



Identifying and Measuring Green Jobs and Skills: Applying the ILO Green Dictionary in ASEAN

Akiko Sakamoto and Christian Viegelahn, ILO

2026 ASEAN Green Jobs Forum

19-20 October 2026, Manila

Why a new measurement approach is needed

Persistent uncertainty remains about what green jobs mean in practice—and how they should be measured

THE MEASUREMENT GAP

Uncertainty at the practical level

Uncertainty remains about what green jobs and skills mean in practice at sector and occupational levels.

Uneven operationalization

International guidelines exist, but measurement frameworks remain uneven across countries.

Lack of a common approach

Fragmented measurement practices limit comparability and hinder progress towards a harmonized ASEAN approach.

TWO COMPLEMENTARY ILO DEFINITIONS / APPROACHES

ILO POLICY DEFINITION

Green jobs are decent jobs that contribute to preserve or restore the environment

- Green jobs help improve efficiency in the use of energy and raw materials; limit greenhouse gas emissions; minimize waste and pollution; protect and restore ecosystems; and support adaptation to the effects of climate change in all sectors
- “Green” must capture both environmental contribution and decent work

STATISTICAL DEFINITION — 19th ICLS (2013)

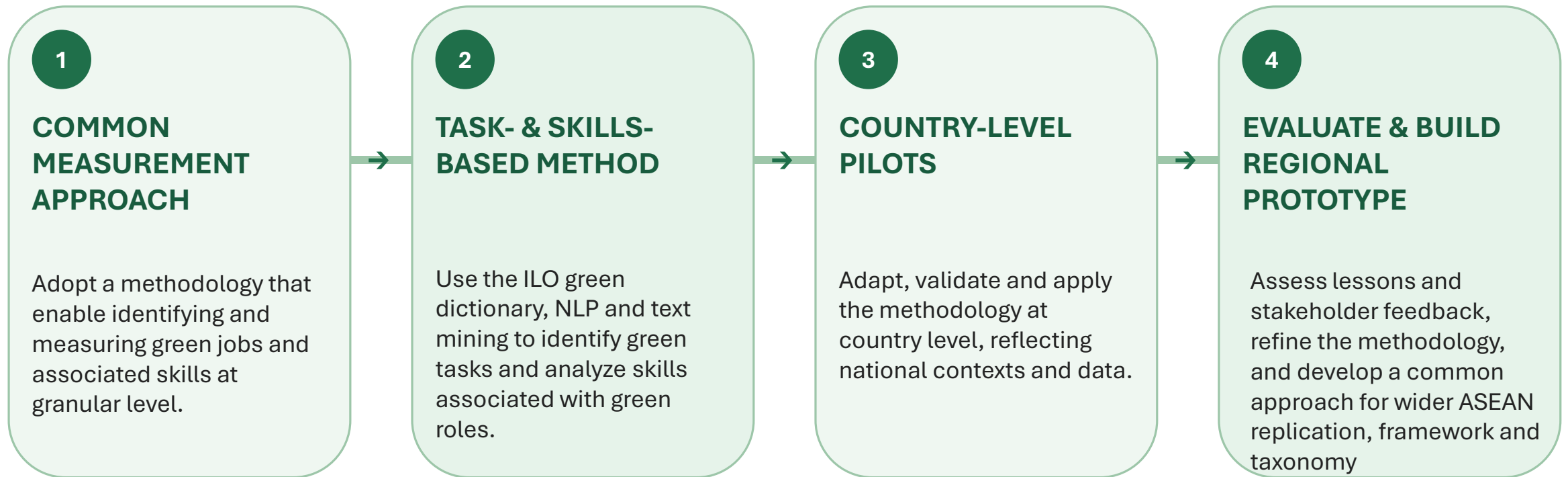
Endorsed by the 19th International Conference of Labour Statisticians (ICLS) (2013) and ILO Member States

A job is green when all three conditions are met:

1. Employment in the environmental sector, including:
 - a. jobs involved in producing environmental goods and services; and/or
 - b. jobs in any sector that focus on making production processes more environmentally friendly or more resource efficient.
2. A substantial share of work time spent on environmental tasks (ICLS recommends 50%+).
3. Meets decent work standards: Adequate earnings, safe conditions, social protection.

Proposed shift: From broad definitions to an actionable measurement

A common methodology, tested in countries and refined for wider ASEAN application



➤ **Towards a harmonized, actionable methodology that is relevant and accessible to policymakers and practitioners**

PILOT COUNTRY
Philippines • Malaysia

Knowledge Partners
Skills and Workforce Development Agency, Singapore
Indonesia (BAPPENAS)

How the pilot works

Two complementary analytical lenses, adapted and validated in each country

INPUTS

Occupational descriptions

Tasks and skills in ISCO-08 and national occupational classifications

Online job vacancies

Job descriptions – free text
employer demand

Applicant profiles*

Work-history text as a view of skills
supply

ANALYTICS

1 Task-based approach

Apply the nationally adapted ILO green dictionary to analyse the texts of JDs to detect which occupations contain green tasks and assess which occupations are green or becoming greener.

