

Analysis of Demand and Supply of Green Jobs and Green Skills in ASEAN

Key findings and policy recommendations

A joint study of ASEAN SLOM, the ASEAN Community Statistical System (ACSS) Committee, LinkedIn and GIZ RECOTwin, facilitated by the ASEAN Secretariat

Plenary Session 4: Preparing Workers for a Green Economy and Low-Carbon World
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RECOTwin

A joint regional study, built on two complementary lenses

Partners



ASEAN SLOM

Senior Labour Officials Meeting: study under the SLOM process



ACSS Committee

ASEAN Community Statistical System: statistical expertise



LinkedIn

Economic Graph data on green skills, talent and hiring



GIZ RECOTwin

ASEAN-German cooperation project: implementation and analysis

Facilitated throughout by the ASEAN Secretariat (ASEC)

with data and inputs from national statistics offices and labour ministries

What we did

Occupation lens Labour force surveys, 10 AMS

World Bank task-based taxonomy (Granata & Posadas 2024): green occupations and green potential

Skills lens LinkedIn data, 6 AMS

Green skills, green talent and hiring in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam

Deep dive and policy review All 11 AMS

Renewable energy workforce; national green jobs and skills policy frameworks

Labour force survey reference years range from 2019 to 2025; cross-country comparisons are indicative. AMS = ASEAN Member States.

Green jobs are few today, but green potential is large

~1%

of employment is in green occupations

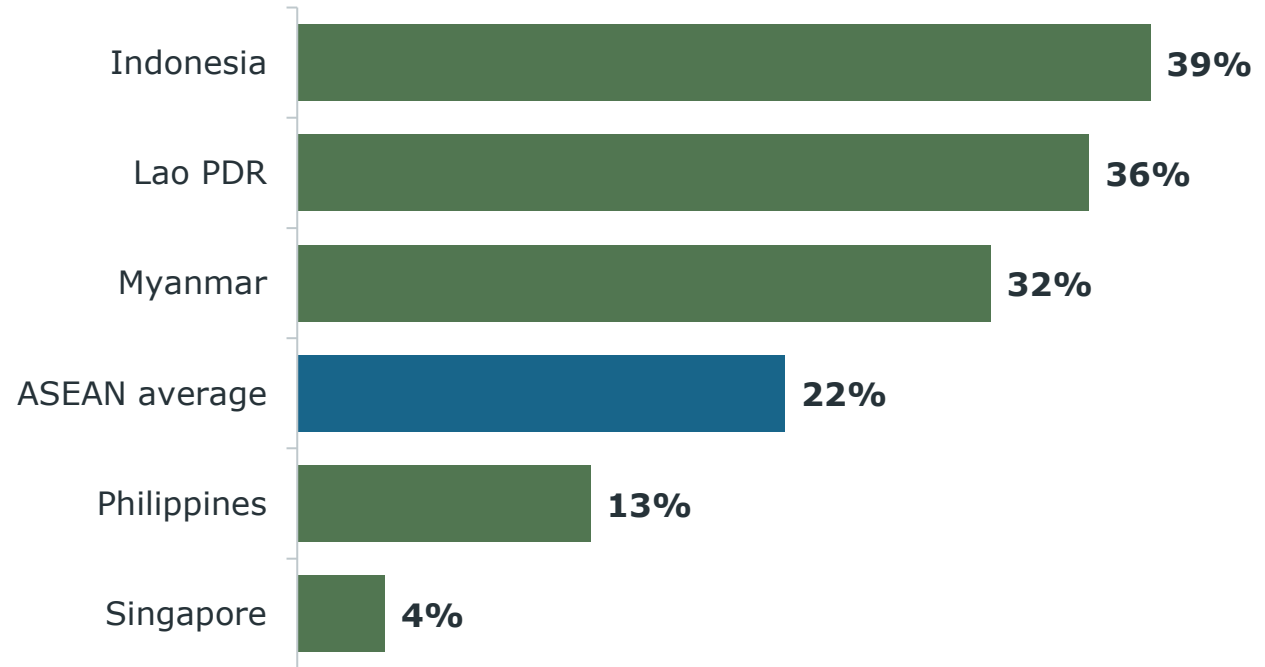
Narrow definition: a lower bound

22%

of employment is in occupations with green potential

Broad definition: an upper bound

Employment in occupations with green potential, % (selected AMS)

