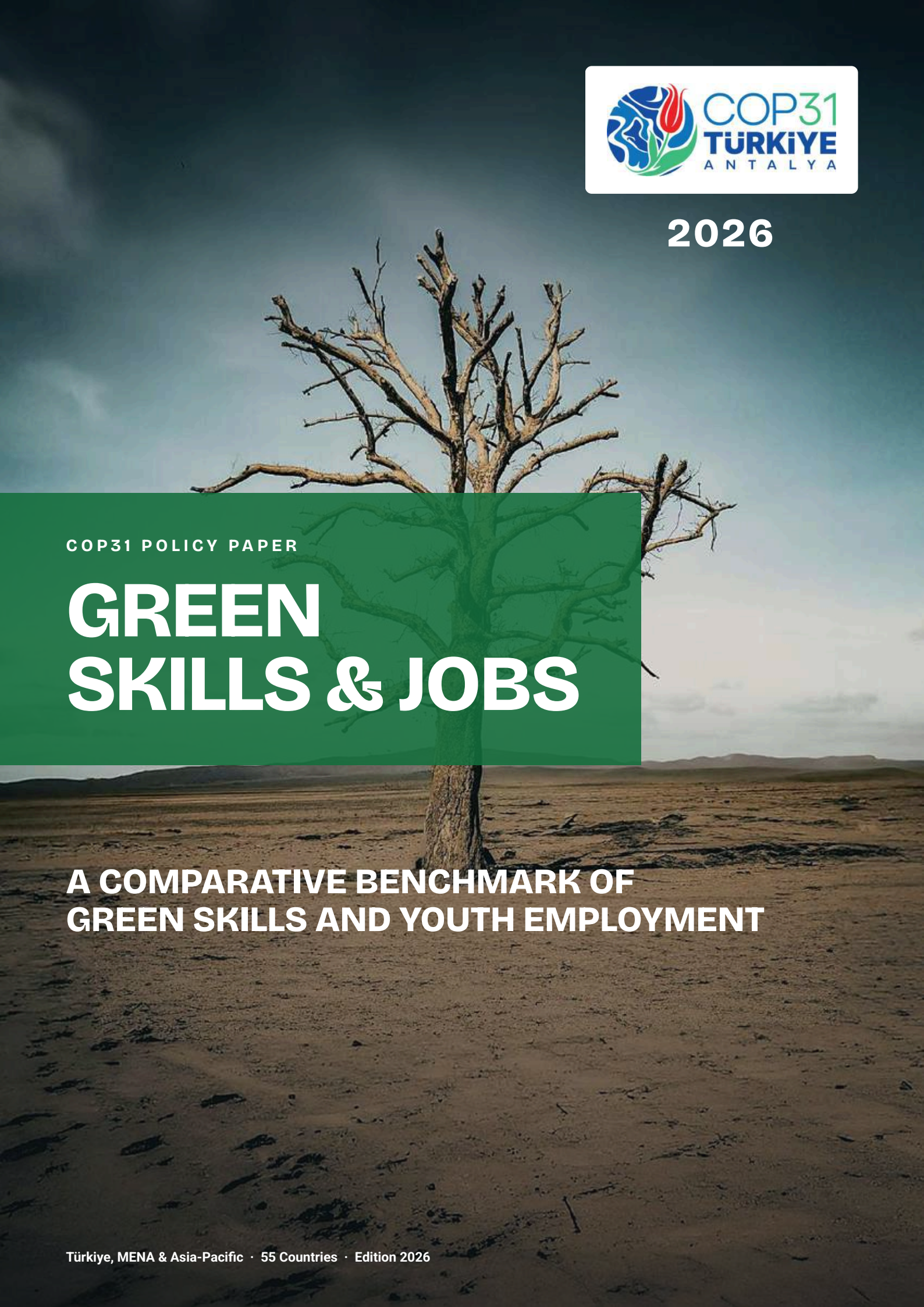


COP31 TÜRKİYE ANTALYA

2026

COP31 POLICY PAPER

GREEN SKILLS & JOBS

A COMPARATIVE BENCHMARK OF GREEN SKILLS AND YOUTH EMPLOYMENT

Türkiye, MENA & Asia-Pacific · 55 Countries · Edition 2026

COP31 POLICY PAPER

GREEN SKILLS & JOBS

Comparative Evidence Across 55 Countries
Türkiye, MENA & Asia-Pacific

Professor Dr. Mohammad Nurunnabi
H.H. Princess Abeer S. bin Farhan Al Saud

International Policy Brief · Edition 2026

Ministry of National Development Planning/Bappenas Republic of Indonesia

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MINISTRY OF INDUSTRY

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This policy paper is produced by the UNESCO Chair on Education for Sustainable Development, Green Skills and Climate Actions, together with the institutional partners below.

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UNCCD COP17 ULAANBAATAR 2026

COP17 YEREVAN | ARMENIA TAKING ACTION FOR NATURE

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Foreword

We write at a hinge moment for the Asia-Pacific. The region's 4.3 billion people host more than 750 million young people aged 15–24, generate close to half of global greenhouse-gas emissions, and already employ three quarters of the world's renewable-energy workers. Whether this generation finds decent green jobs or stalls in informal, climate-exposed work will shape not just the success of the 2030 Agenda but the political viability of the global net-zero transition itself.

Over the past two years we have brought together evidence from sixteen multilateral and statistical agencies, peer-reviewed scholarships, and direct policy dialogues with governments, universities and youth networks. The picture that emerges is one of structural urgency and substantial opportunity. The skills demanded by the green and digital transitions are growing twice as fast as supply. Less than 2% of major climate-finance flows reach workforce development. Fewer than 40% of national climate plans even mention skills. And yet — in this same region — the Gulf, Türkiye and East Asia are now building the most ambitious green-skills architectures in the world.

This policy paper is therefore both a diagnosis and a roadmap. It quantifies the gap country by country across all 55 Asia-Pacific UN member states, and sets out seventeen evidence-based recommendations across four-time horizons through 2035. We address it to policymakers in Ministries of Education, Labour and Environment; to leaders in UNESCO, ILO, the World Bank and the Asian Development Bank; to vice-chancellors and TVET directors; to climate negotiators preparing NDC 4.0 submissions for COP31; and to youth networks who are already organising the transition from below.

Our central conviction is simple. The climate transition will succeed or fail not on technology, finance or political will alone — but on whether young people are equipped with the skills, credentials and pathways to build the green economy that the moment demands. Reskilling is climate action. The future of work is the future of the planet.



Professor Dr. Mohammad Nurunnabi

Lead Researcher
UNESCO Chair on ESD, Green Skills and Climate Actions
Academic Visitor, University of Oxford, UK

September 2026



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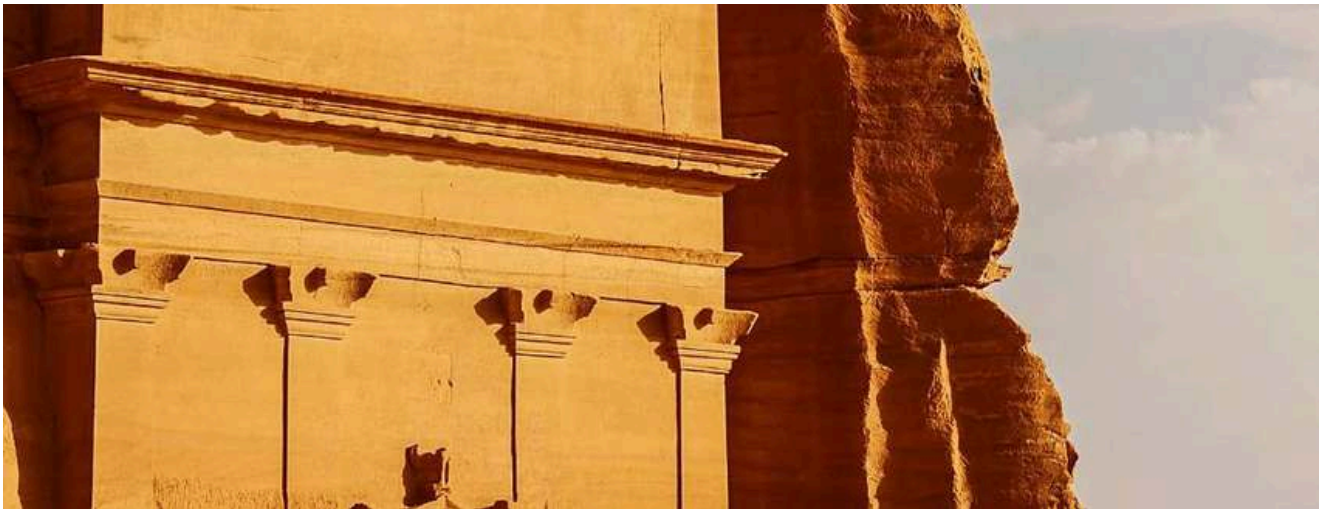
This policy paper was prepared by the UNESCO Chair on Education for Sustainable Development, Green Skills & Climate Actions, in collaboration with the Department of Climate Change Adaptation and Local Policies of the Ministry of Environment, Urbanisation and Climate Change of the Republic of Türkiye.

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The authors gratefully acknowledge the institutions whose data and policy frameworks underpin this policy paper: the World Economic Forum (Future of Jobs), UNESCO (UIS, UNEVOC, ESDNet), the International Labour Organization (ILOSTAT, Just Transition Programme), the International Renewable Energy Agency, the OECD, the World Bank Group, the Asian Development Bank, the Islamic Development Bank, the UNFCCC Secretariat, the International Energy Agency, UN DESA, UNEP, ITU, the WMO, ND-GAIN, UNDRR and the LinkedIn Economic Graph. The brief draws on regional consultations convened through the UNESCO Chair and the Department of Climate Change Adaptation and Local Policies of the Republic of Türkiye Ministry of Environment, Urbanisation and Climate Change. The authors thank the COP31 Presidency, the UNFCCC Youth Constituency (YOUNGO), Presidency Youth Climate Champion, and the Asia-Pacific TVET Network.

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Responsibility for the analysis, and for any errors or omissions, rests with the authors alone.



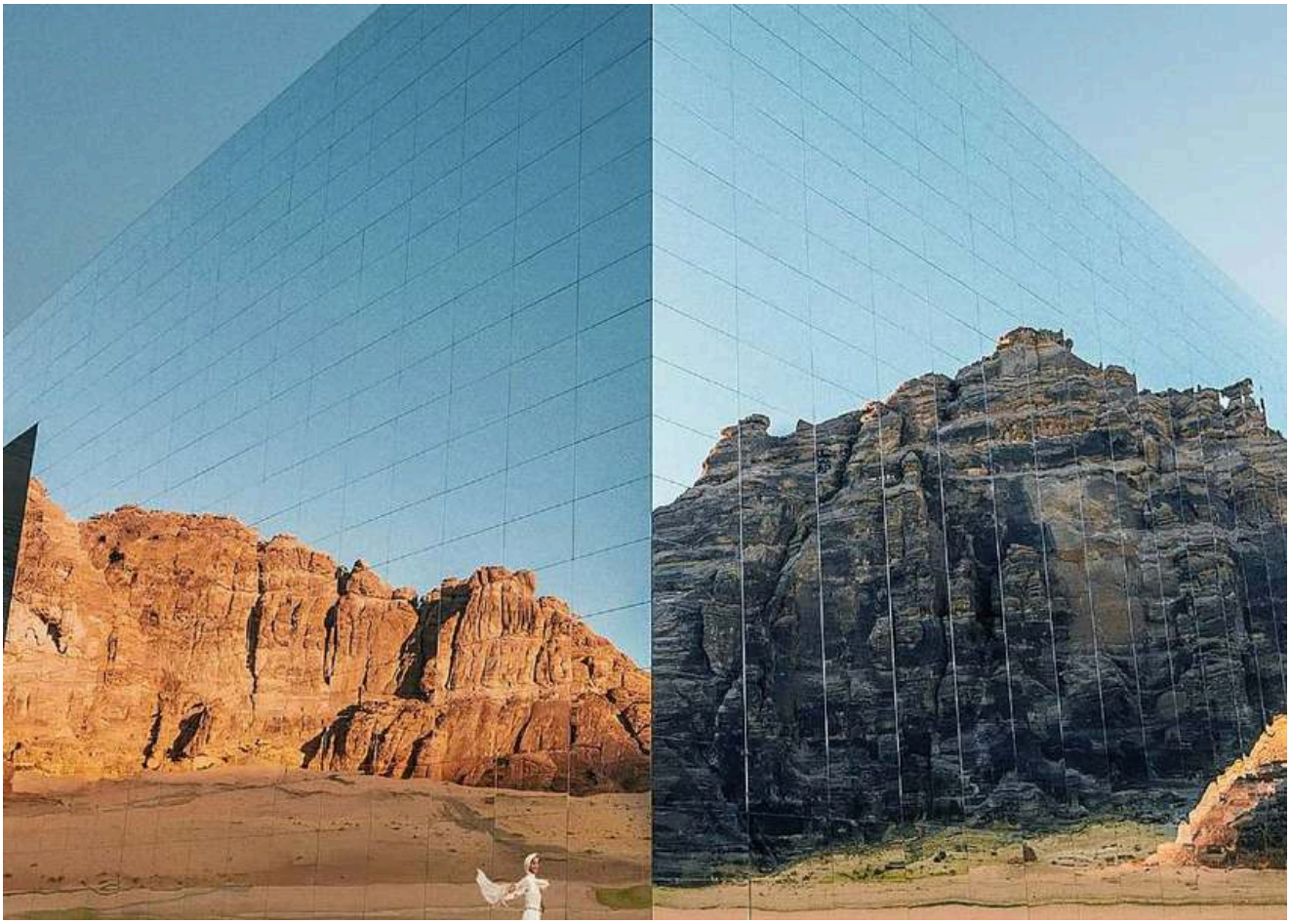
About the Authors

Professor Dr. Mohammad Nurunnabi

Professor Dr. Mohammad Nurunnabi (PhD, University of Edinburgh; SFHEA, FRSA, FAIA(Acad), CMBE, FCES, CMA, FFA, FIPA, FCPA) is the UNESCO Chair on Education for Sustainable Development, Green Skills and Climate Actions. He holds a PhD from the University of Edinburgh. Professor Nurunnabi is an Academic Visitor at St Antony's College, University of Oxford, UK, and a Visiting Professor at The George Washington University, USA. He is the Founder of Vision for Sustainable Africa. Ranked #1 in Business in Saudi Arabia by Stanford University's World's Top 2% Scientists and #3 globally in Accounting by ScholarGPS, he has published over 160 peer-reviewed publications with more than 10,500 citations. His research on SDG and sustainability has shaped policy in many countries. His work focuses on sustainability, climate action, ESG, higher education, public policy, and sustainable development, and he is a frequent speaker at United Nations, UNCCD, UNFCCC, UNDP, UNGC, UNEP, WTO, UNESCO, COP, World Bank, and international policy forums.

H.H. Princess Abeer S. bin Farhan Al Saud

H.H. Princess Abeer S. bin Farhan Al Saud is an International Development and Peacebuilding Advisor, UNESCO Fellow, Former ICCROM Visiting Researcher, and Co-Chair, Founding Governing Board.






HOLY BIBLE

Acronyms

AACSB	Association to Advance Collegiate Schools of Business
ABET	Accreditation Board for Engineering and Technology
ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
CCUS	Carbon Capture, Utilisation and Storage
CEDEFOP	European Centre for the Development of Vocational Training
COP	Conference of the Parties (UNFCCC)
CSRD	Corporate Sustainability Reporting Directive (EU)
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
ESD	Education for Sustainable Development
ESG	Environmental, Social and Governance
GCC	Gulf Cooperation Council
GCF	Green Climate Fund
GHG	Greenhouse Gas
HEI	Higher Education Institution
HRDF	Human Resources Development Fund (Saudi Arabia)
IEA	International Energy Agency
ILA	Individual Learning Account
ILO	International Labour Organization
IRA	Inflation Reduction Act (United States)
IRENA	International Renewable Energy Agency
IsDB	Islamic Development Bank
ITI	Industrial Training Institute (India)
JETP	Just Energy Transition Partnership
LDC	Least Developed Country
LLDC	Landlocked Developing Country
MDB	Multilateral Development Bank
MENA	Middle East and North Africa
NDC	Nationally Determined Contribution
NEET	Not in Employment, Education or Training
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PSU	Prince Sultan University (Saudi Arabia)
SDG	Sustainable Development Goal
SDSN	Sustainable Development Solutions Network
SGI	Saudi Green Initiative
SIDS	Small Island Developing State
TEK	Traditional Ecological Knowledge
THE	Times Higher Education
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-UNEVOC	UNESCO International Centre for TVET
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
WEF	World Economic Forum
WMO	World Meteorological Organization

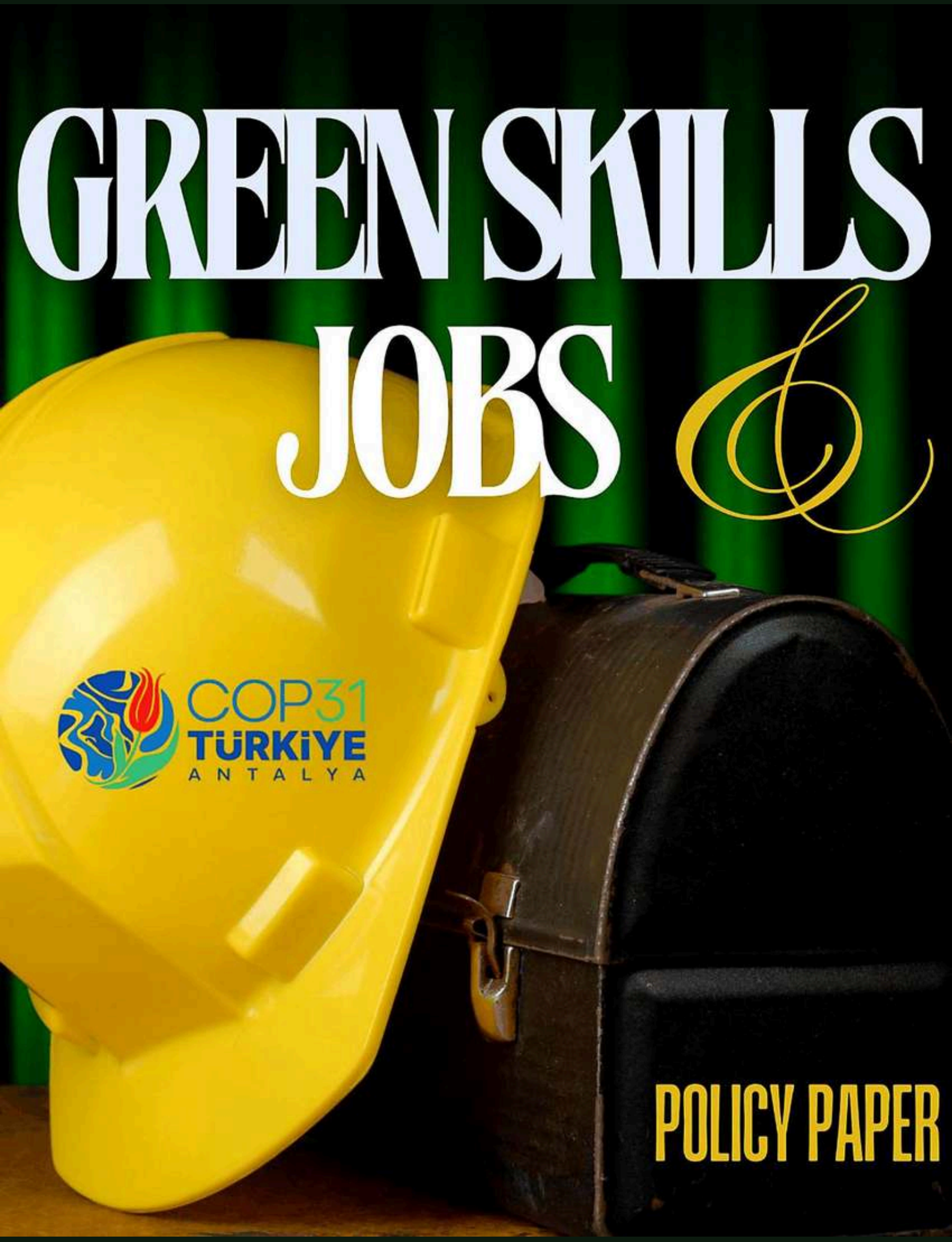
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GREEN SKILLS & JOBS



COP31 TÜRKİYE ANTALYA

POLICY PAPER

Executive Summary

The Asia-Pacific stands at the convergence point of the world's largest youth bulge, its fastest- rising climate vulnerability, and its most ambitious clean-energy build-out. The region's 4.3 billion people — across 55 United Nations member states — host more than 750 million young people aged 15–24, account for almost half of global greenhouse-gas emissions, and already employ 12.4 million of the world's 16.6 million renewable-energy workers (IRENA & ILO, 2024). Whether this generation enters decent green jobs or stalls in informal, climate-exposed work will determine not only the success of the 2030 Agenda but the political viability of the global net-zero transition.