2 Skills-requirement approach

Apply the green dictionary + ILO skills taxonomy to vacancy and applicant text to identify skills demand, supply and gaps.

NLP + text mining

EVIDENCE

Green occupations

Which jobs are green / becoming greener?

Prevalence & quality

How many green jobs—and do they meet decent-work criteria?

Skills & gaps

What skills and competencies are demanded and supplied?

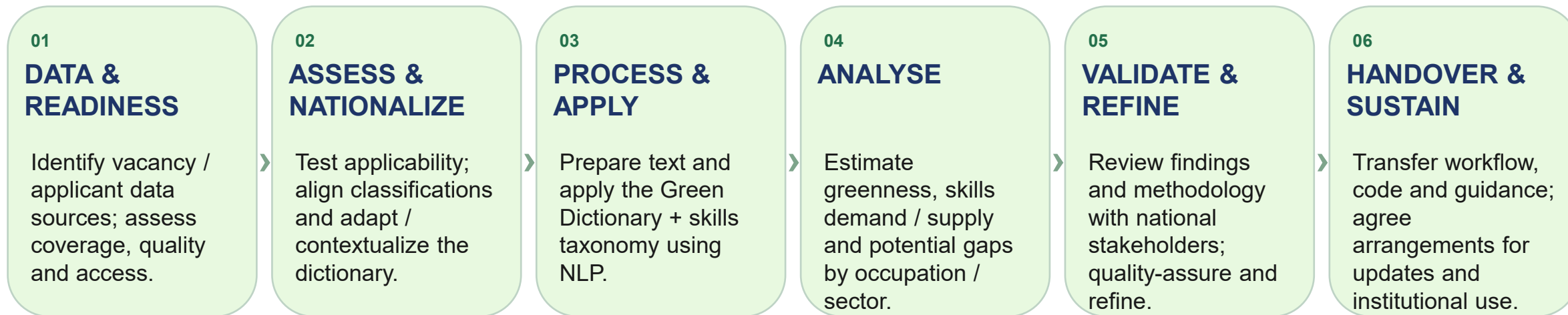
Taxonomy inputs

How should sectors, occupations, tasks and skills be classified?

* where data are available

Pilot implementation: step-by-step

From data readiness and national adaptation to validated evidence and sustainable national capacity



CAPACITY BUILDING

• Technical workshops • Hands-on mentoring • Progressive transfer to national counterparts

POSSIBLE DELIVERABLES

- Data-source / readiness assessment
- Validation workshop record
- National methodological note
- Capacity development plan + training materials
- Processed dataset + documented code
- Implementation & institutionalization guide
- Country analytical report / research brief
- Final handover package + QA checklists

What the initiative will achieve

Stronger intelligence on jobs, tasks and skills for a just green transition

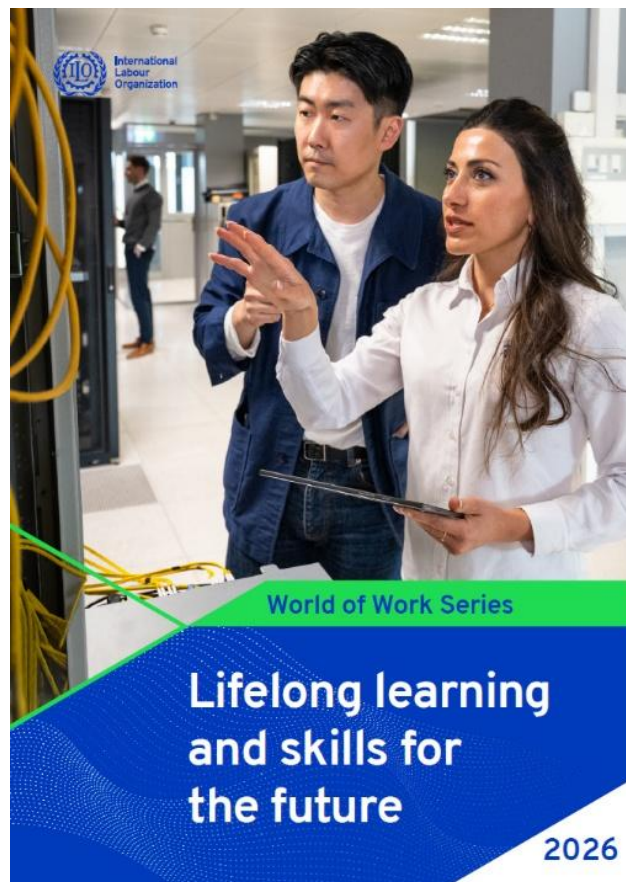
Country-level evidence	Comparable estimates of green occupations/jobs and associated skill requirements.
Actionable skills intelligence	Evidence on employer demand, jobseeker supply* and emerging gaps to inform training.
Validated methodology	Nationally adapted dictionaries and documented calibration/validation decisions leading towards national green skills taxonomy
Institutional capability	Stronger analytical capacity and arrangements for sustained measurement.
ASEAN pathway	Lessons and a prototype/common approach to inform regional replication and the ASEAN Green Jobs–Skills Taxonomy. And connect with Global Skills Taxonomy Work