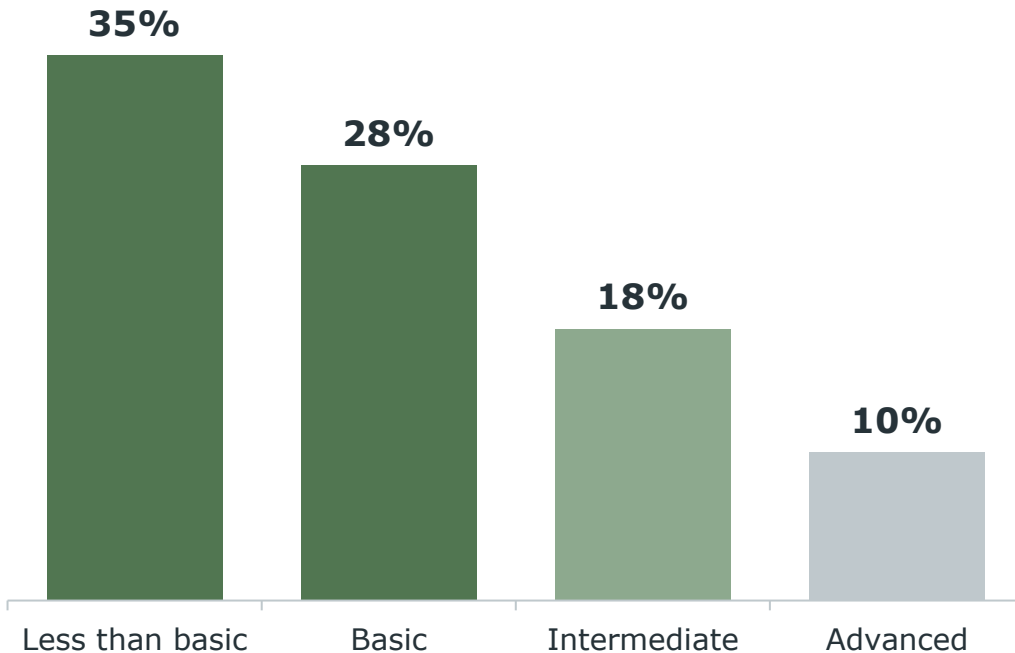


→ Greening existing jobs matters as much as creating new ones.

Source: national labour force surveys (latest available, 2019–2025); Granata & Posadas (2024) taxonomy. ASEAN average = unweighted average of AMS with data. Full country results in the report.

Green potential sits with workers that skills systems rarely reach

Green potential by education level, % of employment



Older workers

19% (ages 15–54) → 25% (55–64) → 28.5% (65+)

Self-employed

38% of contributing family workers and 27% of own-account workers, vs 10% of employees

Agriculture first

Over 50% in agriculture; then mining and utilities (20%), construction (16%), manufacturing (14%)

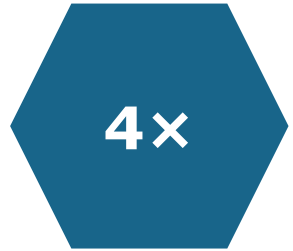
Mostly men today

Men hold ~80% of current green occupations

→ **Lifelong learning, recognition of prior learning and modular courses, not only initial TVET.**

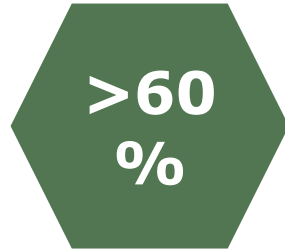
Source: national labour force surveys (latest available); unweighted averages across AMS with data. Sector shares refer to green potential within each sector.