> Whether this generation enters decent green jobs or stalls in informal, climate-exposed work will determine not only the success of the 2030 Agenda but the political viability of the global net-zero transition.
>
> GREEN SKILLS & JOBS · COMPARATIVE EVIDENCE ACROSS 55 COUNTRIES

This policy brief synthesises evidence from sixteen multilateral and statistical agencies — WEF, UNESCO, ILO, IRENA, OECD, World Bank, IMF, UNDP, UNEP, IEA, UNFCCC, ITU, WHO, FAO, NDGAIN and LinkedIn Economic Graph — covering all 55 Asia-Pacific UN member states. It is the most comprehensive regional benchmark to date of the green-skills, green-jobs and youth-employment landscape across Türkiye, MENA and Asia.

The 2026 baseline in six numbers

7.8 %
Türkiye green-skill intensity
LinkedIn 2024

11.7 %
Saudi Arabia green-skill intensity · 3rd globally
LinkedIn 2024

7.4 M
China renewable-energy workforce · 46% of world
IRENA 2024

19.9 %
Pacific SIDS youth unemployment
ILO 2024

41 %
Female NEET rate, Southern Asia
ILOSTAT 2024

< 3.5 %
Skills share of Asian JETP deals
JETP Secretariat 2024

Six headline findings

- **A widening structural gap.** Across the 48 economies tracked by LinkedIn (2024), demand for green-skilled workers grew at 11.6% in 2024 against supply growth of only 5.6%. Eight of the fifteen highest-growth

markets globally are in Asia-Pacific, including Saudi Arabia (3rd) and Türkiye (top-15). On current trajectories, demand will exceed supply by 101.5% by 2050.

- **A profound regional cleavage.** East Asia, MENA and the GCC are now investing at scale and producing green-skill intensities approaching the European frontier. South Asia and the Pacific Islands, by contrast, anchor the most acute compound risk — high climate vulnerability, low TVET capacity, and youth NEET rates above 28%.
- **Türkiye's emerging leadership.** Türkiye combines a 7.8% green-skill intensity (top-15 globally), a 2053 net-zero pledge, the largest renewable build-out in the Mediterranean basin, and a young workforce of 12.8 million — but an 18% youth unemployment rate and a 38.5% female NEET rate expose a skills-to-jobs bridge that remains incomplete.
- **A youth-employment crisis hiding in plain sight.** Female NEET rates exceed 40% in Southern Asia and 30% across MENA and the Pacific. Without targeted green-pathway investment, the climate transition risks reinforcing — not closing — the region's gender, geography and class divides.
- **A finance architecture not yet fit for purpose.** Across the JETP deals operating in the region (Indonesia, Vietnam) and the major multilateral climate funds, less than 3.5% of total finance flows to skills and workforce development — well below the 5–10% benchmark recommended by the ILO. Bilateral education ODA allocates 12.4% — the highest of any channel.
- **Universities and TVET are the highest-leverage delivery channel.** UNESCO-UNEVOC (2024) estimates that 80% of jobs created by the energy transition will require TVET-level qualifications. Yet only seven of the 55 Asia-Pacific states have fully updated TVET qualifications to embed sustainability as of 2025.

What this brief recommends

The brief sets out 17 evidence-based recommendations organised across four time horizons — Foundations (2026–27), Scaling (2027–28), Delivery (2028–30) and Post-2030 Compact — and three actor groups: governments, education and TVET providers, and international organisations and MDBs. The recommendations build on the 2026 Global Green Skills Policy Brief and the PSU– UNESCO–THE policy paper Bridging the SDG 4–SDG 13 Nexus in Asia-Pacific Higher Education (Nurunnabi et al., 2026).

Three priorities cut across every recommendation: (a) embed climate and sustainability competencies in every accredited TVET and higher-education programme by 2028; (b) channel a minimum 5% of climate finance into skills and workforce, in line with ILO guidelines; and (c) deliver 10 million AsiaPacific youth into verified green apprenticeships and Climate-Skills Passport pathways by 2030.



FIGURE 1

Youth at the centre of the Asia-Pacific green transition. 750 million young people across 55 UN member states; 75% want employer climate action; 25% MENA youth unemployment; 10 million green apprenticeships target by 2030.

Sources: UN DESA Population Prospects 2024; Deloitte Gen Z & Millennial Survey 2024; ILO ILOSTAT 2024; this brief — author's synthesis.



Global Coverage of the 55 Countries Included in the Study

Worldwide distribution of the Asia-Pacific and MENA economies assessed in the study



Global Coverage of the 55 Countries Included in the Study

Worldwide distribution of the Asia-Pacific and MENA economies assessed in the study

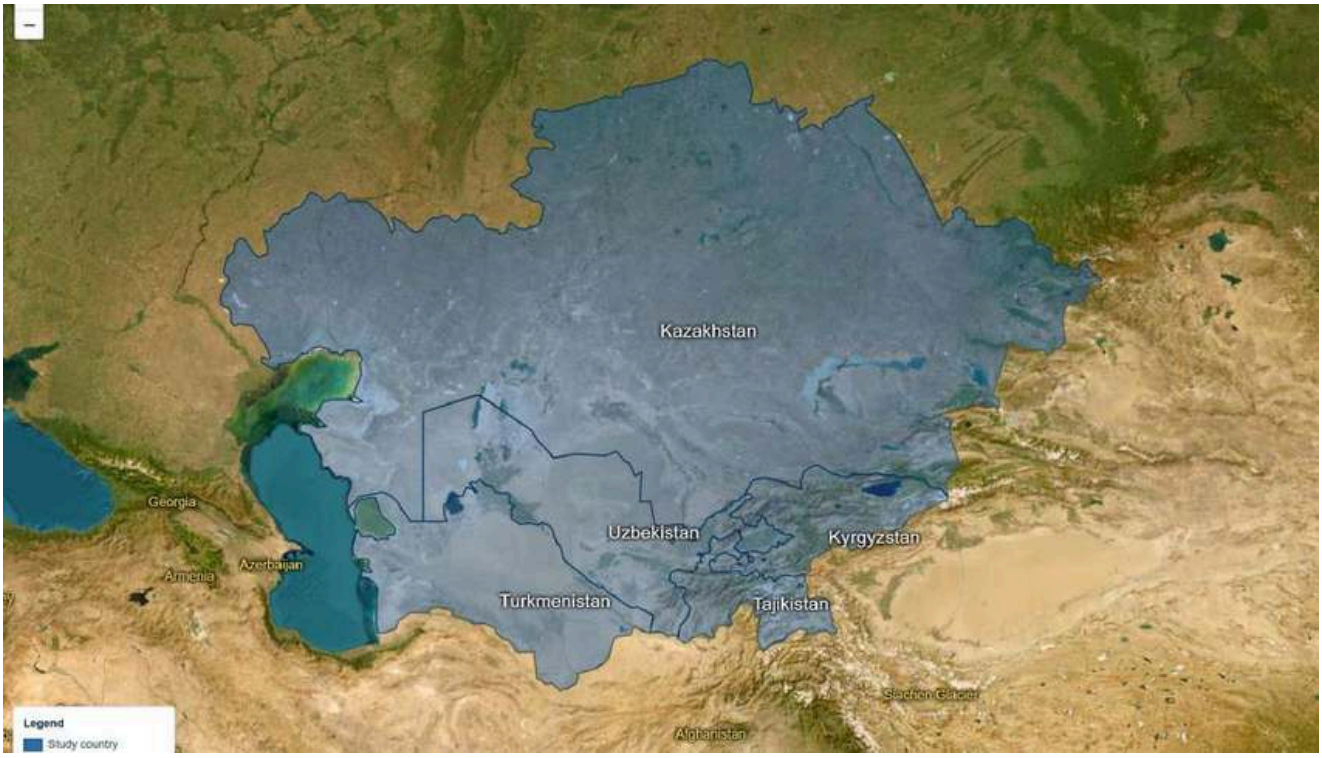


Southern Asia — 9 Study Countries Sub-regional coverage of the Southern Asia economies assessed in the study



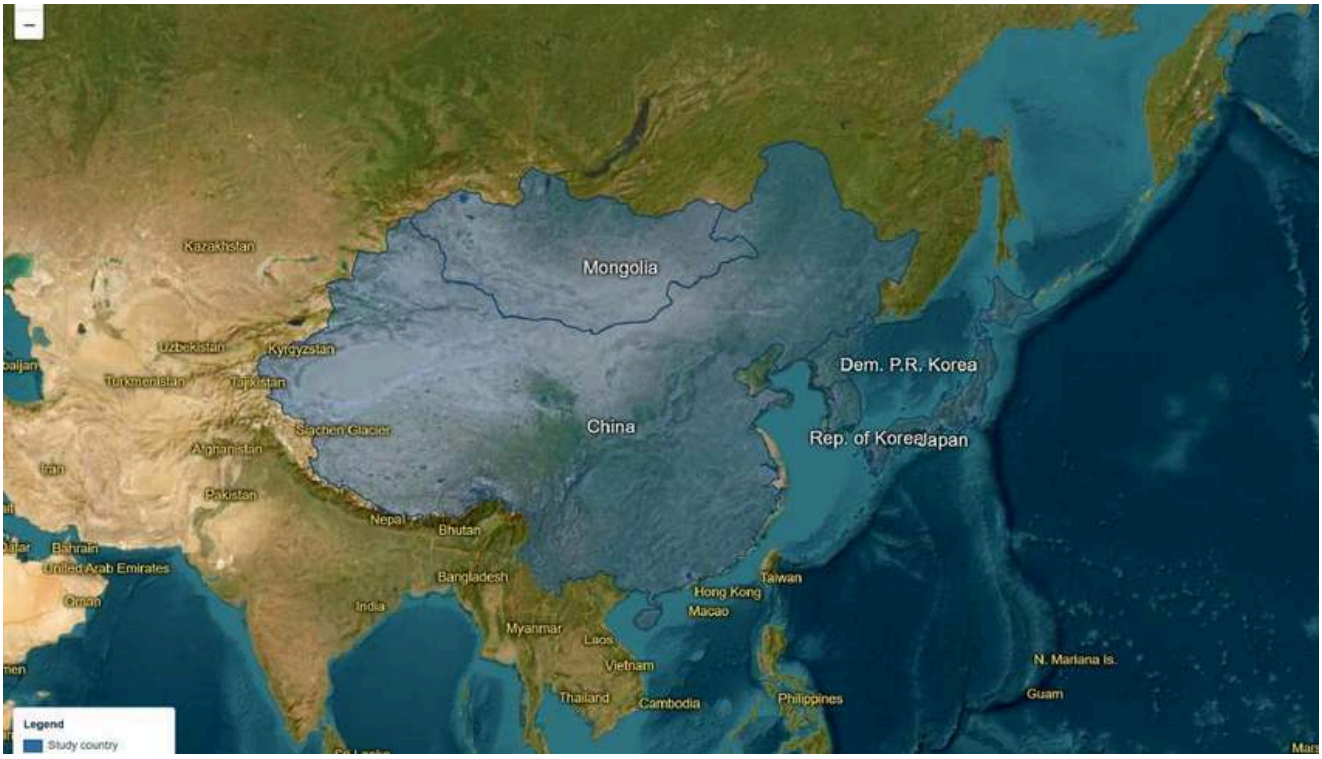
Study countries are labelled in white: Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Rep. of), Maldives, Nepal, Pakistan and Sri Lanka.

Central Asia — 5 Study Countries Sub-regional coverage of the Central Asia economies assessed in the study



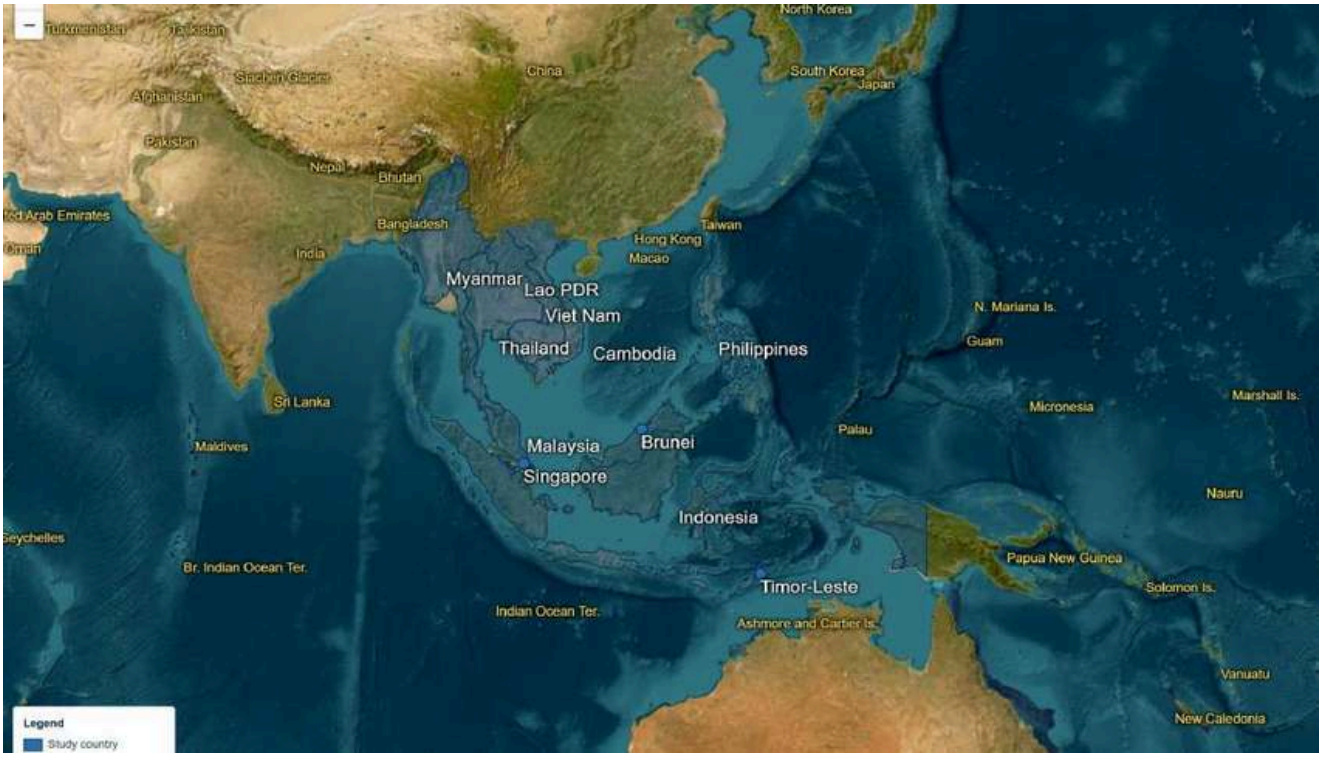
Study countries are labelled in white: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan — all landlocked developing countries (LLDCs).

Eastern Asia — 5 Study Countries Sub-regional coverage of the Eastern Asia economies assessed in the study



Study countries are labelled in white: China, Democratic People's Republic of Korea, Japan, Mongolia and the Republic of Korea.

South-Eastern Asia — 11 Study Countries Sub-regional coverage of the South-Eastern Asia economies assessed in the study



Study countries are labelled in white: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste and Viet Nam.

Western Asia — 13 Study Countries

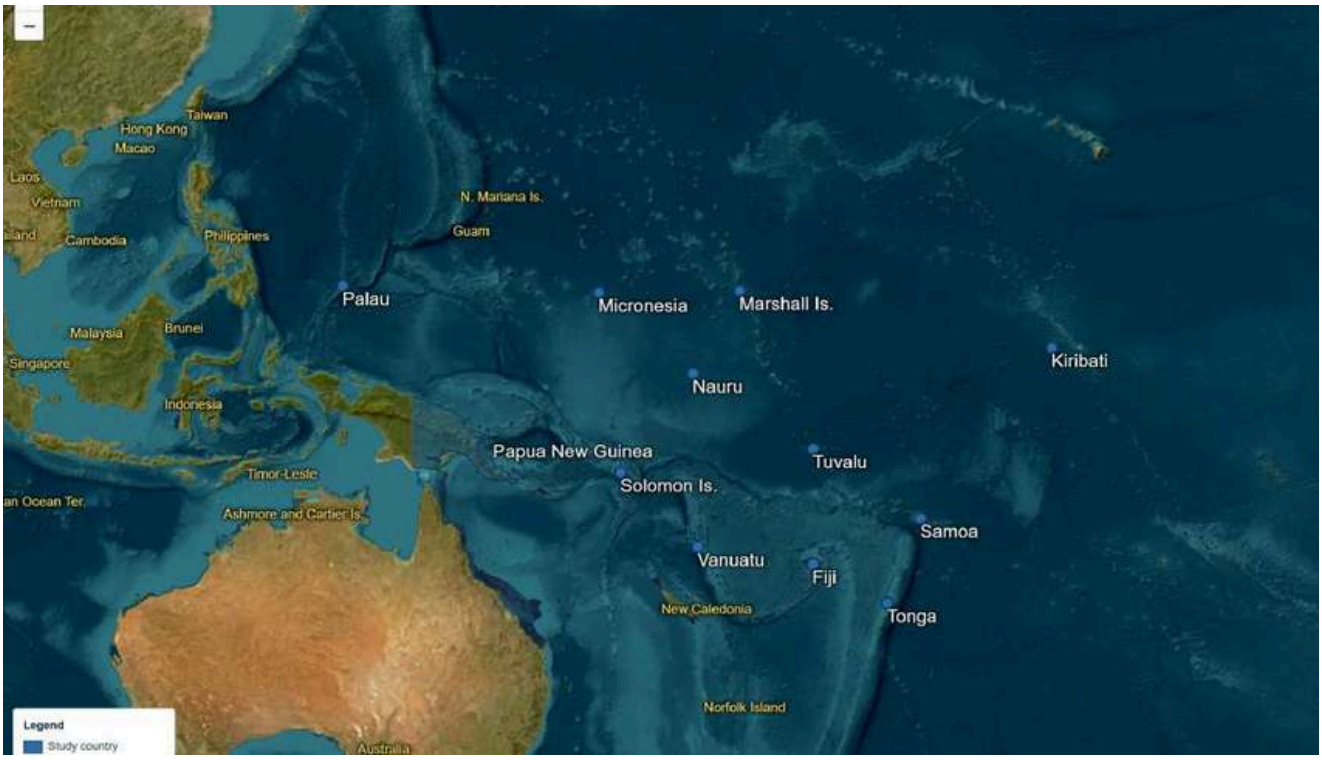
Sub-regional coverage of the Western Asia economies assessed in the study



Study countries are labelled in white: Bahrain, Cyprus, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, the Syrian Arab Republic, Türkiye, the United Arab Emirates and Yemen.