POLICY VALUE

Better evidence for decisions on:

- Skills development & training
- Workforce / talent strategies
- Just-transition targeting
- Labour-market anticipation
- Future regional comparability

Analytical work based on new ILO research



 International Labour Organization

► ILO brief

Research Brief

February 2026

Assessing the Size of the Green Economy: Global Evidence from Harmonized Labour Force Surveys

Willian Adamczyk¹, Isauire Delaporte², Verónica Escudero², Hannah Liepmann²

Key points

- This brief applies an ILO green taxonomy developed in Delaporte, Escudero and Adamczyk (2025) to ISCO-08 occupational task descriptions, using natural language processing. Based on these occupational categorizations, the brief subsequently measures green employment in 134 countries from the ILO's global collection of harmonized labour force surveys (ILOSTAT).
- The brief proposes using ISCO standardized task descriptions and labour force survey data, on the one hand, and vacancy data, on the other hand, as complementary sources to study green employment. The former provide an internationally comparable baseline for long-term structural analysis representative of countries' labour forces. The latter are uniquely suited to capturing emerging, more detailed and country-specific trends.
- Globally, an estimated 31.7 per cent of employment is in occupations that contain green tasks. In more detail, 12.1 per cent is categorized as "darker green," relying more intensely on green tasks, while 19.6 per cent is considered "lighter green."
- The analysis reveals a "green employment divide" linked to national income levels, with green employment ranging from an estimated 23.1 per cent in low-income countries to 35.7 per cent in high-income countries. Green occupations are male dominated, with men accounting for over 70 per cent of employment in these occupations, compared to a male employment share of 54.0 per cent in non-green occupations. Moreover, workers aged 15 to 24 tend to be underrepresented in green occupations.

► **Introduction**

Contemporary labour markets, and the structural transformations inherent to these, require an increased emphasis on changing skills demands and related implications for workers and their working conditions. In

¹ Skills, Active Labour Market Policies and Policy Evaluation Team at the Research Department of the ILO. This brief was written as an input to Chapter 4 of the ILO's forthcoming 2026 Flagship Report on *Lifelong Learning and Skills for the Future*. The authors are grateful to colleagues in the ILO's Department of Statistics, especially David Bescond, for applying the classification of green occupations to the ILO's Harmonized Microdata (ILOSTAT) to compile the estimates shown in this brief. They also thank Caroline Fricksson for helpful comments and the members of the ILO green working group—particularly Hae Kyung Chun, Marek Handorf, Takaaki Kizu, Valentina Stoevska and Olga Stritska-Ilinca—for their contributions that improved the green dictionary.

 International Labour Organization

► ILO brief

Research Brief

November 2025

Measuring the Greenness of Jobs in Emerging Economies: A Big Data Text Analysis Approach¹

Isauire Delaporte², Verónica Escudero², Willian Adamczyk²

Key points

- This brief presents a **novel methodology** that combines big data, natural language processing (NLP), and a refined ILO green dictionary (472 terms across nine environmental sustainability domains) to identify green tasks and measure the greenness of jobs.
- Applied to vacancy data, the method produces **country-specific and time-varying measures of green-task intensity**, with demonstrated feasibility in four middle-income economies where traditional labour market data are limited.
- Findings show that **green vacancies, which have a relatively higher green task intensity, demand a broad mix of competencies**—both core and technical skills, across cognitive, socio-emotional and manual domains, as well as green-specific skills.
- In some contexts, green vacancies are associated with **better wages and desirable working characteristics**, though benefits are **uneven across countries and occupations**.
- The approach provides a **practical tool to fill evidence gaps** and inform inclusive skills and labour market policies that align sustainability with decent work.