Renewable energy is the clearest job engine, and it builds on existing trades



**1.2 million (2021)
to 4.6 million
(2050) renewable
energy jobs in
ASEAN**

IRENA, 1.5°C scenario



**of solar PV and
onshore wind
workers need only
limited additional
training**

Indonesia case, IRENA 2023



**AMS have
quantified
renewable energy
workforce targets**

Indonesia, Malaysia, the Philippines

Risks to manage

Coal-to-renewables transition

most acute in Indonesia and Viet Nam

Male-dominated workforce

engineering and construction trades

Job quality in bioenergy

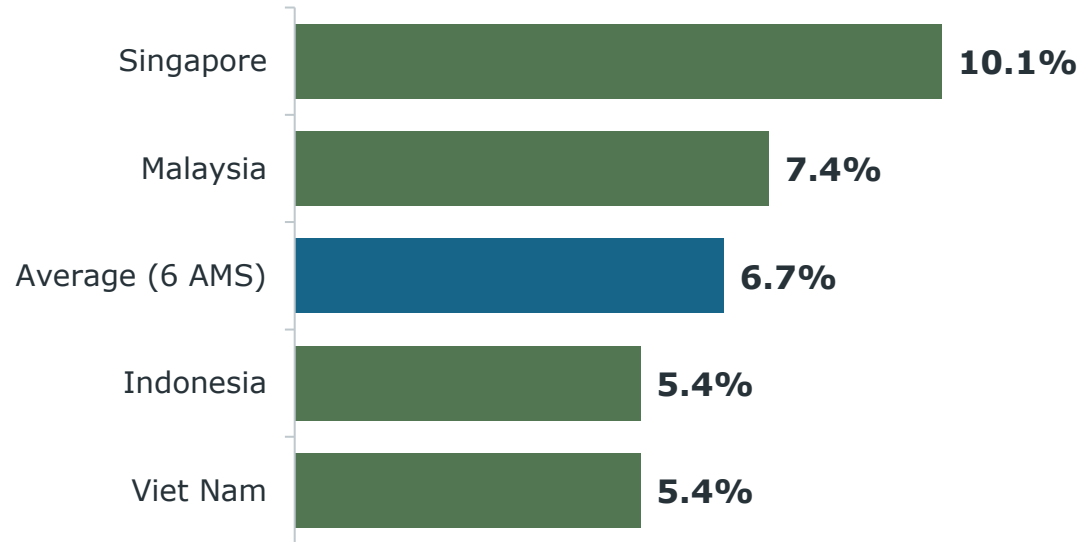
largely informal and smallholder work

→ **Pair capacity targets with workforce plans; add renewables modules to existing trade qualifications.**

Sources: IRENA (2025, 2023); national policy documents reviewed for the report.

Demand is rising but narrow, and skills supply risks running ahead of jobs

Green talent as a share of all hires, 2024 (%)



Average up from 6.1% (2021) to 6.7% (2024)

1

Narrow

Demand centres on health, safety and environment roles and on sustainability management, often driven by regulation and disclosure

2

Latent supply

About half of LinkedIn green talent holds green skills without being in a green job

3

Top-down

The transition is driven mainly by policy and supply-side measures, with limited market-driven job creation

→ **Match skills supply with demand: employer incentives, regulation and procurement.**

Source: LinkedIn Economic Graph. Data for Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam (average includes all six); skewed toward high-skilled, urban, formal workers.

Policy commitment is strong, but labour market and skills policies lag behind

Commitment is universal. All 11 AMS reference green growth, the green economy or green jobs in national plans; climate and NDC strategies name skills or a just transition.

But three weaknesses recur

1

Labour market and skills policy is the least developed component, behind environmental and energy frameworks

2

Green jobs targets are derived from sector capacity goals, not from labour market analysis

3

Monitoring has not kept pace with target setting, and there is no common operational definition of green jobs

Good practice: the Philippines' Green Jobs Act (2016) is the only ASEAN law that places green jobs explicitly in the labour ministry's mandate and ties incentives to it.

Source: review of national policy frameworks in all 11 AMS (desk research and inputs from AMS).

Five priorities for ASEAN, contributing to the Framework and Action Plan

1

Plan with green potential

Target existing workers: older, lower-educated, self-employed, women, informal and migrant workers

FAP: skills policies

2

Green existing qualifications

Embed green and digital competencies in trade qualifications; involve employers via sector skills councils

FAP: skills policies

3

Pair renewables targets with workforce plans

Occupational demand, TVET capacity, coal transition pathways and job quality

FAP: skills policies; training and social protection

4

Create demand for green jobs

Employer incentives tied to verifiable criteria; regulation and procurement as levers

FAP: training and social protection; regional coordination

5

Measure what we manage

Common ASEAN taxonomy, green modules in labour force surveys, demand data, dashboard under the proposed AGJCOE

FAP: regional coordination

→ **Cross-cutting: a stronger role for labour ministries, and the AGJF as a platform to follow up.**

FAP = ASEAN Framework and Action Plan for a Just and Inclusive Transition to Green Jobs (2025–2030); AGJCOE = ASEAN Green Jobs Centre of Excellence (proposed).

From evidence to skills requirements

Questions for Roundtable 2 – AGJF 2026, Day 2 morning

1

How can AMS turn sectoral demand and green potential into priority occupations?

2

Which labour market and investment information should AMS share to anticipate green skills needs?

3

What would an ASEAN-level approach, such as a common taxonomy or dashboard, add?

Thank you

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