Oceania — 12 Study Countries

Sub-regional coverage of the Oceania economies assessed in the study



Study countries are labelled in white: Fiji, Kiribati, Marshall Islands, Micronesia (F.S.), Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu — ten of which are Small Island Developing States (SIDS).



Key Messages

Eight messages framing the green-skills and green-jobs agenda for Türkiye, MENA and Asia through 2030 and beyond.

The climate transition is the largest labour-market transformation since industrialisation.

Globally, 170 million new jobs will be created and 92 million displaced by 2030 — a net increase of 78 million (WEF Future of Jobs 2025). Asia-Pacific will absorb approximately 40% of net gains and bear the highest share of displacement risk in coal-dependent economies including China, India, Indonesia, Kazakhstan and Mongolia.

Green skills are the binding constraint on Asia-Pacific climate ambition. Less than 40% of NDCs across the 55 states make explicit reference to skills development (UNFCCC NDC Synthesis 2024). Of the 23 Asia-Pacific countries with formal net-zero pledges, only seven have integrated workforce-readiness targets into their climate plans.

The youth dividend is real — but unevenly distributed. The Asia-Pacific hosts approximately 750 million young people aged 15–24, including 254 million in India alone. Yet youth unemployment averages 18.1% across MENA, 19.9% in Pacific, and reaches 35.8% in Iraq and 39.2% in Syria. Without anticipatory green-jobs investment, demographic potential becomes demographic risk.

The distinction between demographic potential and demographic risk turns largely on the speed and quality of skills provision relative to labour-force entry. Where formal-sector job creation lags cohort growth, the default outcome is absorption into informal, low-productivity and often climate-exposed work rather than open unemployment (ILO, 2024a; ILO, 2024d). This is why the brief frames green-jobs investment as anticipatory: the policy must be in place before the cohort enters the labour market, not after disengagement has set in.



Demand is racing ahead of supply at an unsustainable rate. Across the Asia-Pacific economies tracked by LinkedIn (2024), demand for workers with at least one green skill is growing at over twice the rate of supply. Saudi Arabia's 11.7% green-skill intensity now ranks 3rd globally, ahead of every G7 economy except the UK.

Universities, TVET and lifelong learning must be retooled in parallel. TVET will deliver 80% of new green-economy roles (ILO 2024), yet only 7 of 55 AsiaPacific states have fully updated their TVET qualifications. Higher-education research output on sustainability is concentrated in five economies (China, Japan, Korea, India, Singapore) producing 84% of regional output.

Just transition cannot be an afterthought. Fossil-fuel value chains employing approximately 4.5 million workers across AsiaPacific — concentrated in China, India, Indonesia, Kazakhstan, Pakistan, Mongolia and the Gulf — require anticipatory reskilling. Current JETP allocations to skills are below 3.5%.

Gender, geography and youth must converge in policy design. Women hold only 32% of renewable-energy jobs globally and as little as 21% in Pacific-Island deployment. Female NEET rates exceed 40% across Southern Asia and MENA. Inclusive pathways are a precondition, not a corollary.

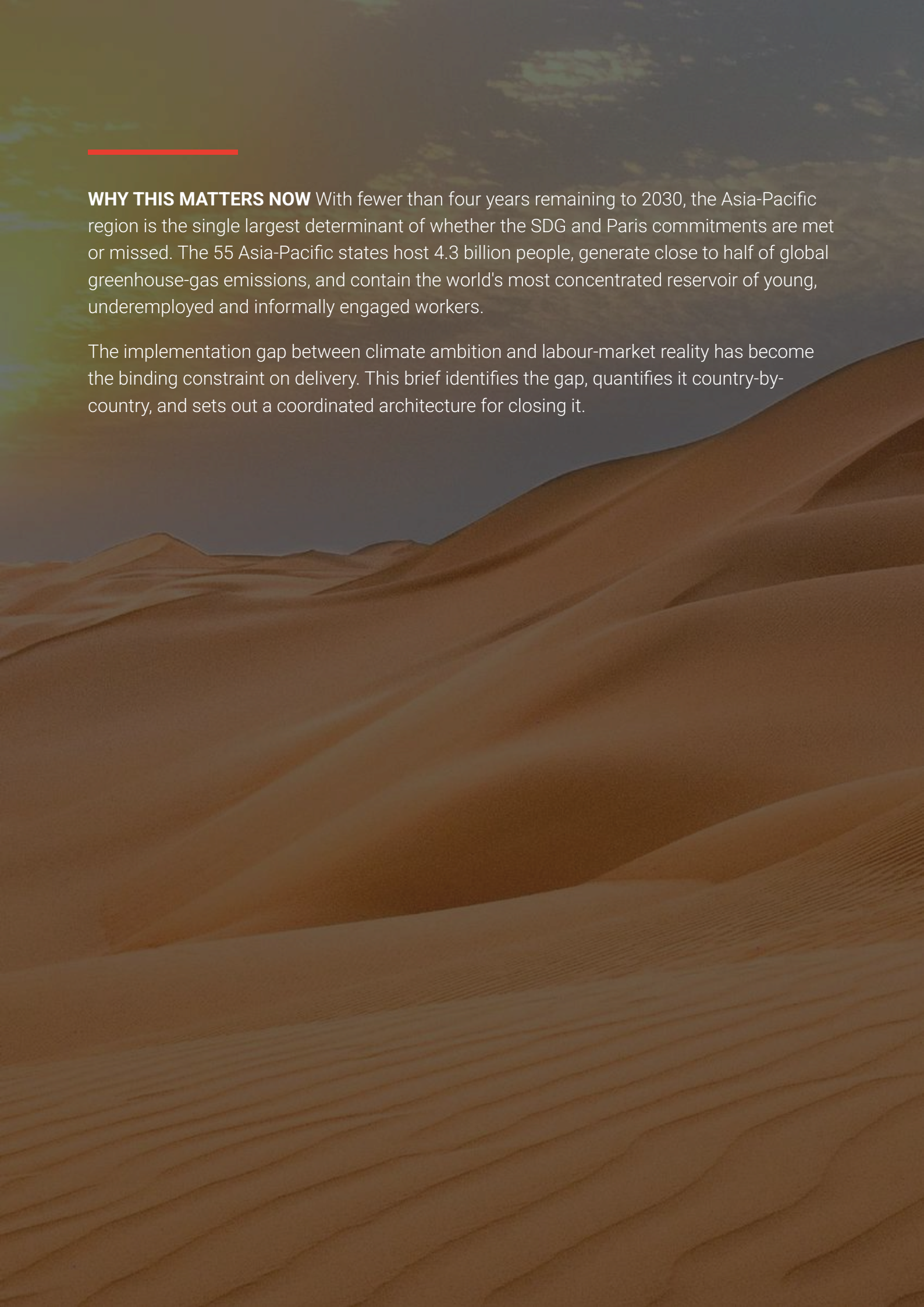
A regional Compact is needed to bridge 2030 and the post-2030 era. Most current commitments expire on or around 2030. The brief recommends ESCAP, UNESCO and the ILO convene a binding Asia-Pacific Education–Climate Sustainability Compact (2030–2050) before the 2030 High-Level Political Forum.



Policy Recommendations at a Glance

Seventeen evidence-based recommendations across four horizons — Foundations (2026–27), Scaling (2027–28), Delivery (2028–30) and Post-2030 Compact — referenced to one or more SDGs and elaborated in Sections 11–12.

#	Recommendation	Lead actor	Horizon	SDGs
1	National Green-Skills Strategies aligned with NDCs in all 55 states	Governments	2026–27	4·8·13
2	Asia-Pacific Green-Skills Taxonomy & Climate Literacy Assessment	UNESCO/WEF/ILO	2026–27	4·13·17
3	Raise education expenditure to UNESCO 4–6% benchmark in LDCs/SIDS	Govts + MDBs	2026–27	4·10
4	Embed workforce targets in NDC 3.0 submissions	UNFCCC parties	2026–27	13·8
5	Bridge the digital divide for climate-education delivery	ITU + WB	2026–27	4·9·17
6	Scale ESD across HEIs (100 new UNESCO Chairs)	UNESCO/HEIs	2027–28	4·13
7	Close the international accreditation gap (Oceania, Central Asia)	HEIs + accreditors	2027–28	4·9
8	Leverage university research for climate solutions (R&D ≥ 1% GDP)	Govts + HEIs	2027–28	9·13·17
9	Strengthen gender parity in STEM and climate research	UNESCO + UN Women	2027–28	4·5·8
10	Standardised HEI-level carbon-footprint reporting	THE + SDSN	2027–28	13·17
11	Regional SDG 4–13 live monitoring dashboard	UNESCAP + SDSN	2028–30	4·13·17
12	Integrated Health–Education–Climate Resilience plans (20 states)	WHO/UNESCO/UNICEF	2028–30	3·4·13
13	National green-jobs strategies — 5 M apprenticeships by 2030	ILO + governments	2028–30	8·13
14	Longitudinal climate-education disruption tracking	UNICEF/UNESCO	2028–30	4·13
15	Strengthen governance & transparency for skills- climate finance	TI + governments	2028–30	16·17
16	Asia-Pacific Education–Climate Sustainability Compact (2030–2050)	UNESCAP/UNFCCC	2030+	All
17	Recognise indigenous & traditional ecological knowledge in NDCs / HE	Govts + UNESCO-LINKS	2030+	13·15·10



WHY THIS MATTERS NOW With fewer than four years remaining to 2030, the Asia-Pacific region is the single largest determinant of whether the SDG and Paris commitments are met or missed. The 55 Asia-Pacific states host 4.3 billion people, generate close to half of global greenhouse-gas emissions, and contain the world's most concentrated reservoir of young, underemployed and informally engaged workers.

The implementation gap between climate ambition and labour-market reality has become the binding constraint on delivery. This brief identifies the gap, quantifies it country-by-country, and sets out a coordinated architecture for closing it.



CHAPTER 01

THE DECISIVE DECADE FOR GREEN SKILLS & GREEN JOBS

1.1 The climate emergency in numbers

The World Meteorological Organization confirmed that 2024 reached +1.55°C above the pre-industrial baseline — the first calendar year to temporarily breach the 1.5°C Paris floor (WMO, 2025). The UNEP Emissions Gap Report 2024 estimates that, on current policies, the world is heading for 2.6–3.1°C of warming by 2100. The Asia-Pacific is both the world's fastest-growing source of greenhouse gases and its most climate-exposed region: of the 30 countries with the highest INFORM disaster-risk scores, 14 are in Asia-Pacific, concentrated in Southern Asia and Pacific SIDS (UNDRR, 2025).

The IPCC Sixth Assessment Synthesis Report concludes that every increment of warming intensifies multiple, concurrent hazards, and that near-term choices to 2030 will largely determine whether warming can be held close to 1.5°C (IPCC, 2023). For the Asia-Pacific, the implication is direct: the same economies that must decarbonise fastest are also those least able to absorb climate shocks, because high disaster exposure coincides with constrained fiscal space and thin social-protection systems (UNDRR, 2025; World Bank, 2024a). The economic case for acting now is equally stark. The Swiss Re Institute estimates that unchecked warming could reduce global economic output materially by mid-century, with Asian economies among the most exposed because of their coastal megacities, agricultural dependence and exposure to extreme heat (Swiss Re Institute, 2024). Framed against these costs, investment in a climate-ready workforce is not a discretionary social expenditure but a core element of macroeconomic resilience — a point the ILO makes explicitly in linking just-transition planning to long-run growth (ILO, 2024c).

1.2 A youth dividend at a crossroads

The Asia-Pacific is home to approximately 750 million young people aged 15–24. By 2030, 80% of the world's extreme-poor youth will live in the region (ILO, 2024). Demographic transitions are highly uneven: Japan and the Republic of Korea face accelerating ageing, while India, Indonesia, Pakistan and most Pacific SIDS continue to add young workers at a rate that outpaces formal-sector job creation. The result is a labour market with simultaneous shortages and surpluses — and an urgent need to align education, training and labour-market policies around emerging green sectors.

The demographic stakes are best understood as a closing window rather than a fixed endowment. UN DESA projections show that the Asia-Pacific youth cohort is near its historic peak and will begin to contract in several economies within a decade, meaning the period to 2030 represents a one-off opportunity to convert demographic weight into productive, low-carbon employment (UN DESA, 2024). Where that conversion fails, the same cohort becomes a source of social and political strain — a dynamic the ILO links to elevated NEET rates and informal-sector entrapment across the region (ILO, 2024d). Young people themselves are increasingly explicit about the terms on which they will engage with the labour market. Deloitte's global survey finds that a large majority of Gen Z workers weigh an employer's climate record when choosing and staying in jobs, and many report pressuring employers to act (Deloitte, 2024). For Asia-Pacific governments and firms, this means green-skills provision is also a talent-retention and competitiveness strategy, not solely a climate-policy instrument.

FIGURE 2

Five SDGs converge on the green-skills and green-jobs agenda for youth. Framework adapted from UN DESA SDG indicator framework (2024), UNESCO ESD for 2030 Roadmap, and ILO Just Transition Guidelines (2024).

Sources: UN DESA SDG Indicator Framework 2024; UNESCO ESD-Net 2024; ILO Just Transition Guidelines 2024 — author's synthesis.



1.3 Why universities, TVET and skills systems are the highest-leverage levers

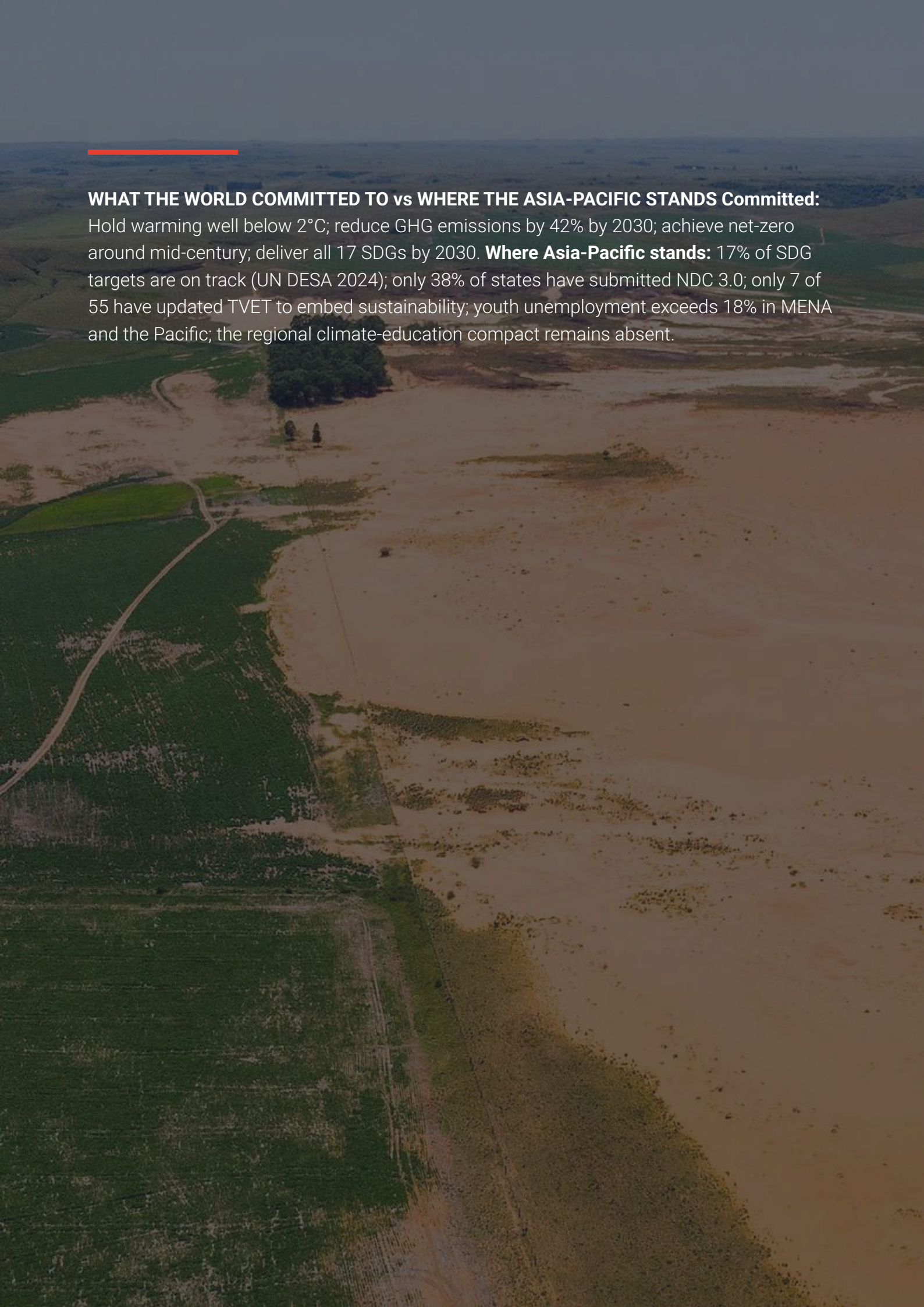
Across the climate-action literature, three constraints recur: insufficient finance, inadequate technology deployment, and missing or mismatched human capital. The first two have attracted unprecedented attention through instruments such as the EU Green Deal, the United States IRA, the Republic of Korea's Green New Deal, and the Saudi Green Initiative. The third — human capital — remains comparatively neglected. The ILO (2024) estimates that less than 2% of the headline budgets of major energy-transition deals are allocated to workforce training and reskilling, and less than 40% of Nationally Determined Contributions explicitly mention skills development.

The neglect of human capital is partly a measurement and accountability problem. Because workforce outcomes are diffuse and accrue over years, they are easily displaced in deal design by hardware and generation-capacity targets that are simpler to count and finance (ILO, 2024b). Yet the evidence indicates that skills shortages, not capital or technology, are now the binding constraint on deployment speed in several Asia-Pacific markets, with installers, grid engineers and project managers in particularly short supply (LinkedIn Economic Graph, 2024; IEA, 2024a).

This diagnosis reframes the policy task. Rather than treating skills as a downstream consequence of investment, the brief argues they should be treated as an upstream enabling condition embedded in NDCs,

national energy strategies and transition-finance agreements from the outset (UNFCCC, 2024; ILO, 2015). The OECD reaches a parallel conclusion for the twin green-and-digital transition, finding that countries which sequence skills policy ahead of, or alongside, investment achieve faster and more equitable adjustment (OECD, 2023a).





WHAT THE WORLD COMMITTED TO vs WHERE THE ASIA-PACIFIC STANDS Committed: Hold warming well below 2°C; reduce GHG emissions by 42% by 2030; achieve net-zero around mid-century; deliver all 17 SDGs by 2030. **Where Asia-Pacific stands:** 17% of SDG targets are on track (UN DESA 2024); only 38% of states have submitted NDC 3.0; only 7 of 55 have updated TVET to embed sustainability; youth unemployment exceeds 18% in MENA and the Pacific; the regional climate-education compact remains absent.



CHAPTER 02

CONCEPTUAL FRAMEWORK AND METHODOLOGY

This brief organises the evidence base around three interlocking conceptual frames — the green-skills taxonomy, the twin transition, and the just-transition architecture — and applies a multi-source mixedmethods evidence-synthesis methodology.