► **Introduction**

The transition to a greener economy is reshaping industries and labour markets worldwide, creating new types of jobs and transforming existing ones. Green jobs—defined by the ILO as decent jobs that contribute to preserving or restoring the environment—play a central role in advancing sustainable development (ILO 2013; UNEP, ILO, IOE, et al. 2008; ILO 2016; 2023a). Yet, despite their growing importance, persistent challenges remain when it comes to defining and measuring green jobs. The boundaries between green and non-green jobs are often blurred, as many occupations integrate environmentally relevant tasks without being exclusively green (Brown and Kurahayeva 2013). Reliable identification is particularly difficult in low- and middle-income countries, where labour market information systems are not fully established and/or face resource constraints, and standardised statistics such as labour force surveys or administrative records rarely capture environmental dimensions of work and often lack data on decent work dimensions (ILO 2011). Equipping workers with the skills needed for this transformation is essential to ensure that the green

¹ We are grateful to all participants of the green working group at the ILO and in particular to Hae Kyung Chun, Marek Handorf, Takaaki Kizu, Hannah Liepmann, Valentina Stoevska and Olga Stritska-Ilinca for contributions and constructive feedback, which greatly improved the green dictionary.

² Skills, Active Labour Market Policies and Policy Evaluation Team at the Research Department of the ILO.

▶ The ILO skills and green dictionaries

- ▶ ILO green dictionary builds on **Granata and Posadas' (2024) keyword approach**, derived from a comprehensive literature review (70 sources), manually reviewed and adapted by ILO experts
- ▶ **Skills dictionary**: 284 keywords and 1,686 synonyms across 15 subcategories for cognitive, socio-emotional, and manual skills
- ▶ **Green dictionary**: 472 keywords across 9 categories referring to sustainability domains
- ▶ Dictionaries for new languages can be built by translating keywords from the English dictionary, then assembling a synonym dictionary

The ILO green dictionary: 9 different sustainability domains

Alternative
energy
systems

Energy
efficiency and
consumption

Sustainable
building and
construction

Emissions,
pollution and
sustainable
transportation

Recycling
and waste
management

Sustainable
agriculture,
forestry and
food
production

National
resource
conservation

Environmental
certifications
and
compliance

Environmental
awareness

Example: Environmental awareness

Definition:

- Environmental awareness focuses on fostering knowledge, education, and engagement in sustainability issues, empowering individuals and communities to take action toward a healthier planet. It plays a key role in promoting environmental responsibility, sustainable behaviours, and informed decision-making.

Key words:

G08	Environmental Awareness	Climate change, eco citizenship, ecocitizenship, environmental, global warming, sustainable, sustainability, esg, environmental social governance, environmental awareness, environmental engineer, environmental knowledge, environmental science, environmental scientist, environmental studies, soil science, sustainable production, responsible production, conscious consumption, conscious consumerism, sustainable consumption, responsible consumption, environmental sustainability
-----	-------------------------	--



Environmental
awareness

ILO green dictionary (I)

Label	Sustainability domain	Selected keywords/expressions
G01	Alternative Energy Systems	Alternative energy, alternate fuel, biodiesel, bioenergy, biofuel, biological fuel, biogas, biomass, biodigester, clean energy, clean technologies, desalination, electrolysis, efuel, electrofuel, ekerosene, emethane, ethanol, ethanol emissions, ethanol footprint, ethanol management, ethanol offset, ethanol reduction, fuel cell, geothermal, green energy, hybrid power, hydroelectric, hydrogeology, hydropower, green hydrogen, blue hydrogen, hydrogen fuel, nuclear energy, nuclear fuel, nuclear power, nuclear fusion, photovoltaic, pv, renewable energy, renewable source, solar, solar energy, solar photovoltaic, solar thermal, solar power, solar panels, solar water, solar heating, ocean power, ocean energy, marine power, marine energy, tidal power, tidal energy, offshore power, offshore energy, offshore wind, osmotic power, osmotic energy, waste energy, wind assessment, wind energy, wind farm, wind field, wind operation, wind power, wind project, wind system, wind technology, wind turbine, windmill
G02	Energy Efficiency and Consumption	Cogeneration, detect hot spots, efficiency heat, improve heat, efficiency light, efficiency retrofitting, efficient heat, efficient light, energy advise, energy audit, energy conservation, energy label, energy efficiency, energy efficient, improve energy, energy loss, energy management, energy reduction, energy saving, equipment effectiveness, equipment efficiency, fuel economy, fuel efficiency, insulation, climate proofing, lean manufacturing, led bulb, led light, li ion, lithium, lithium ion battery, solid state battery, sulfur battery, sodium battery, zinc battery, material efficiency, minimize energy, minimize electric energy, passive house, programmable thermostat, reduce energy, reduce electricity, saving energy, smart grid, smart home, smart power grid, energy grid integration, renewable grid integration, use efficiency, weatherization, energy storage, measure energy use, power storage, pressure losses
G03	Sustainable Building and Construction	Green building, net zero building, low carbon building, zero energy building, green cement, low carbon cement, low carbon construction, green steel, sustainable architecture, sustainable design, sustainable materials, compressed earth blocks, urban greening, green infrastructure, nature based infrastructure, sustainable infrastructure, natural infrastructure, smart building, sustainable construction, ecofriendly construction, green urban planning

