 (Bappenas, 2023).

## Disclaimer

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