2.1 Defining green skills

Green skills are defined here as the knowledge, abilities, values and attitudes needed to live in, develop and support a resource-efficient, climate-resilient and sustainable society (UNESCO 2022; CEDEFOP 2024). The definition spans three nested categories.

This layered definition matters for policy because each category is supplied by a different part of the education and training system and responds to different instruments. Technical green skills are largely delivered through TVET, employer-led standards and short-cycle credentials; transversal skills are cultivated across general and higher education; and the enabling digital and STEM foundations depend on basic-education quality and connectivity (UNESCO, 2022; CEDEFOP, 2024). Treating green skills as a single undifferentiated category therefore obscures where the real bottlenecks lie and which ministry or provider is accountable for closing them.

- **Technical green skills —** occupation-specific abilities applied directly to the production, deployment and operation of green technologies. Examples: renewable-energy engineering; energy auditing; sustainable agriculture; carbon accounting; ESG reporting; green-building retrofit; climate-risk modelling.
- **Transversal green skills —** cross-sectoral and behavioural skills that enable sustainability outcomes irrespective of occupation. Systems thinking; sustainability literacy; lifecycle and circular thinking; stakeholder engagement; eco-entrepreneurship; adaptive reasoning.
- **Enabling foundations —** digital and STEM competencies that determine the speed at which green technologies can be deployed at scale: data analytics and AI for sustainability; geospatial sensing and IoT; STEM literacy; project finance and green economics.

2.2 The twin transition

A central finding in the recent literature is that the green and digital transitions reinforce one another. The 2025 WEF Future of Jobs Report finds that 73% of the fastest-growing green roles also require advanced digital skills — the highest duo-skill intensity of any major job family. 86% of employers expect AI to transform their business by 2030. Curricula, qualifications and credentials must reflect this convergence rather than treat green and digital as parallel agendas.

The OECD frames this as the "twin transition," arguing that green and digital transformations are not merely simultaneous but functionally interdependent: digital tools enable the measurement, optimisation and verification on which decarbonisation depends, while green objectives increasingly drive demand for advanced data, sensing and AI capabilities (OECD, 2023b). The practical

consequence for curriculum design is that sustainability competencies should be embedded within digital and STEM pathways rather than bolted on as standalone modules.

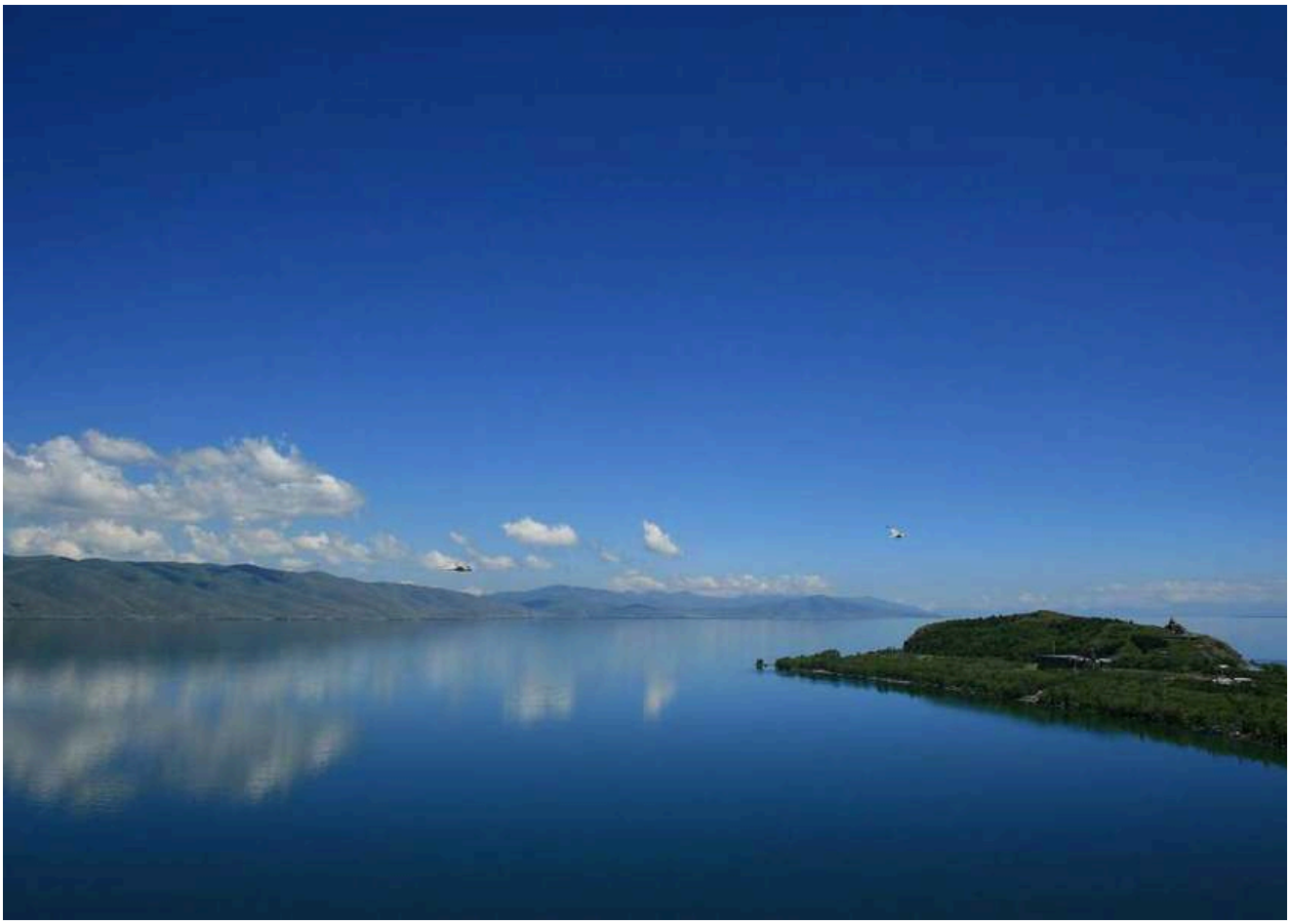
The convergence also reshapes the risk profile of the transition. WEF analysis indicates that workers without digital foundations are doubly exposed — vulnerable both to automation and to displacement from carbon-intensive sectors — which concentrates adjustment risk among precisely those groups already over-represented in NEET statistics (World Economic Forum, 2025a). This reinforces the brief's emphasis on foundational digital access as a prerequisite for equitable green-skills delivery (ITU, 2024).

2.3 Just-transition architecture

The ILO Just Transition Guidelines (originally 2015, updated 2024) provide the most widely accepted international architecture. The framework was reaffirmed in the preamble to the Paris Agreement and anchors concrete obligations to workers, women, youth, indigenous peoples and climate-vulnerable communities. The architecture rests on six pillars: social dialogue; skills and education; macro-policy and growth; enterprise and SMEs; labour rights and social protection; and active labour-market policies.

The just-transition architecture is significant precisely because it converts an abstract fairness principle into operational obligations that can be financed, monitored and held to account. Each pillar maps to identifiable instruments — social dialogue to tripartite bodies, skills and education to TVET and ESD systems, social protection to income-support and reskilling guarantees — allowing governments to diagnose which components are missing rather than treating "justice" as a rhetorical commitment (ILO, 2015; ILO, 2024c). Its reaffirmation in successive UNFCCC outcomes has given it growing normative weight in NDC design (UNFCCC, 2024).

For the Asia-Pacific, the framework's value lies in its applicability across very different starting points. In coal-dependent economies it foregrounds anticipatory reskilling and regional economic diversification; in climate-vulnerable SIDS it foregrounds adaptation-led employment and social protection; and in resource-rich Gulf economies it foregrounds diversification away from hydrocarbon value chains (Asian Development Bank, 2024; World Bank, 2024b). The common thread is that workforce planning must precede, not follow, the structural shifts the transition sets in motion.



2.4 Data sources and analytical approach

Evidence is drawn from sixteen authoritative international databases. Composite indices are constructed on a 0–10 scale across five dimensions: hiring growth, investment intensity, talent supply, policy ambition and just-transition planning. Indicators are normalised to a common range and equally weighted. Country case studies follow a standardised structure: national strategy framing, headline indicators, illustrative interventions, and distinctive features.

Database / Source	Type	Coverage	Use in this brief
WEF Future of Jobs 2025	Survey	1,000+ employers, 22 industries, 55 economies	Macro forecasts, skills demand
LinkedIn Green Skills 2024	Hiring data	48 economies, hiring & posting flows	Demand–supply analysis, intensity
IRENA & ILO 2024	Sectoral	Renewable-energy jobs by country	Employment by technology, country
ILO ILOSTAT	Labour statistics	All 55 states	Youth unemp., NEET, gender, informal
UNFCCC NDC Registry	Policy	All 55 states (signatories)	NDC ambition, net-zero pledges
UNESCO UIS	Education stats.	All 55 states	Education spend, enrolment, parity
UNESCO-UNEVOC	TVET	90+ countries	TVET greening, accreditation
World Bank · CCDRs · WDI	Country climate	All states	Climate-finance, governance
IEA World Energy Investment 2024	Energy	Global	Investment intensity, sectoral
UN DESA SDG Report 2024	Composite	All UN states	SDG progress, off-track targets
UNEP Emissions Gap 2024	Climate	Global	Emissions, warming pathways
WMO State of Climate 2024	Climate science	Global	Temperature baseline
ND-GAIN Country Index 2023	Vulnerability	192 countries	Climate vulnerability, readiness
UNDRR INFORM Risk 2025	Risk	192 countries	Disaster risk, coping capacity
ITU ICT Dev. Index 2024	Digital	All states	Internet penetration, 5G coverage
THE Impact Rankings 2025	University SDG	~1,150 HEIs	Higher-education SDG engagement

Source: WEF, LinkedIn Economic Graph, IRENA-ILO, ILO ILOSTAT, UNFCCC, UNESCO UIS & UNESCO-UNEVOC, World Bank, IEA, UN DESA, UNEP, WMO, ND-GAIN, UNDRR, ITU, THE (2024–2025).

FIGURE 3

Sixteen international databases underpinning this brief. All quantitative claims are traceable to the cited primary sources; cross-references are used wherever two or more agencies report the same data point.

Source: WEF; LinkedIn Economic Graph; IRENA-ILO; ILO ILOSTAT; UNFCCC NDC Registry; UNESCO UIS & UNESCO-UNEVOC; World Bank WDI; IEA WEI; UN DESA; UNEP; WMO; ND- GAIN; UNDRR; ITU; THE Impact Rankings (2024-25).

Figure 3. Sixteen international databases underpinning this brief





CHAPTER 03

REGIONAL OVERVIEW — TÜRKIYE, MENA, ASIA-PACIFIC

The Asia-Pacific is best understood not as a single market but as six distinct sub-regions whose green-skills trajectories diverge by an order of magnitude. The figure below benchmarks each sub-region across six dimensions of readiness.

Reading the region as six sub-regions rather than one market is more than an analytical convenience; it is a precondition for effective policy transfer. Interventions calibrated to high-capacity systems — sophisticated micro-credential markets, employer-led sector councils, deep capital markets — can fail or even backfire where the binding constraints are foundational TVET infrastructure, accreditation capacity or basic connectivity (UNESCO-UNEVOC, 2024; ITU, 2024). The sub-regional lens identifies which archetype of intervention is appropriate to each context.

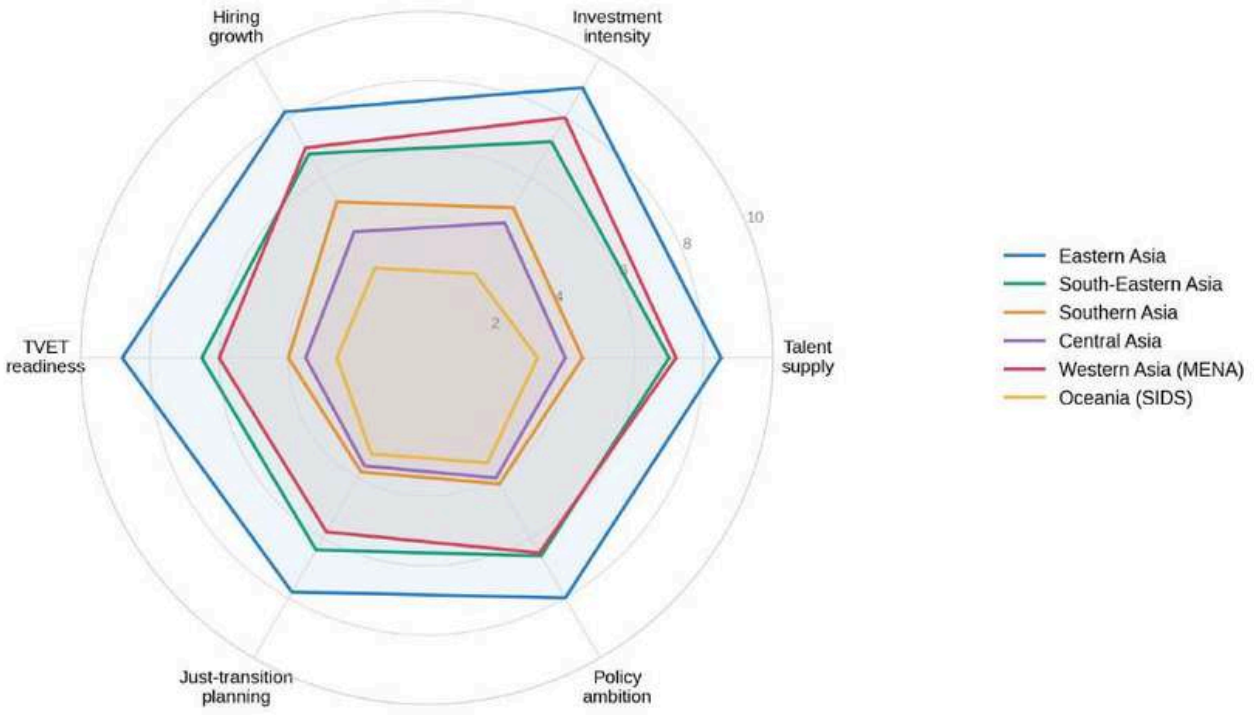


FIGURE 4

Sub-regional green-skills readiness across six dimensions. East Asia and MENA approach the European frontier; Pacific SIDS, Central Asia and South Asia anchor the steepest delivery gaps.

Source: LinkedIn 2024; IEA 2024; UNFCCC 2024; ILO 2024; UNESCO-UNEVOC 2024 — author's synthesis.

Figure 4. Sub-regional green-skills readiness across six dimensions



3.1 Türkiye — the Mediterranean linchpin

Türkiye occupies a unique strategic position at the intersection of the European, MENA and Asian economic spaces. The country combines an unusually mature green-skills base (7.8% intensity, top15 globally), a 2053 net-zero pledge (the latest in the OECD), the world's 11th-largest electricity grid, and a youthful labour market of 12.8 million 15–24-year-olds. The Green Deal Action Plan (2021), the Climate Change Mitigation Strategy (2024) and Türkiye's recent ratification of the Paris Agreement signal accelerating ambition. However, an 18% youth unemployment rate and a 38.5% female NEET rate — the highest in the OECD — highlight a fundamental skills-to-jobs bridge that remains incomplete. With renewable installed capacity already exceeding 60 GW, Türkiye is the largest green-jobs market in the broader Mediterranean basin.

Türkiye's position is best understood as that of a bridge economy whose green-skills trajectory will influence both European and MENA labour markets. Its ratification of the Paris Agreement and the Green Deal Action Plan align its regulatory direction with the EU acquis, creating scope for credential equivalence and cross-border mobility that few other economies in the brief can match (European Commission, 2023; UNFCCC, 2024). The strategic priority is therefore translating an already-strong skills base into employment, particularly for women and recent graduates, where the NEET data reveal the sharpest gap (ILO, 2024d).

3.2 MENA & the Gulf — emerging-economy frontrunners

The Gulf states have moved decisively. Saudi Arabia ranks third globally on green-skill intensity at 11.7%; the United Arab Emirates fourth in the Asia-Pacific at 9.2%. The Saudi Green Initiative commits US$187 billion to decarbonisation, with 130 GW of renewable capacity targeted by 2030 and 10 billion trees scheduled for planting. The UAE Net Zero by 2050 strategy commits approximately US$163 billion and integrates AI with sustainability curricula through the world's first AI Ministry. Bahrain, Cyprus, Jordan, Kuwait, Oman and Qatar

each integrate green-skills pillars in their national visions. Conflict-affected MENA states — Iraq, Lebanon, Syria, Yemen — anchor the opposite end of the spectrum, with green-skill intensities below 1.5% and acute reconstruction-skills gaps.

The Gulf states illustrate how concentrated public investment and clear national visions can compress the green-skills development timeline that took industrialised economies decades. Saudi Arabia's and the UAE's commitments tie workforce transformation directly to flagship diversification programmes, embedding skills targets within sovereign strategy rather than leaving them to the market (Saudi Green Initiative, 2024; Saudi Arabia, Ministry of Investment, 2024). The contrast with conflict-affected MENA states is instructive: where Iraq, Lebanon, Syria and Yemen face the dual burden of reconstruction and decarbonisation, the binding constraint is institutional continuity and basic TVET capacity, not finance design (World Bank, 2024a).

3.3 South Asia — scale and adaptation

South Asia anchors the largest absolute-volume green-skills mobilisation in any emerging economy. India targets 500 GW of non-fossil capacity by 2030 and projects 3.5 million renewable-energy jobs (IRENA, 2024). The PM Surya Ghar rooftop-solar programme will reach 10 million households by 2027. Bangladesh, with more than 100 million citizens in highly climate-vulnerable zones, pursues the Mujib Climate Prosperity Plan (US$230 billion to 2041). Nepal, Sri Lanka and Bhutan integrate hydropower and forestry into their green-skills strategies; Bhutan is the only carbon-negative country in the world. Pakistan and Afghanistan face the steepest combined challenge of climate exposure and weak TVET capacity.

South Asia's defining feature is the sheer scale of the cohort that must be reached: India alone accounts for a large share of the region's 15–24 population, so even modest per-capita gains translate into very large absolute workforce numbers (UN DESA, 2024; IRENA & ILO, 2024). The policy challenge is one of delivery infrastructure at scale — qualification frameworks, trainer pipelines and certification systems capable of moving millions of young people through credible green pathways within the decade (UNESCO-UNEVOC, 2024).

3.4 South-Eastern Asia — balanced profile, JETP-driven momentum

South-Eastern Asia displays the most balanced profile across the brief's dimensions: above-regionalaverage on hiring growth, investment and policy ambition. Singapore anchors the upper end with an 8.6 readiness index. Indonesia is the host of the largest JETP in operation (US$20 billion), tied to coalregion reskilling and the nickel-supply-chain green-jobs strategy. Vietnam's JETP (US$15.5 billion) targets renewable build-out. Thailand pivots toward EV manufacturing; Malaysia's NETR workforce plan targets 23,000 new clean-energy jobs by 2030. Cambodia, Laos and Myanmar lag, with conflictaffected Myanmar particularly hampered.

South-Eastern Asia is the region's clearest test of whether large transition-finance deals can be converted into workforce outcomes. The Indonesia and Vietnam JETPs concentrate capital on powersector decarbonisation, but their employment dividends depend on parallel investment in coal-region reskilling and local content that the deals have so far under-resourced (Asian Development Bank, 2024). Where that parallel investment is made, the sub-region's relatively balanced readiness profile positions it to capture a disproportionate share of new manufacturing and clean-energy roles (World Economic Forum, 2025a).