ILO green dictionary (II)

G04	Emissions, Pollution, and Sustainable Transportation	Air emissions, air quality, air sampling, blower door, brownfield, capture use gases, carbon capture, carbon credit, carbon dioxide, carbon emissions, carbon footprint, carbon offset, carbon output, carbon reduction, carbon sequestration, carbon disclosure, carbon tax, carbon market, carbon pricing, carbon standard, carbon reporting, carbon inventory, cbam, carbon border, carbon neutral, ipcc guidelines, ipcc inventory, clean spills, contaminate, contaminants, decontaminate, decontaminants, contaminated site, decarbon, deodorize water, dust dispersion, emissions analysis, emission control, emission reduction, emissions control, emissions inspection, emissions monitoring, emissions reduction, emissions standards, emissions trade, net zero asset, net zero emissions, vehicle emissions, emissions testing, ghg, greenhouse gas, greenhouse effect, groundwater protection, harmful emission, hazard analysis, hazardous substances, hazardous waste, hazmat, hazwoper, hazardous waste operations emergency response, highway barrier, landfill gas, monitor landfill, gas landfill, leachate, low carbon, measure emission, methane, methane emissions, methane footprint, methane management, methane offset, methane reduction, noise control, noise dead, noise protection, odour control, ozone, pollution, radioactive containment, radioactive waste, reduce carbon, reduce toxic, sewage, soil erosion, soil protection, soil quality, soil sampling, soil test, soil report, test air, testing air, testing water, tests soils, toxic waste, vibration control, waste clean, waste water, wastewater, water quality, water sample, water testing, water treatment, bicycle, bike, eco mobility, ecomobility, electric car, electric drive, electric aviation, electric flying, electromobility, hybrid vehicle, hybrid electric, hybrid car, new energy vehicle, hydrogen aviation, hydrogen propulsion, maximize vehicle use, electric vehicles, transportation efficiency, sustainable aviation
G05	Recycling and Waste Management	Biodegradable, biodegradation, circular economy, greening economy, composting, durability, litter control, recycling, recycle, recyclable, reclaim steel, refrigerant reclaiming, reduce waste, remanufacturing, renewable material, renewable resource, reuse, waste management, waste reduction, waste treatment, ewaste, plastic removal, plastic footprint, plastic reuse, plastic cleanup, reduce plastic, reduce microplastic, microplastic cleanup, microplastic removal, collect waste, garbage collection, refuse collection, solid waste, hazardous waste, nonhazardous waste, waste recovery, waste grinding, waste shredding, waste crushing, demolition waste, treatment disposal, toxic disposal, compost production, nuclear waste, waste encapsulation, recovery materials, recovery waste, secondary raw material, metal reclaim, collect used oil, collect used fat, disposal used oil, disposal used fat

Source: [Delaporte, Escudero and Adamczyk \(2025\)](#).

ILO green dictionary (III)

G06	Sustainable Agriculture, Forestry, and Food Production	Agronomy, agroecology, agrophenology, biochar, climate smart, drip irrigation, precision irrigation, no till, organic, organic farming, recultivate, regenerative, sustainable agriculture, sustainable farming, conservation agriculture, subsistence farm, indigenous agriculture, ipm, integrated pest management, wild plant, forest, foresters, forestry, sustainable forestry, reforestation, afforestation, forest protection, plant forest, forest maintenance, agro forestry, agroforestry, tree planting, crop diversification, crop rotation, cover crop, shade agriculture, sustainable horticulture, sustainable fishing, artisanal fishing, aquaculture, aqua culture, sustainable livestock, insect protein, sustainable protein, plant based meat, plant based protein, optimal grazing, grazing intensity, green manure, silvoarable, silvopasture, green ammonia
G07	Natural Resource Conservation	Affecting earth, atmospheric, biodiversity, biological diversity, biological hazard, biotope, climate protection, coastal protection, resource conservation, nature conservation, natural conservation, conserve resource, conserve nature, conserve natural, deforestation, drought, eco friendly, ecofriendly, ecology, ecologist, ecological, ecosystem, protecting ecosystems, eco tourism, ecotourism, nature tourism, sustainable tourism, effect weather, environmental assessment, environmental impact, environmental protection, environmental restoration, environmental testing, erosion control, extinguishing fire, fire detection, fire prevention, fire protection, fire suppression, firefight, flood control, floods, forecast weather, weather prediction, greenfield, habitat, natural environment, hazards life, land protection, land restoration, land repurposing, landscape protection, landscape restoration, sustainable land management, desertification, minimize raw material, monitor water, natural garden, natural resource, natural resource management, natural reserve, natural risk, natural risk management, paperless, protect environment, protect water, reduce water, regrow, ground water remediation, environmental remediation, remediation, reduce consumption, renaturation, storm water, stormwater, testing earth, tree care, water conservation, water efficiency, water management, water meter, water monitor, water resource, efficiency water, water saving, wild animal, wild life, wilderness, wildlife, habitat protection, catchment rehabilitation, catchment restoration, wetland management, natural capital, natural heritage, natural systems, nature based enterprise, nature based solution, nature positive, biosphere protection, restoration peatland, restoration mangrove, restoration saltmarsh, restoration seagrass