3.5 East Asia — scale, speed, manufacturing leadership

East Asia drives global volume. China alone employs 7.4 million renewable-energy workers (46% of the global total) and adds more renewable capacity each year than the next five countries combined. Japan's GX League and Korea's Green New Deal anchor coordinated industrial-policy approaches. Mongolia faces a

parallel coal-region transition; the DPRK remains absent from international reporting frameworks. East Asia hosts 80 of the region's 138 international (AACSB + ABET) accreditations and 84% of regional sustainability research output (SCImago, 2024).

East Asia's advantage is cumulative rather than incidental: decades of investment in research capacity, manufacturing depth and tertiary education have produced an ecosystem in which greentechnology innovation and workforce development reinforce one another (SCImago, 2024; IEA, 2024a). The strategic risk for the rest of the region is that this concentration hardens into dependence, with lower-capacity economies importing technology and the high-value jobs that accompany it rather than building domestic capability (World Bank, 2024b).

3.6 Central Asia — the overlooked frontier

Central Asia's five states (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan) are LLDCs with high literacy inherited from Soviet-era education systems but limited international accreditation infrastructure — only two ABET accreditations and zero AACSB across the entire sub-region. Kazakhstan leads on policy ambition with a 2060 net-zero target and a critical-minerals industrial policy. Uzbekistan is rapidly scaling solar and wind auctions. Tajikistan, Turkmenistan and Kyrgyzstan face deeper structural barriers, with green-skill intensities below 3% and R&D expenditure averaging just 0.12% of GDP. Central Asia's paradox is a strong human-capital base inherited from Soviet-era education paired with weak integration into international quality-assurance systems, which limits the portability of its graduates' credentials (UNESCO Institute for Statistics, 2024). Closing the accreditation gap is therefore a higher-leverage intervention here than in most sub-regions, because the underlying literacy and numeracy foundations are already comparatively strong (UNESCOUNEVOC, 2024).

3.7 Oceania — the climate frontline

Twelve Pacific SIDS face existential climate threats yet anchor some of the world's most ambitious adaptation-led skills pathways. Tuvalu has achieved 100% renewable electricity. Fiji, Samoa, Vanuatu and Tonga lead the loss-and-damage policy agenda globally. Yet zero AACSB or ABET accreditations exist across the sub-region; UHC coverage averages 45.6 (the lowest in Asia-Pacific); and youth unemployment reaches 19.9% — the highest in the region. The Antigua and Barbuda Agenda (ABAS, 2024) provides a normative framework, but financing remains the binding constraint. For Pacific SIDS the green-skills agenda is inseparable from survival: adaptation, not mitigation, defines the employment frontier, and the relevant competencies cluster around coastal protection, disaster preparedness, water security and ecosystem restoration (UNEP, 2024b; UNDRR, 2025). Tuvalu's achievement of effectively full renewable electricity demonstrates that small states can lead on delivery, but the absence of any regional accreditation infrastructure and chronically low health-system coverage mean that workforce gains remain fragile without sustained external financing (Asian Development Bank, 2024).

3.8 The four-panel comparative dashboard (Türkiye, MENA & Asia)

To make the cross-regional analysis transparent, the brief disaggregates the comparative dashboard into four discrete analytical panels (Figures 6–9). Each panel surfaces a distinct policy lever — green-skill intensity, youth labour-market stress, clean-energy investment per capita, and NDC ambition versus net-zero target year — using identical country sets and the same sub-regional colour mapping.

FIGURE 5

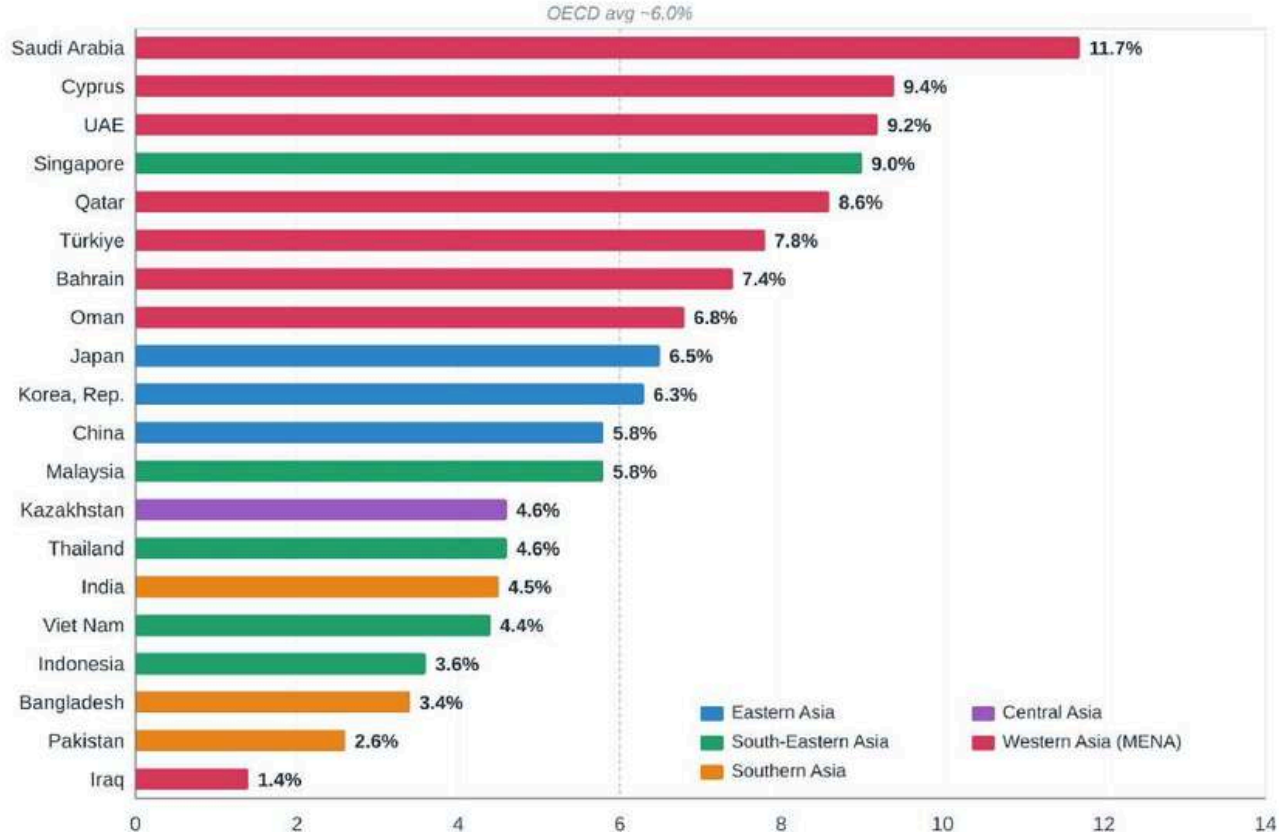
Asia-Pacific in six lenses — sub-regional headline indicators 2024. Each sub-region anchors a distinct policy archetype: East Asia on scale and manufacturing; SE Asia on JETP-driven momentum; Western Asia on resource-economy pivot; Southern Asia on absolute volume; Central Asia on LLDC catch-up; Oceania on adaptation-led skills.

Sources: IRENA & ILO 2024; LinkedIn Global Green Skills 2024; UNESCO UIS 2024; ILO ILOSTAT 2024; JETP Secretariats; UNESCO-UNEVOC; UN ESCAP — author's synthesi

Figure 5. Asia-Pacific in six lenses — sub-regional headline indicators 2024



Figure 6. Green-skill intensity across 20 priority Asia-Pacific economies



[**Figure 6. Green-skill intensity across 20 priority Asia-Pacific economies (2024).** *Saudi Arabia (11.7%) and Cyprus (9.4%) lead, exceeding every G7 economy except the UK; conflict-affected MENA states cluster below 2%.Source: LinkedIn Global Green Skills Report 2024 (48 economies). Intensity = share of workforce reporting at least one green skill.*

FIGURE 7

Youth labour-market stress: unemployment & NEET — 20 priority economies (2024). NEET rates exceed unemployment in every market; the gap is largest in MENA and South Asia.Source: ILO Global Employment Trends for Youth 2024; ILOSTAT; UN-ESCAP regional youth profile 20

Figure 7. Youth labour-market stress — unemployment & NEET across 20 economies

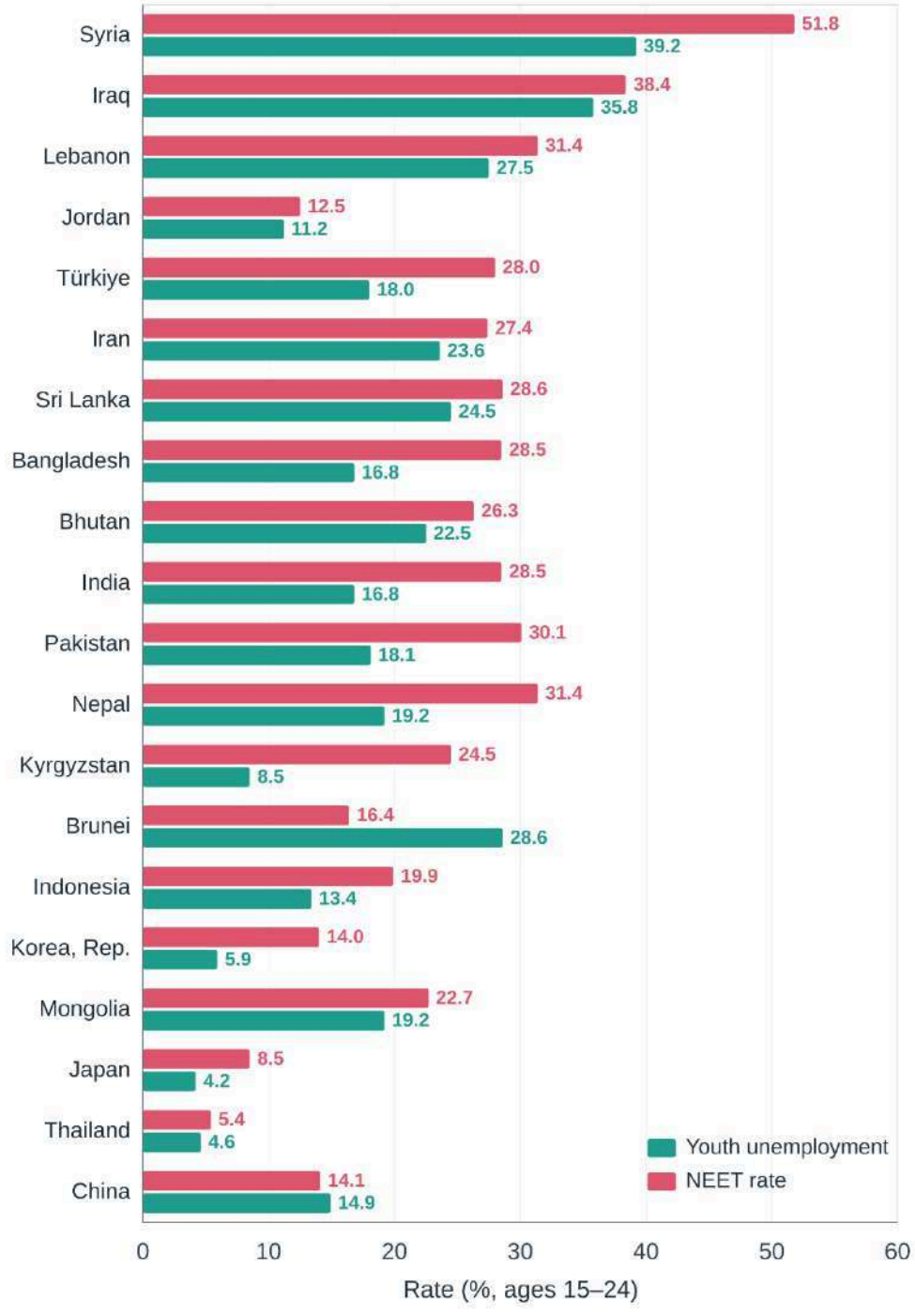


FIGURE 8

Clean-energy investment per capita (2023) — 20 priority economies. GCC states lead per-capita investment; large absolute investors (China, India) sit lower per capita due to demographic scale.

Source: IEA World Energy Investment 2024; UN DESA population 2024 — author's calculations.

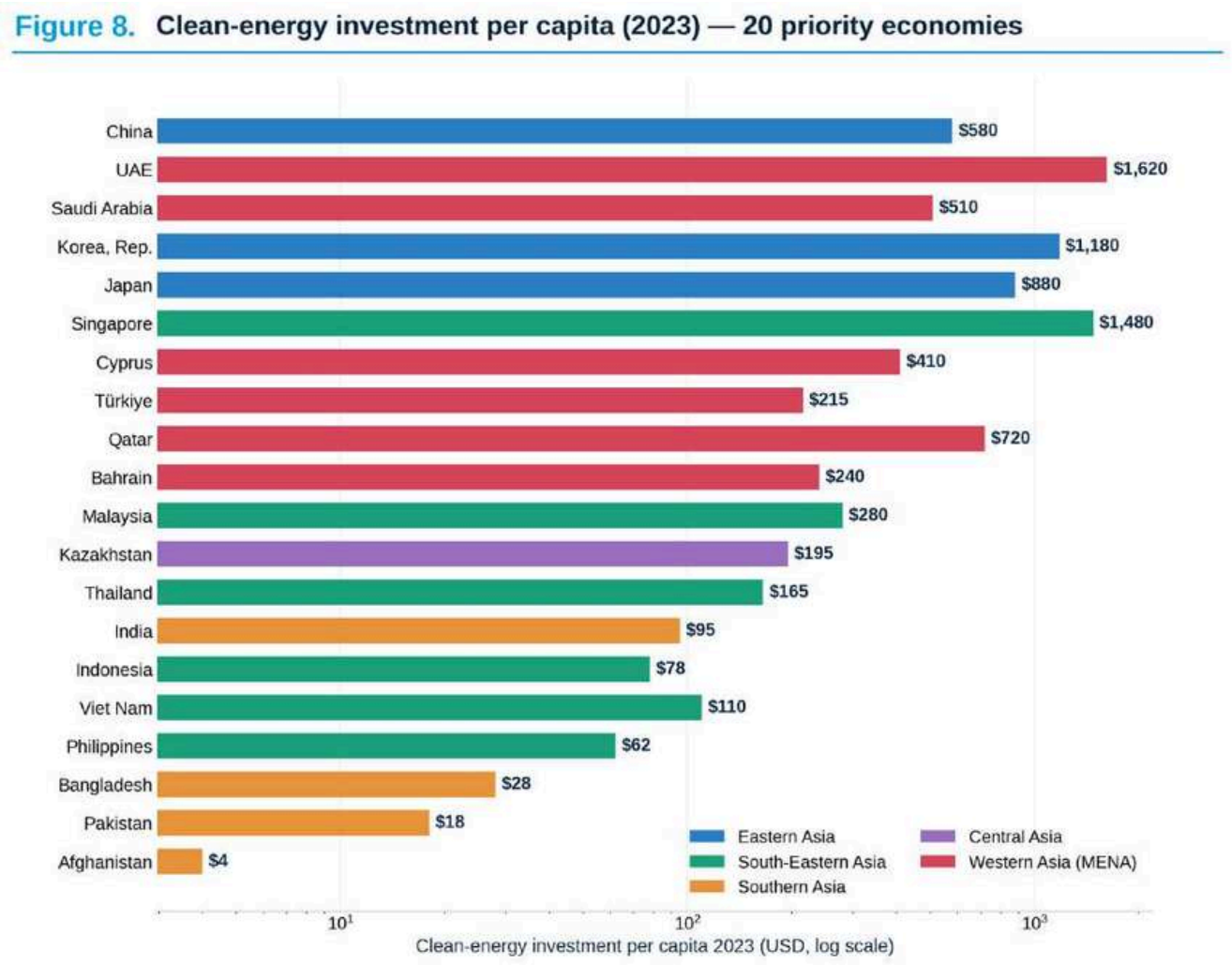
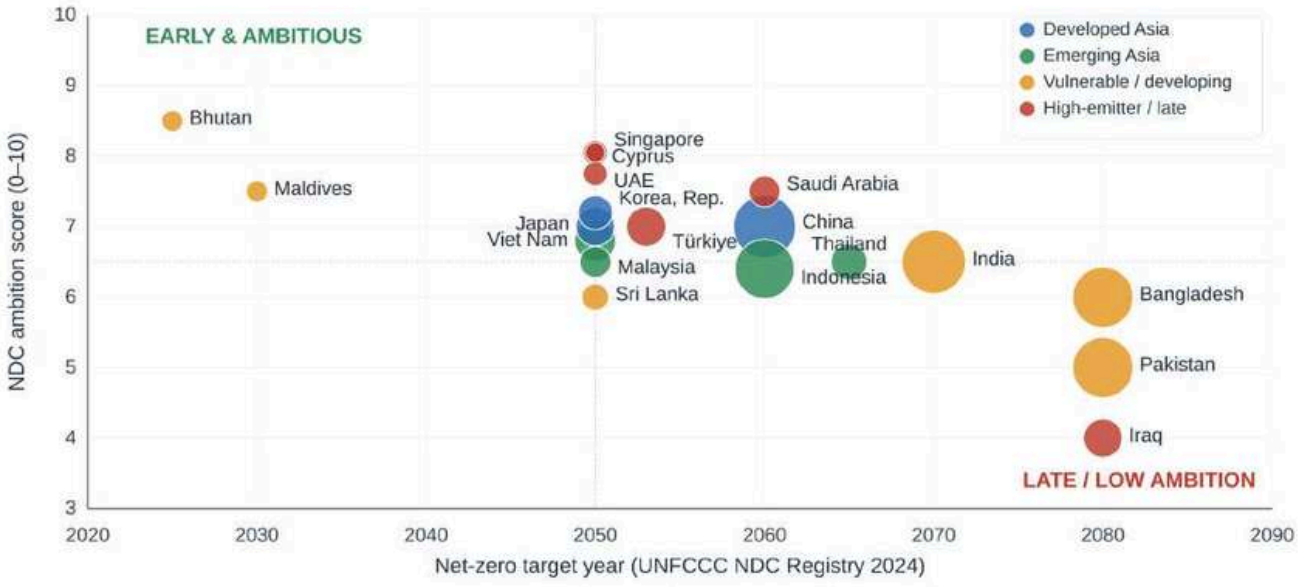


FIGURE 9

NDC ambition vs net-zero target year — 20 priority economies. Early-and-ambitious cluster: Singapore, Cyprus, Japan, Korea, UAE. Türkiye occupies a unique 2053 OECD pledge with mid-range NDC ambition.

Source: UNFCCC NDC Registry 2024; Climate Action Tracker 2024; UN DESA population 2024 — author's synthesis

Figure 9. NDC ambition vs net-zero target year — 20 priority economies





CHAPTER 04

COMPARATIVE LABOUR-MARKET READINESS

The green-skills readiness composite index ranks the 55 Asia-Pacific states on a 0–10 scale across five equally-weighted dimensions: hiring growth, investment intensity, talent supply, policy ambition, and just-transition planning. The index reveals a sharp tier structure.

A composite index of this kind is best read as a diagnostic of relative position rather than a precise score: its value lies in revealing which dimension is holding a country back, since a state may rank highly on investment yet poorly on talent supply or just-transition planning (see Appendix A). The tiering below should therefore be used to identify the binding constraint in each economy rather than to construct a definitive league table (author's composite; LinkedIn Economic Graph, 2024; IEA, 2024b).

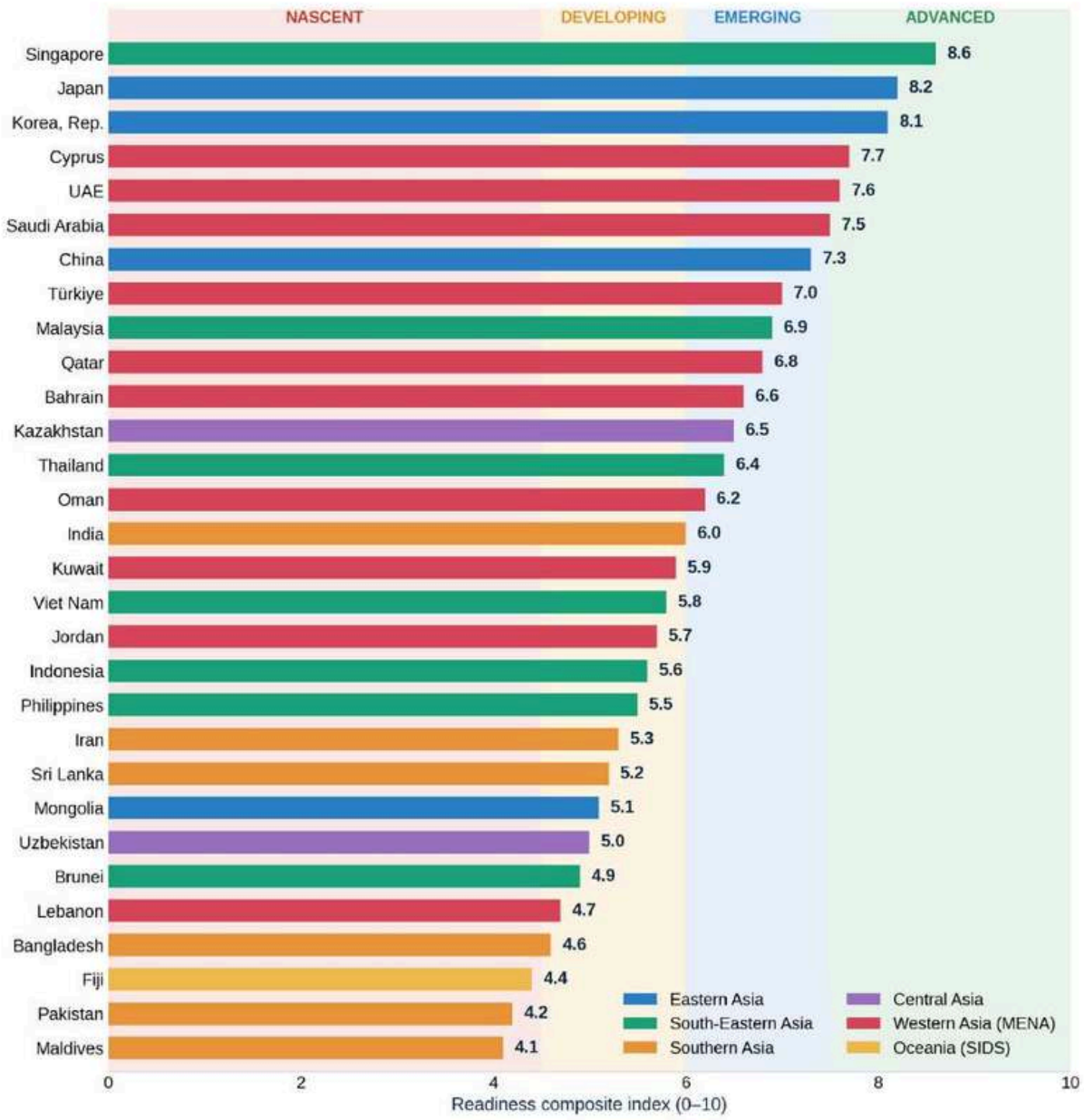


FIGURE 10

Green-skills readiness composite index — top 30 of 55 Asia-Pacific economies. Six states cluster in the Advanced tier (≥7.5): Singapore, Japan, Korea, Cyprus, UAE, Saudi Arabia. Türkiye sits in the upper Emerging tier at 7.0.

Source: LinkedIn 2024; IEA 2024; UNFCCC 2024; ILO 2024; UNESCO-UNEVOC 2024 — author's composite (Section 4 methodology

Figure 10. Green-skills readiness composite index — top 30 of 55 Asia-Pacific economies



4.1 The four-tier structure

- **Advanced (≥ 7.5):** Singapore (8.6), Japan (8.2), Republic of Korea (8.1), Cyprus (7.7), UAE (7.6), Saudi Arabia (7.5). These economies combine high investment, mature TVET architecture, deep talent supply and active just-transition planning.
- **Emerging (6.0–7.4):** China (7.3), Türkiye (7.0), Malaysia (6.9), Qatar (6.8), Bahrain (6.6), Kazakhstan (6.5), Thailand (6.4), Oman (6.2), India (6.0). These economies are scaling rapidly but face talent-supply bottlenecks.

- **Developing (4.5–5.9):** Kuwait, Viet Nam, Jordan, Indonesia, Philippines, Iran, Sri Lanka, Mongolia, Uzbekistan, Brunei, Lebanon, Bangladesh. Significant institutional capacity exists, but national green-skills strategies are inconsistent or incomplete.
- **Nascent (< 4.5):** Fiji, Pakistan, Maldives, Cambodia, Kyrgyzstan, Nepal, Bhutan, Tajikistan, Lao PDR, Iraq, Turkmenistan, PNG, Pacific SIDS, Timor-Leste, Myanmar, Yemen, Afghanistan, Syria. Compound risk: climate exposure, weak TVET, low fiscal space, often conflict-affected.

The four-tier structure carries a clear policy message: convergence is possible but not automatic. Advanced-tier economies did not begin with mature systems; they reached them through sustained, coordinated investment across all five dimensions simultaneously (Saudi Green Initiative, 2024; OECD, 2023a). For Developing- and Nascent-tier states, the evidence suggests that sequencing matters — foundational TVET capacity and policy frameworks must be in place before finance and employer demand can be effectively absorbed (World Bank, 2024b; UNESCO-UNEVOC, 2024).

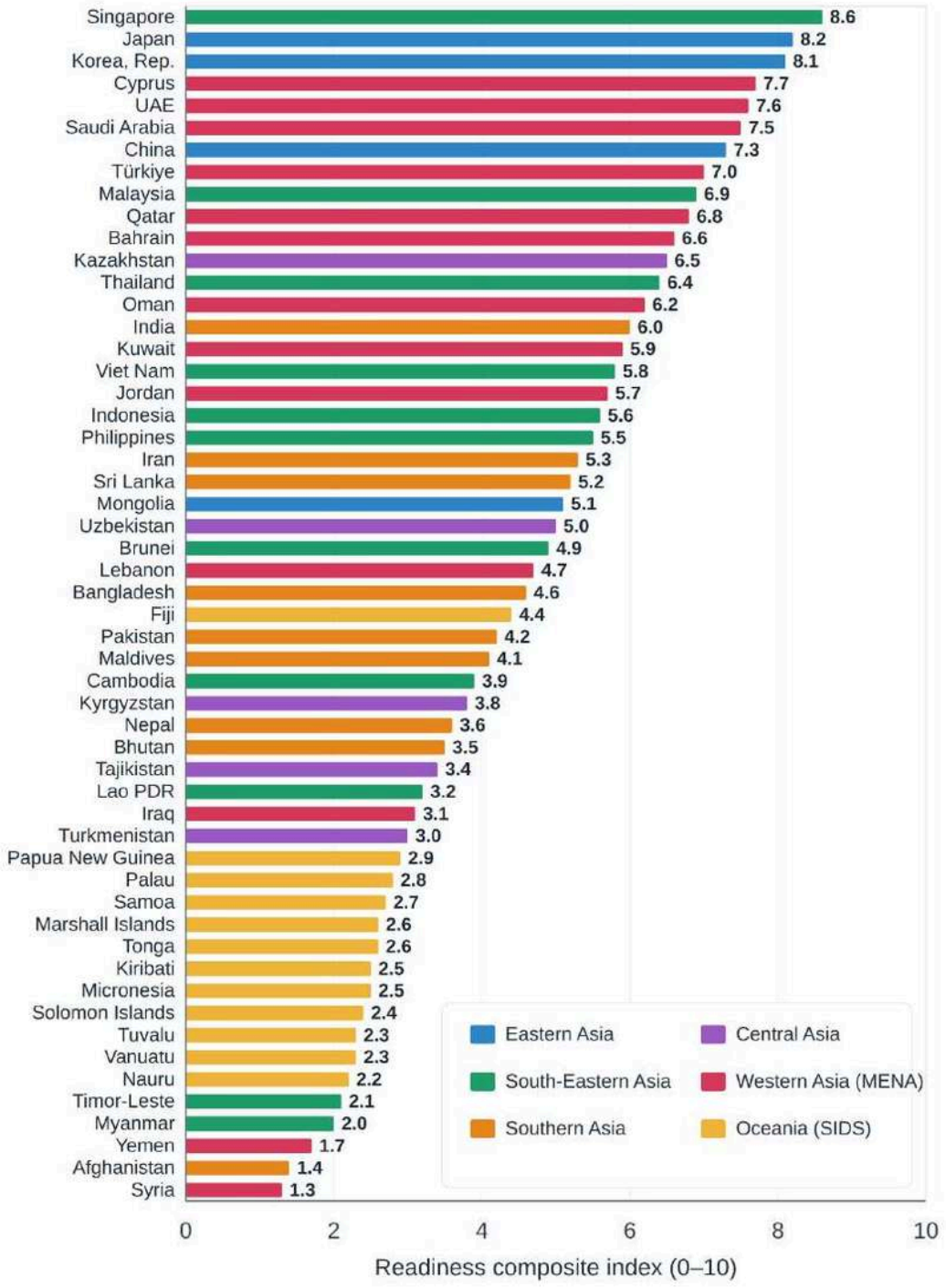


FIGURE 11

Full 55-country readiness ranking — all Asia-Pacific UN member states. Comprehensive ladder of the 54 ranked economies (DPRK absent from international reporting). Sub-region colour mapping carries throughout the brief.

Source: LinkedIn 2024; IEA 2024; UNFCCC 2024; ILO 2024; UNESCO-UNEVOC 2024 — author's synthesis.

Figure 11. Full 55-country readiness ranking — all Asia-Pacific UN member states



4.2 The labour-market stress profile

Three patterns stand out. First, youth unemployment is highest in Oceania (19.9%) and MENA-withTürkiye (18.1%), reflecting both structural mismatch and limited formal-sector absorption capacity. Second, NEET rates exceed unemployment in every sub-region, indicating that youth disengagement extends far beyond

those actively seeking work. Third, female NEET rates are 8–20 percentage points above total NEET in every sub-region — reaching 41.2% in Southern Asia and 38.5% in MENA — a structural gender gap that limits the entire region's green-jobs delivery potential.

The persistence of NEET above unemployment is analytically important because it indicates that conventional labour-market policy, which targets the actively job-seeking, will miss the larger pool of disengaged youth (ILO, 2024d). Reaching them requires outreach, re-engagement and bridging programmes rather than vacancy-matching alone. The gender dimension compounds this: where female NEET runs 8–20 points above the total, the green transition risks being built on a labour force that structurally excludes half the available talent (World Economic Forum, 2024; ILO, 2024d).



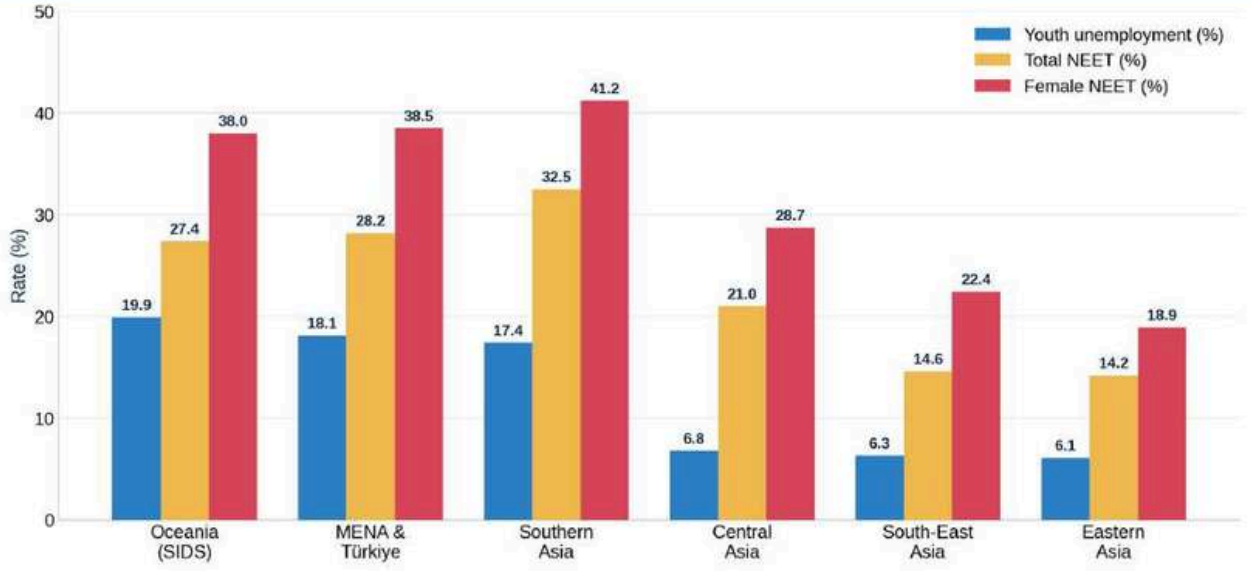


FIGURE 12

Youth unemployment, NEET & female NEET across Asia-Pacific sub-regions, 2024. The female NEET line consistently exceeds total NEET by 8–20 percentage points — a structural pattern that policy must address.

Source: ILO Global Employment Trends for Youth 2024; ILOSTAT; UN-ESCAP regional youth profile 2025.

Figure 12. Youth unemployment, NEET & female NEET across Asia-Pacific sub-regions, 2024



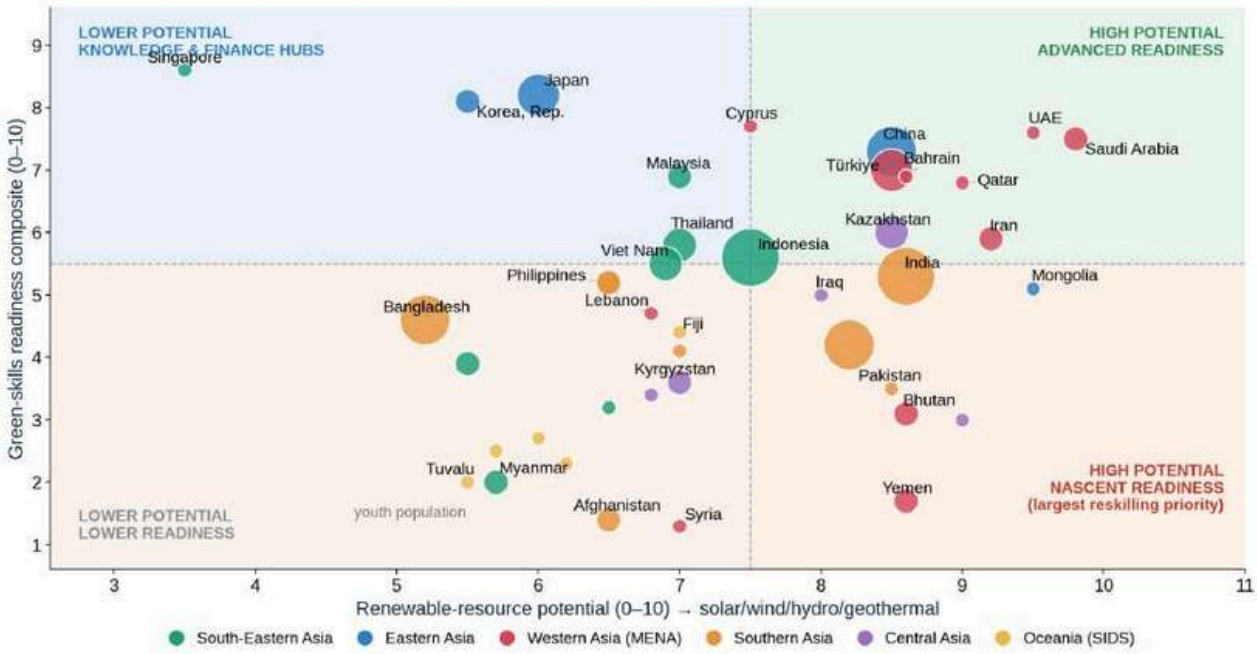
4.3 The opportunity map

FIGURE 13

Green-transition opportunity map — 54 Asia-Pacific economies. Horizontal axis: renewable-resource potential; vertical axis: green-skills readiness; bubble area: youth population (15–24). Three policy quadrants emerge.

Sources: IRENA REmap 2024; UN DESA population 2024; this brief's readiness composite — author's synthesis.

Figure 13. Green-transition opportunity map — 54 Asia-Pacific economies





CHAPTER 05

GREEN-SKILLS DEMAND AND SUPPLY GAPS

Across the LinkedIn Global Green Skills Report 2024 dataset, demand for workers with at least one green skill grew at 11.6% globally between 2023 and 2024, while the share of workers reporting at least one green skill grew at only 5.6%. Within Asia-Pacific, the gap is even sharper in absolute terms because the underlying labour force is larger and the talent supply has been historically thinner.

The structural significance of a demand-supply gap of this magnitude is that it is self-reinforcing if left unaddressed. As demand outpaces supply, green-skill wage premia rise, drawing scarce talent toward the highest-paying markets and away from the economies that need it most for their own transitions — a within-region brain-drain dynamic that the data already suggest is underway (LinkedIn Economic Graph, 2024). Closing the gap therefore depends not only on training volume but on retention, mobility policy and credential portability across the region (OECD, 2023a).



FIGURE 14

Asia-Pacific demand vs supply of green-skilled talent — regional projection 2020–2050. On current trajectories, demand exceeds supply by 193% by 2050. On current trajectories, demand exceeds supply by 100%+ by 2050. Conflict-affected and SIDS economies face the largest projected country-level gaps.

Sources: LinkedIn Global Green Skills Report 2024; WEF Future of Jobs 2025; this briefs projection model.