▶ ILO green dictionary (IV)

G08	Environmental Awareness	Climate change, eco citizenship, ecocitizenship, environmental, global warming, sustainable, sustainability, esg, environmental social governance, environmental awareness, environmental engineer, environmental knowledge, environmental science, environmental scientist, environmental studies, soil science, sustainable production, responsible production, conscious consumption, conscious consumerism, sustainable consumption, responsible consumption, environmental sustainability
G09	Environmental Certifications and Compliance	Leed, ohsas, six sigma, forest stewardship council, msc asc, marine stewardship council, aquaculture stewardship council, eubio, rainforest alliance, energy star, green seal, iscc, international sustainability carbon certification, breeam, green globe, cercla, comprehensive environmental response compensation liability act, environmental auditing, environmental compliance, environmental law, environmental liability, environmental permit, environmental regulation, health environment, green procurement, environmental tax, myclimate, net zero banking, net zero insurance, net zero business, sec climate disclosure, ngfs, network greening financial system, greening financial system

The ILO skills dictionary: 15 different domains

Cognitive skills

Core
cognitive
skills

Sophisti-
cated
cognitive
skills

General
computer
skills

Software
skills/
technical
support

Machine
learning
and AI
skills

Financial
skills

Writing
skills

Project/
process
manage-
ment
skills

Socio-emotional skills

Character
skills

Social
skills

People
manage-
ment
skills

Customer
service
skills

Manual skills

Finger
dexterity
skills

Hand-
foot-eye
coordina-
tion skills

Physical
skills

▶ Application to vacancy data

Advantages

- ▶ Using online job vacancy data offer greater temporal and contextual sensitivity. It exploits the **granularity** and **temporal variation of online data**, enabling analysis of country-specific dynamics, providing real-time insight into how green skill demand evolves.
- ▶ It also allow us to **track changes in green task content within occupations over time**—an essential feature for analysing how related skills evolve in dynamic labour markets.

Disadvantages

- ▶ Data is not representative.

► Application to labour force survey data

Advantages

- This approach ensures **global comparability** and **full labour market representativeness** at the country level, as the data include formally and informally employed workers, regardless of whether their jobs were initially advertised through online vacancies.
- It provides a **stable baseline for measuring the inherent greenness of occupations over time**, independent of short-term labour demand fluctuations or coverage biases in online vacancy data.

Disadvantages

- ISCO task descriptions are **standardized and static**. They do not capture cross-country heterogeneity or the evolving content of occupations in response to technological and environmental change.

► Methodology to assess the greenness of job vacancies (I)

- For each vacancy, the share of green tasks relative to all required skills and tasks is computed:

$$Green\ Score_i = \frac{n_{green_i}}{n_{green_i} + n_{skills_i}}$$

where n_{green_i} and n_{skills_i} represent the number of green tasks and the number of skills identified in *vacancy i*

► Methodology to assess the greenness of job vacancies (II)

- Based on this share, vacancies can be classified into "shades of green":
 1. **Non-green vacancies:** vacancies for which the share is equal to 0 (no mention of green tasks). Comprise brown and neutral jobs.
 2. **Lighter green vacancies:** vacancies with a positive share of green tasks among all skills and tasks but below a certain threshold.
 3. **Darker green vacancies:** vacancies with a share of green tasks among all skills and tasks equal to or above a certain threshold.