Figure 14. Asia-Pacific demand vs supply of green-skilled talent — regional projection 2020–2050

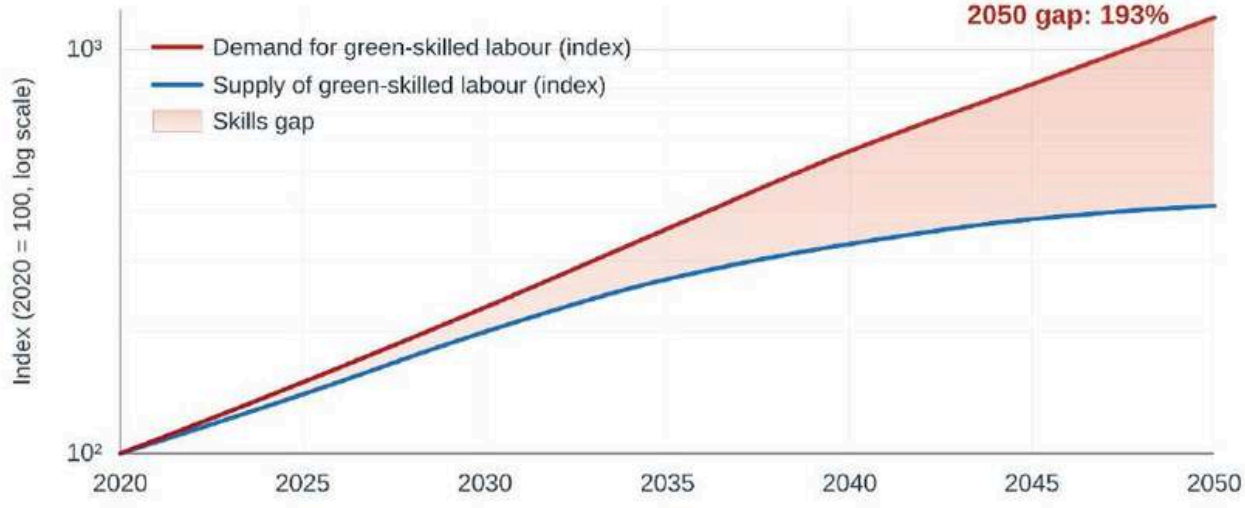
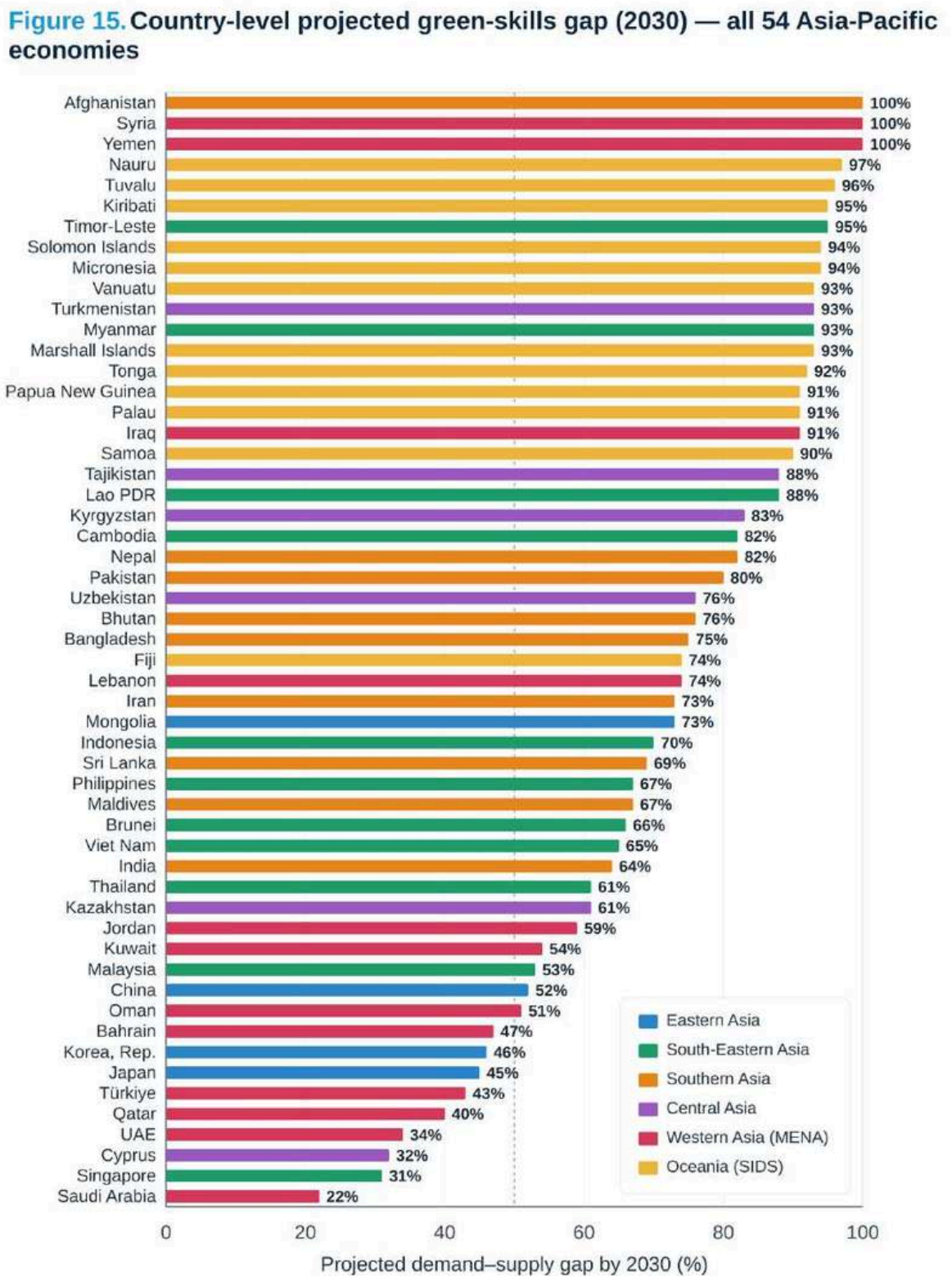


FIGURE 15

Country-level projected green-skills gap (2030) — all 54 Asia-Pacific economies. Conflict-affected and SIDS economies face the largest country-level gaps.



5.1 Where the demand is concentrated by sector

Eight sectoral clusters drive Asia-Pacific green-jobs creation through 2030. Sustainable cities and infrastructure lead in absolute volume; green hydrogen and CCUS anchor the highest wage premium. Climate-adaptation services show the fastest annual demand growth (+71% per year, 2023–24 baseline).

The sectoral pattern has direct implications for how training capacity should be allocated. High-volume clusters such as sustainable cities and renewable energy justify large-scale, standardised TVET pipelines, whereas the fastest-growing but smaller clusters — green hydrogen, CCUS and climateadaptation services — require more specialised, higher-tier provision often anchored in universities and employer partnerships (World Economic Forum, 2025a; IRENA & ILO, 2024). Matching the shape of training supply to the shape of sectoral demand is itself a core planning task that few national systems currently perform systematically (ILO, 2024b).



FIGURE 16

Eight sectoral clusters drive Asia-Pacific green-jobs creation 2025–2030. Sustainable cities & infrastructure (12.6 M) lead in volume; green hydrogen & CCUS (1.1 M) anchor the highest wage premium. Total: 42.1 M Asia-Pacific net new green jobs by 2030.

Sources: WEF Future of Jobs 2025; IRENA & ILO 2024; UNEP 2024; ADB 2024 — author's synthesis. Net new jobs are Asia-Pacific shares of global totals.

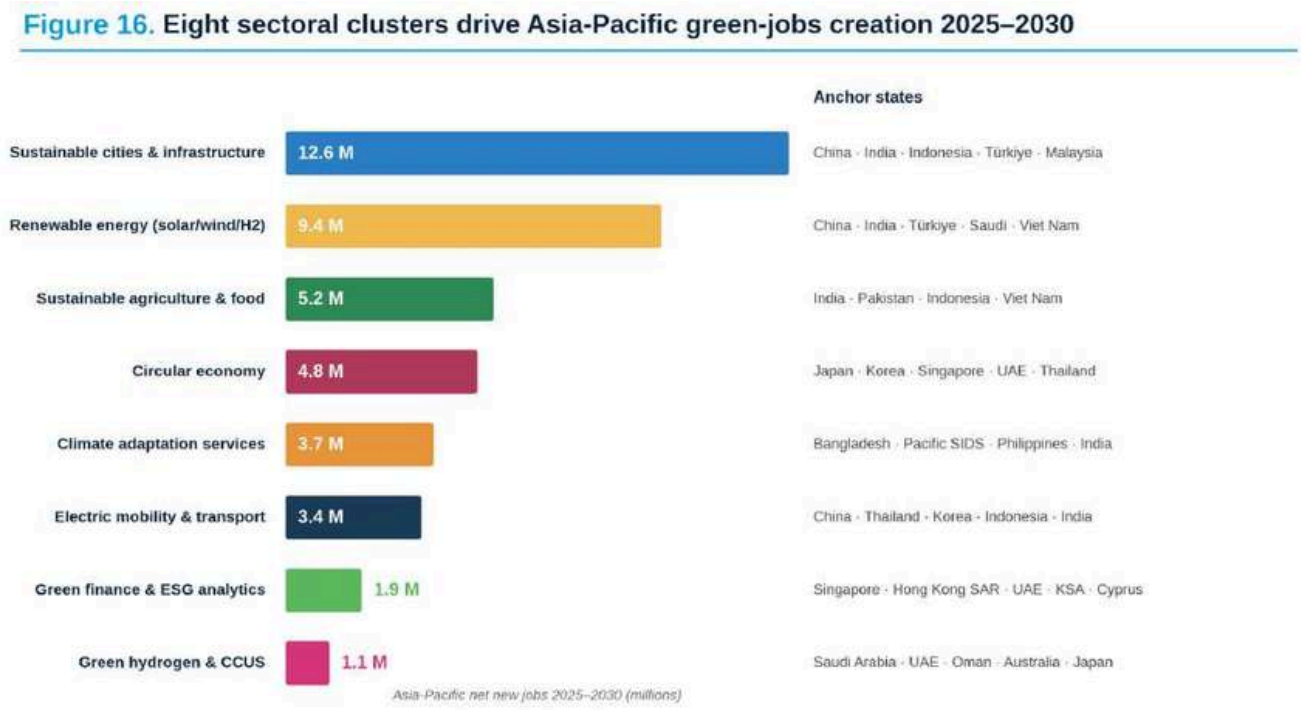
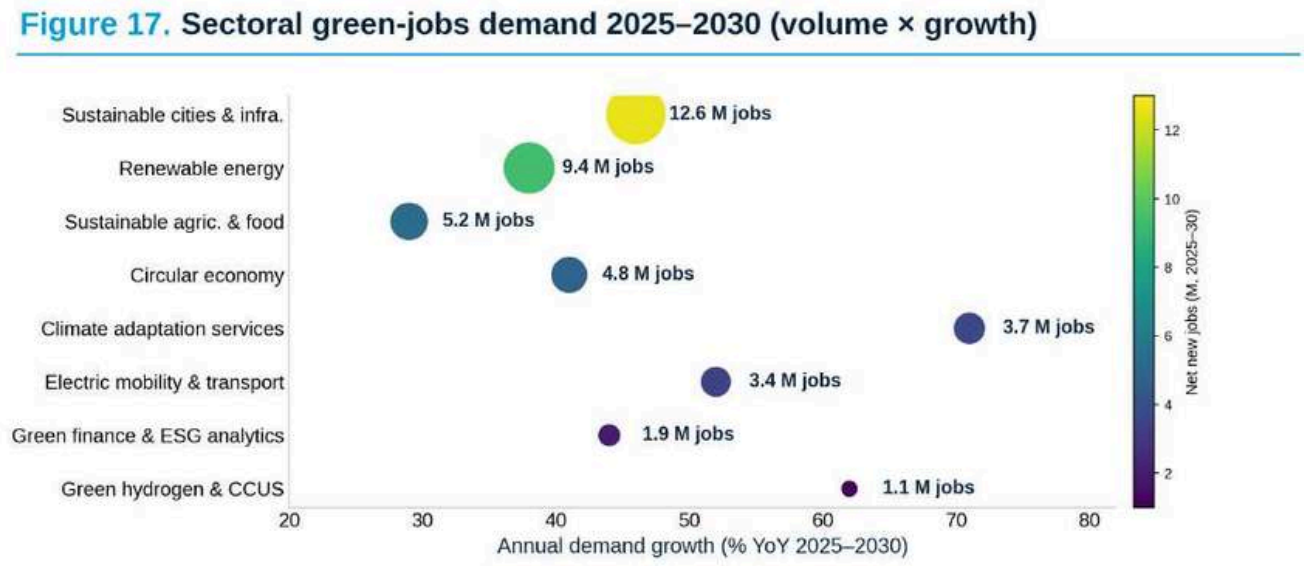


FIGURE 17

Sectoral green-jobs demand 2025–2030 (volume × growth). Sustainable cities lead in volume; climate adaptation leads in growth.



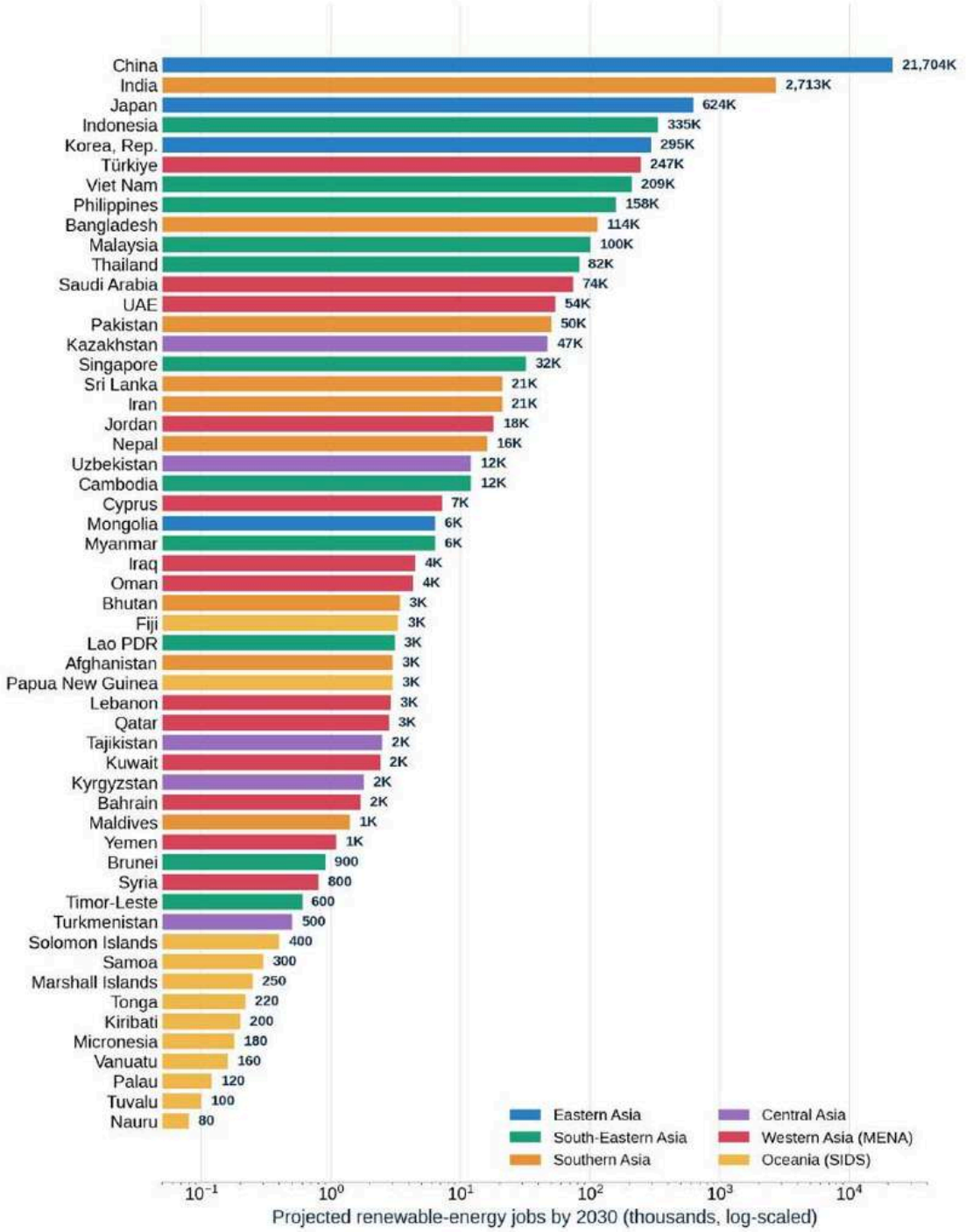
Sustainable cities lead in volume; climate adaptation leads in growth. All 54 economies projected at log scale.

Sources: WEF Future of Jobs 2025; IRENA & ILO 2024; UNEP 2024; ADB 2024 — country projections author's calculation.

FIGURE 18

Projected renewable-energy jobs by 2030 — all 54 Asia-Pacific economies (log-scaled). China and India dominate absolute volumes.

Figure 18. Projected renewable-energy jobs by 2030 — all 54 Asia-Pacific economies



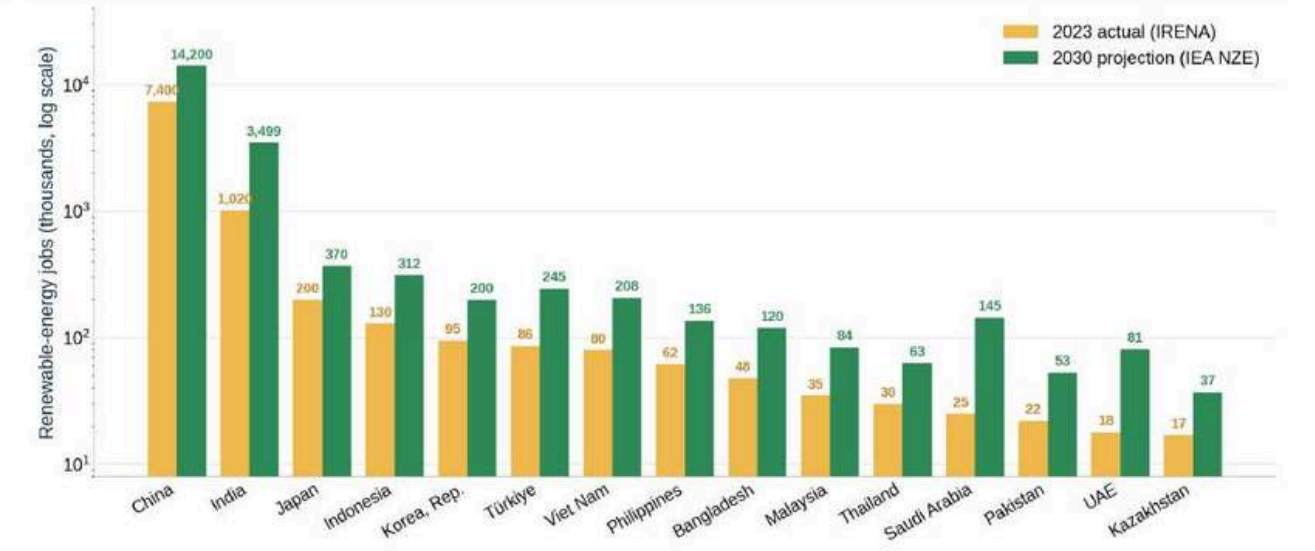
5.2 The renewable-energy frontier

FIGURE 19

Renewable-energy jobs in the top 15 Asia-Pacific economies, 2023 actual vs 2030 projection. Türkiye +185%, India +243%, Saudi Arabia +480% from a low base.

Source: IRENA & ILO Renewable Energy and Jobs Annual Review 2024; IEA Net-Zero by 2050 scenario; ADB 2024.

Figure 19. Renewable-energy jobs in the top 15 Asia-Pacific economies — 2023 actual vs 2030 projection



5.3 The skills-by-skills breakdown

The Future of Jobs 2025 survey finds that 39% of all core workplace skills will change by 2030, but the change is highly skill-specific. AI and big data, networks and cybersecurity, technology literacy, creative thinking, resilience, and — for the first time — environmental stewardship enter the top-10 fastest-growing skill categories.

The entry of environmental stewardship into the fastest-growing skill set for the first time marks a structural shift: sustainability competencies are moving from a specialist niche into the mainstream of employer demand across industries (World Economic Forum, 2025a). The skill-by-skill data underline that the gap is not uniform but acute in specific, high-leverage categories — notably renewable hydrogen and storage, where demand growth exceeds supply growth by an order of magnitude — which argues for targeted, sector-specific interventions rather than generic "green" training (LinkedIn Economic Graph, 2024).