Vacancy data: Philippines

Number of posted vacancies in PEIS per region, 2017-2026

REGION	2017	2018	2019	2020	2021	2022	2023	2024	2025	January to April 2026
NCR	23,944	160,067	421,063	525,288	187,003	158,599	845,302	1,141,369	558,638	199,624
CAR	1,517	20,059	34,896	3,381	996	4,876	19,504	14,160	7,996	824
1	1,231	21,432	28,791	4,267	13,959	8,383	71,310	74,577	123,746	11,182
2	679	5,890	35,253	22,864	11,151	7,169	30,202	40,392	35,121	13,453
3	24,086	84,307	107,262	94,716	36,779	36,089	199,538	224,844	149,351	31,643
4A	10,437	19,503	41,002	42,857	35,398	104,903	470,644	470,582	405,072	158,239
4B	247	42	4,685	62	109	635	28,535	4,639	2,117	3,050
5	246	27,500	18,604	16,310	4,188	5,394	26,507	20,019	17,197	6,548
6	1,205	6,707	30,452	652,871	7,285	11,792	82,275	110,024	107,422	36,068
7	2,146	33,267	46,536	81,468	15,534	13,324	158,209	271,267	134,554	57,559
8	5,645	7,735	5,952	5,249	6,048	7,319	24,313	19,962	12,051	2,527
9	242	4,076	2,604	1,564	19,091	62,121	139,907	163,276	192,707	40,769
10	7,318	9,183	68,365	60,071	43,077	48,631	88,660	88,201	86,540	25,100
11	40,854	116,330	157,573	123,744	98,582	68,632	215,164	244,051	188,343	34,943
12	14,580	9,621	34,315	10,924	22,269	36,583	35,452	24,211	12,996	7,038
CARAGA	1,517	2,666	7,189	10,216	6,469	1,876	9,168	18,231	20,213	4,339
TOTAL	135,894	528,385	1,044,542	1,655,852	507,938	576,326	2,444,690	2,921,645	2,054,064	632,906

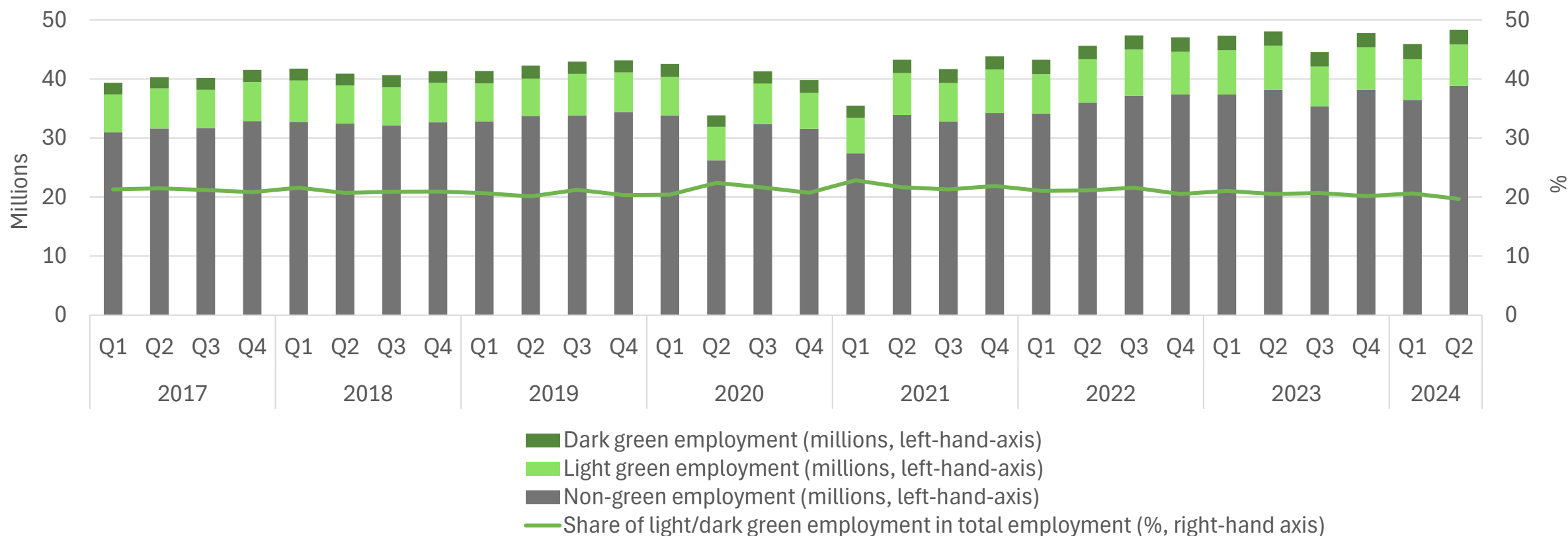
Source: PESO Employment Information System (PEIS).

▶ LFS data: Philippines

- ▶ Quarterly labour force survey data – time series
- ▶ Data on employment by occupation at detailed ISCO level
- ▶ Information on worker characteristics, sector, job characteristics etc

Results based on LFS data: Philippines (I)

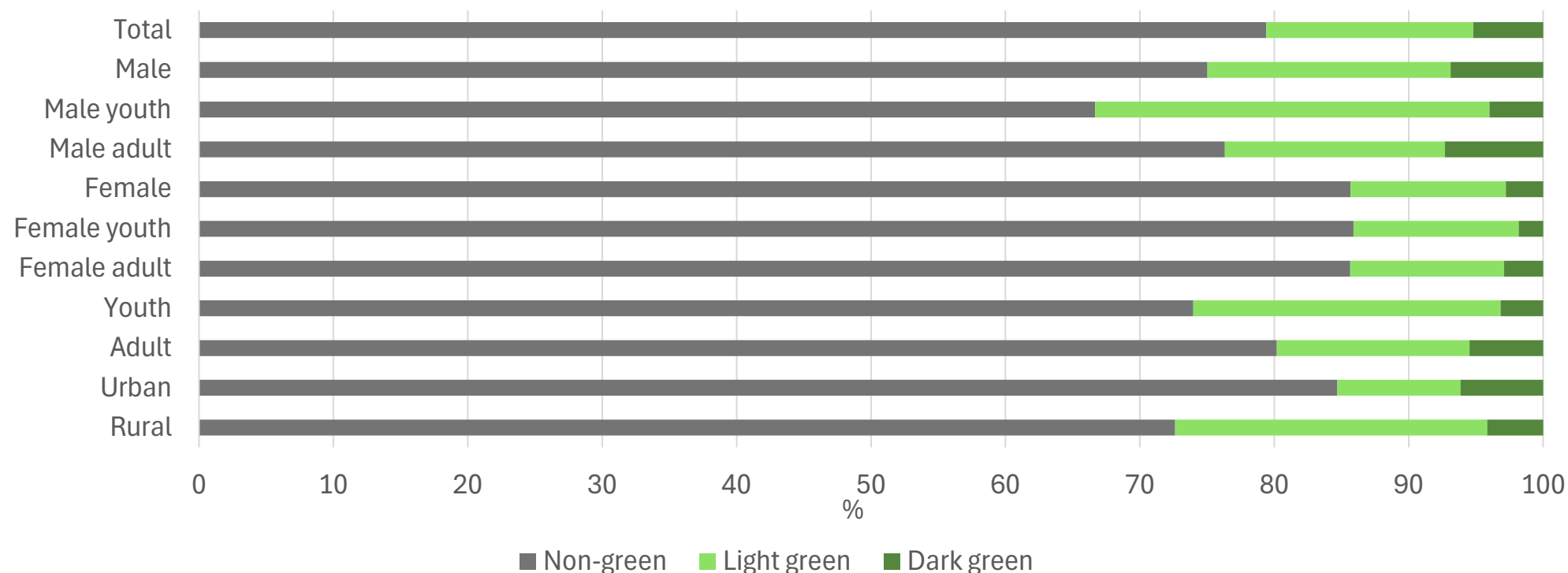
Green jobs in the Philippines, 2017-2024 (millions and percentage of total employment)



Source: ILO calculations based on Philippines LFS.

Results based on LFS data: Philippines (II)

Green jobs in the Philippines by worker characteristics, latest available year (percentage of total employment)



Source: ILO calculations based on Philippines LFS.

What do we get out of it?

Vacancy data	LFS data
▶ Prevalence of green tasks ▶ Degree of greenness ▶ Types of environmental requirements ▶ Skills associated with green tasks ▶ Changes within occupations ▶ Advertised pay and working conditions	▶ Employment in occupations with green tasks, total and by worker characteristics ▶ Sectoral distribution ▶ Country differences ▶ Structural changes over time

► Potential uses for labour ministries, TVET and skills agencies, social partners etc (I)

1. Skills anticipation

- Identify where green tasks occur and how employers' skills requirements are changing
- Select occupations and sectors for further investigation and consultation with employers.

2. Occupational standards, competencies and curricula

- Use validated task requirements to review the competencies programmes teach and assess
- Identify any additional training, equipment or trainer-development needs

► Potential uses for labour ministries, TVET and skills agencies, social partners etc (II)

3. Reskilling and upskilling

- Explain the skills employers request in relevant occupations
- Combine this information with employment profiles to guide jobseekers and identify groups that may need support to access training and employment

4. Labour market information

- Track employment in occupations containing green tasks and changes in advertised skills demand
- Combine these findings with training participation, completion and placement data to review which programmes to offer and whom they reach.

Thank you!

<https://www.ilo.org/lifelong-learning-and-skills-future>

Akiko Sakamoto
sakamoto@ilo.org

Christian Viegelahn
viegelahn@ilo.org