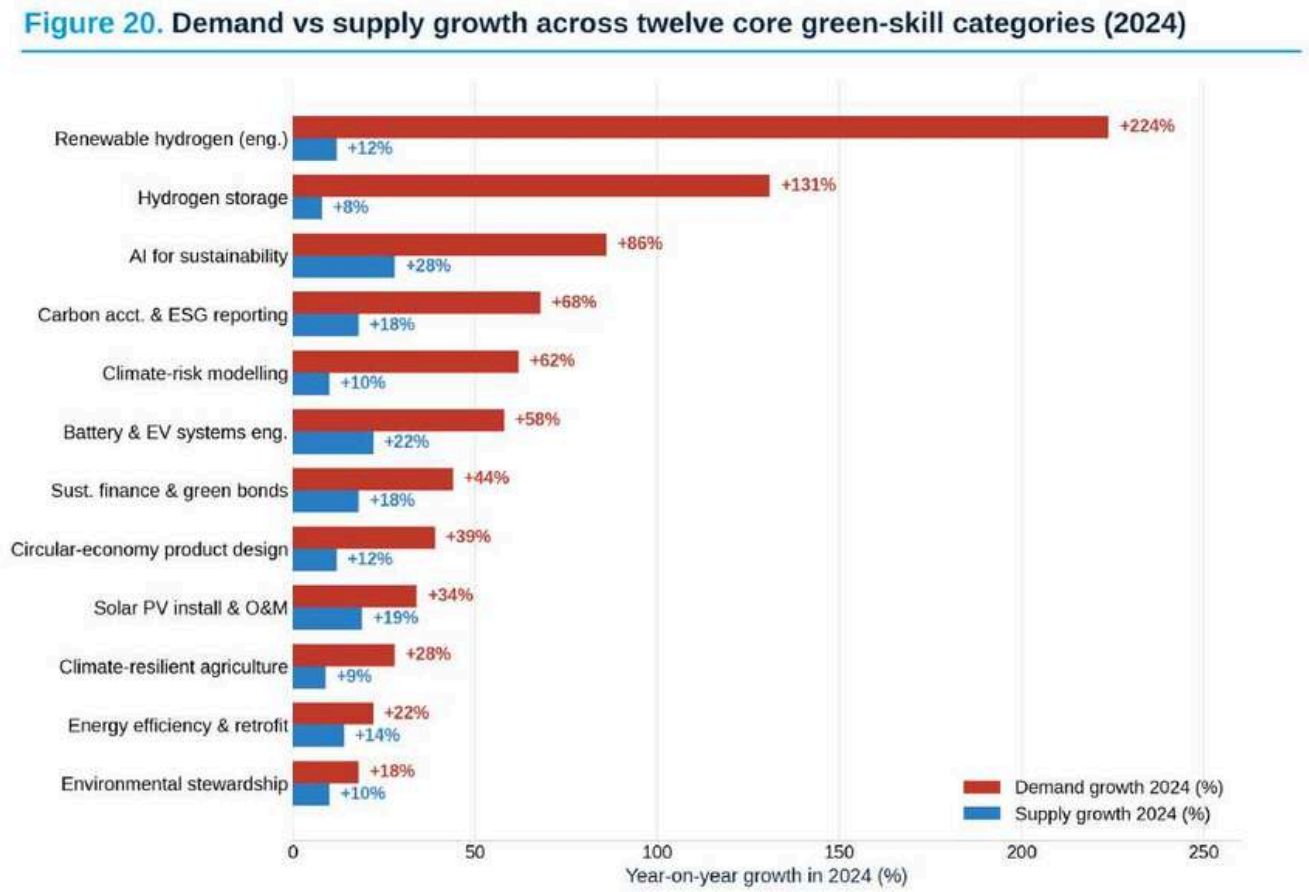
Skill category	Demand 2024	Supply 2024	Gap by 2030
Renewable hydrogen (engineering)	+224.5%	+12.0%	Critical
Hydrogen storage	+130.7%	+8.5%	Critical
AI for sustainability	+86.0%	+28.0%	Severe
Carbon accounting & ESG reporting	+68.0%	+18.0%	Severe
Climate-risk modelling	+62.0%	+10.5%	Severe
Battery & EV systems engineering	+58.0%	+22.0%	Severe
Sustainable finance & green bonds	+44.0%	+18.5%	Severe
Circular-economy product design	+39.0%	+12.0%	Severe
Solar PV installation & O&M	+34.5%	+19.0%	Moderate
Climate-resilient agriculture	+28.0%	+9.0%	Severe
Energy efficiency & retrofit	+22.0%	+14.5%	Moderate
Environmental stewardship	+18.5%	+10.5%	Moderate

Source: LinkedIn Global Green Skills Report 2024; WEF Future of Jobs 2025; Indeed Hiring Lab.



FIGURE 20

Demand vs supply growth across twelve core green-skill categories, 2024. Renewable hydrogen engineering shows the widest gap — 224.5% demand growth versus 12% supply growth.





CHAPTER 06

YOUTH UNEMPLOYMENT AND GREEN EMPLOYMENT OPPORTUNITIES

The Asia-Pacific is home to approximately **750 million young people aged 15–24**. By 2030, the region will host 80% of the world's extreme-poor youth (ILO, 2024). Yet youth unemployment averages 18.1% across MENA, 19.9% in the Pacific, and reaches 35.8% in Iraq and 39.2% in Syria. Without anticipatory green-jobs investment, demographic potential becomes demographic risk.

6.1 The ten-million-apprenticeship pathway

Modelled on the United States Climate Corps (20,000 places), the Australian Indigenous Rangers programme, the EU Solidarity Corps and emerging youth-climate-corps pilots in India and Indonesia, the Asia-Pacific should commit to 10 million green apprenticeships by 2030 — of which 5 million should be funded through dedicated national programmes and 5 million through public–private partnerships. Six youth-led pathways are particularly high-leverage.

International precedents suggest that publicly anchored youth-corps models can be scaled quickly when they combine a clear employment guarantee with portable certification, but that quality assurance is the critical variable — programmes that place young people without credible credentials risk creating churn rather than durable careers (ILO, 2024b; UNESCO, 2023). The six pathways below are selected because each maps to a documented demand cluster and to training routes that already exist somewhere in the region and can therefore be replicated rather than invented (IRENA & ILO, 2024).

- **Renewable-energy installation and O&M apprenticeships —** solar PV, wind, mini-grid, battery storage. Highest-volume opportunity; lowest barriers to entry; well-established in India, Vietnam, the Philippines and Türkiye.
- **Energy-efficiency and retrofit technicians —** building envelopes, HVAC, smart-meter installation. Massive untapped demand in MENA cities and East-Asian megacities.
- **Climate-resilient agriculture and water specialists —** agroforestry, climate-smart irrigation, salt-tolerant crops. Critical in Southern Asia, the Pacific SIDS and conflict-affected MENA.
- **Coastal- and disaster-resilience workforce —** mangrove restoration, dyke maintenance, earlywarning systems, evacuation planning. Anchor pathway for Pacific SIDS and Bangladesh.
- **ESG data and assurance analysts —** emissions disclosure, supply-chain auditing, sustainablefinance analytics. Highest-wage entry pathway; concentrated in Singapore, the GCC, Hong Kong SAR.
- **Green-entrepreneurship and circular-economy ventures —** repair, remanufacture, circular product design, eco-tourism. Particularly suited to women-led and youth-led SMEs.

6.2 The female-NEET imperative

Across Southern Asia and MENA, female NEET rates exceed 40% — a structural impediment that constrains the entire green-skills delivery effort. Without targeted female participation, Asia-Pacific cannot reach the 78-million-job global ceiling that the WEF (2025) identifies. The brief recommends six interventions: targeted scholarships in STEM-green fields; apprenticeship quotas in renewables, construction and mobility; mentoring networks; pay-transparency rules; re-entry programmes for women returning to work after caring responsibilities; and care-economy policies enabling participation.

The female-NEET challenge is best understood as an economic-efficiency problem as much as an equity one: the WEF's net-jobs ceiling for the transition is not reachable if half the potential workforce is structurally excluded (World Economic Forum, 2024; World Economic Forum, 2025a). Evidence from gender-targeted programmes indicates that the most effective interventions bundle financial incentives with structural

enablers — childcare, safe transport and workplace protections — rather than relying on scholarships alone, since the binding constraints are frequently outside the training system itself (IRENA, 2024; ILO, 2024d).

FIGURE 21

Closing the gender-green gap — two analytical lenses. Panel A: female share of workforce across energy sectors globally. Panel B: gender gap in green- skill reporting across selected Asia-Pacific economies.

Source: IRENA Renewable Energy: A Gender Perspective 2024; LinkedIn Global Green Skills Report 2024; UN Women regional briefs 2024.



YOUTH AT THE CENTRE OF THE GREEN TRANSITION

750 M

Asia-Pacific youth aged 15–24 (UN DESA 2024) 75 %

Gen Z reporting employer climate action shapes job choice (Deloitte 2024) 25 %

MENA youth unemployment rate (highest globally) (ILO 2024) 10 M

Green apprenticeships target by 2030 (this policy brief)



CHAPTER 07

TVET, HIGHER EDUCATION AND CURRICULUM READINESS

TVET will deliver 80% of the jobs created by the energy transition (ILO, 2024) yet only seven of the 55 Asia-Pacific states have fully updated their national TVET qualifications to embed sustainability competencies. Higher education plays a complementary role: producing the research, analytics and leadership talent that underpins the energy transition's upper tier.

The concentration of delivery responsibility in TVET reframes where reform effort should be directed. If roughly four-fifths of transition roles are at TVET level, then the pace of the entire transition is gated by the speed at which vocational qualifications, trainers and assessment systems can be updated — a far larger and slower undertaking than reforming a comparatively small number of university programmes (ILO, 2024b; UNESCO-UNEVOC, 2024). The low count of states with fully greened TVET qualifications is therefore the single most consequential capacity gap the brief identifies.

7.1 Curriculum alignment across the region

The heat-map pattern reveals a consistent asymmetry: technical competencies are advancing fastest where manufacturing and investment are concentrated, while just-transition literacy and indigenous and ecological knowledge lag almost everywhere (UNESCO-UNEVOC, 2024; OECD, 2023b). This matters because the weakest competency areas are precisely those that determine whether the transition is socially legitimate and locally adapted — suggesting that curriculum reform should deliberately prioritise the laggard competencies rather than reinforcing existing technical strengths (UNESCO, 2022).

7.2 The TVET–HE matrix

The TVET–higher-education matrix underscores that the two systems are complements, not substitutes. Economies that perform well on both axes pair large-scale vocational delivery with research capacity that continually updates what is taught, creating a feedback loop between innovation and instruction (SCImago, 2024; Times Higher Education, 2025). For lower-left economies, the implication is that investing in one system without the other yields diminishing returns — vocational scale without research renewal risks teaching obsolete competencies (World Bank, 2024b).



FIGURE 22

Curriculum alignment heat map — green competencies in Asia-Pacific HE & TVET, 2025. East Asia leads on technical competencies; Oceania leads on indigenous and ecological knowledge. Just-transition literacy and indigenous & ecological knowledge remain the weakest competency areas across most sub-regions.

Source: UNESCO-UNEVOC Greening TVET 2024; OECD Going Green Going Digital 2023; UNESCO ESD-Net; UNESCO Chair regional scan 2025.

Figure 22. Curriculum alignment heat map — green competencies in Asia-Pacific HE & TVET, 2025

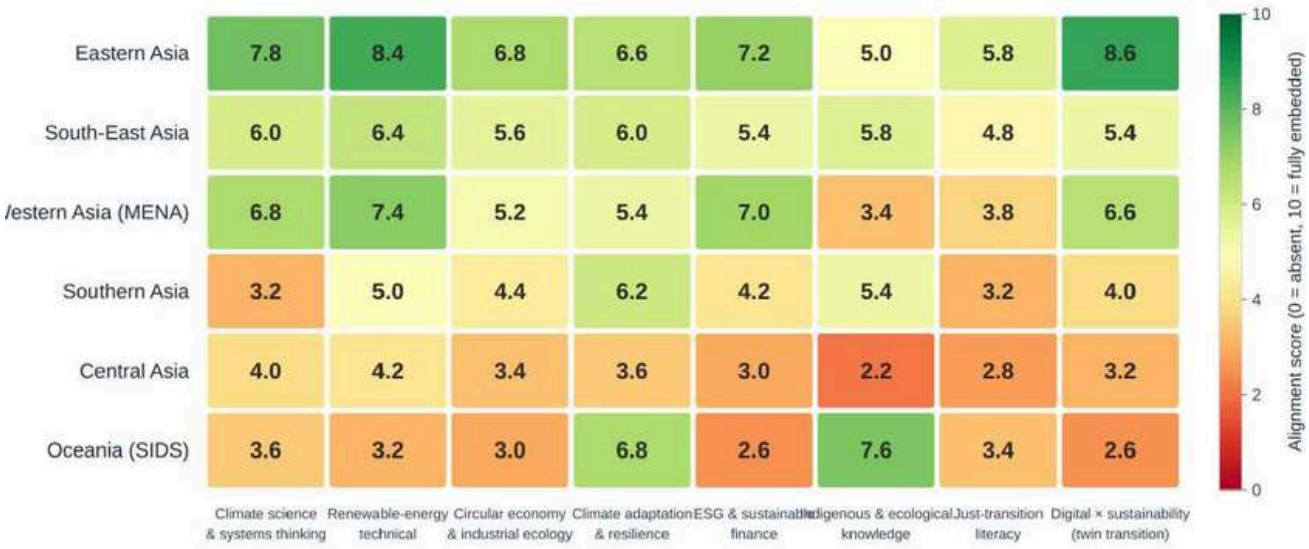
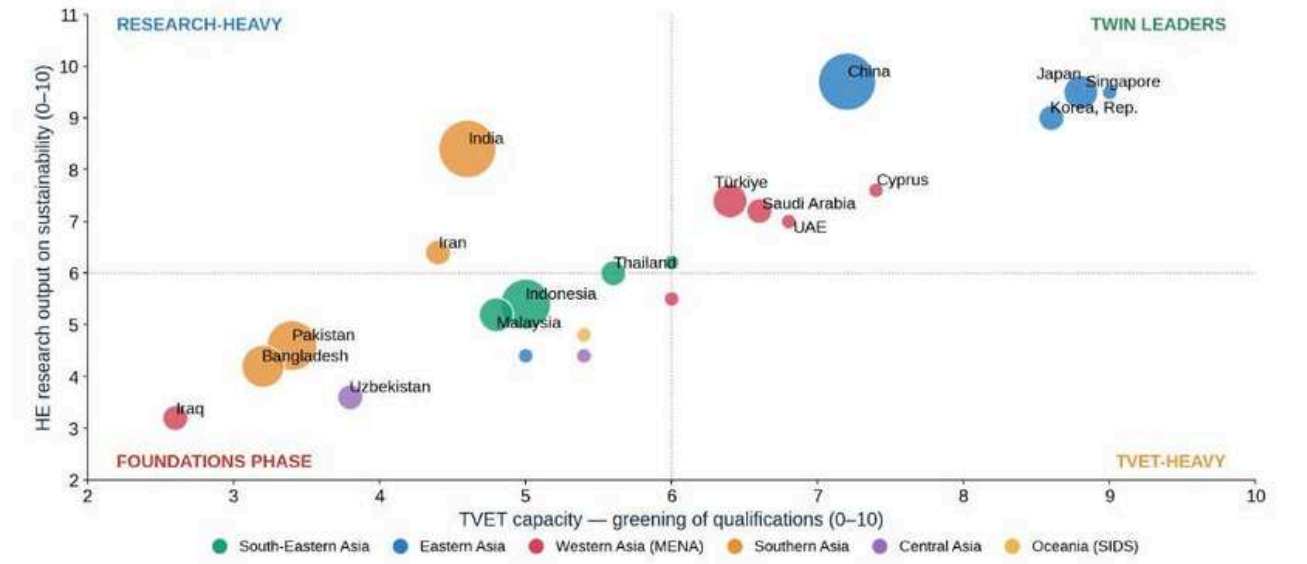


FIGURE 23

TVET capacity vs higher-education research output on sustainability — selected Asia-Pacific economies. Singapore and the East-Asian leaders cluster in the upper-right quadrant; conflict-affected and SIDS states cluster in the lower-left.

Source: UNESCO-UNEVOC Greening TVET 2024; SCimago Country Rank 2024 (sustainability subject area); THE Impact Rankings 2025.

Figure 23. TVET capacity vs higher-education research output on sustainability — selected economies



7.3 Six levers for a green TVET system

- **Update qualification frameworks.** National TVET qualifications must embed sustainability across all occupational standards. Germany's BIBB has updated 73 occupational profiles; Australia's training-packages reform integrates sustainability across all sectors. In Asia-Pacific, India's Skill Council for Green Jobs has developed 30+ Qualification Packs — a regional model.
- **Train the trainers.** UNESCO-UNEVOC trainer-of-trainers programmes have reached 15,000+ educators globally; Asia-Pacific representation should be tripled.
- **Greening campus facilities.** TVET institutions and university campuses as living labs: solar workshops, EV labs, bio-construction sites, hydroponic farms.
- **Modular, stackable credentials.** Micro-credentials enable rapid response to changing demand. The UNESCO 2023 Recommendation on Micro-credentials provides the multilateral reference point.
- **Employer-led standards.** Sector skills councils convene employers to define competencies. The UK Energy & Utilities Skills Council is a global benchmark.
- **Inclusion-first design.** Quotas, scholarships and outreach to women, rural youth, displaced workers, refugees and Indigenous peoples.

7.4 The higher-education transformation

Universities are moving from offering optional sustainability electives toward redesigning curricula, research, operations and partnerships around the green transition. UNESCO's ESD for 2030 Roadmap and the Race to Zero for Universities now engage more than 1,100 institutions in over 90 countries. The Times Higher Education Impact Rankings (2025), which assess universities against the SDGs, now include over 1,150 Asia-Pacific institutions across 37 countries — with Türkiye contributing 109 institutions, India 135, Iraq 88, Indonesia 71, Pakistan 120 and Saudi Arabia 34. Yet 18 of the 55 Asia-Pacific states still do not participate, including 10 Pacific SIDS, Bhutan, Nepal, Singapore, Myanmar and Timor-Leste.https://www.Education Race to Zero.org/





CHAPTER 08

GREEN ENTREPRENEURSHIP AND YOUTH-LED INNOVATION

Roughly 90% of new green-economy jobs in low- and middle-income Asia-Pacific economies are created not by incumbent firms but by SMEs and start-ups (World Bank, 2024). Green entrepreneurship is therefore not a marginal policy track but a primary delivery channel — particularly for youth and women.

Because SMEs and start-ups, rather than incumbents, generate the majority of new green jobs in lower- and middle-income economies, the policy levers that matter are those that lower the barriers to enterprise formation and survival — access to early-stage finance, market access and portable credentials (World Bank, 2024b). This reframes green entrepreneurship from a peripheral "innovation" agenda into a core employment-delivery channel, and it explains why finance and procurement reform feature as prominently in this brief as training reform (Asian Development Bank, 2024).

8.1 Six pathways for youth-led green enterprises

- **Decentralised renewables —** pay-as-you-go solar (M-KOPA model), mini-grid operators, solar maintenance co-operatives. Strong precedent in India, Bangladesh and East Africa.
- **Climate-smart agriculture —** precision-irrigation services, drought-tolerant seed distribution, agroforestry models, post-harvest storage. Acute opportunity in Pakistan, Iran, Iraq, Central Asia.
- **Circular product design and reuse —** electronics repair, textile remanufacture, plasticrecycling co-operatives, food-waste reduction platforms. Anchor pathway across SE Asia.
- **Climate-tech digital platforms —** carbon-accounting SaaS, water-management IoT, earthobservation analytics, climate-risk insurance. Singapore, UAE and Türkiye lead.
- **Eco-tourism and biodiversity services —** community-led tourism, marine-protected-area management, restoration-ecology services. Pacific SIDS, Bhutan, Costa Rica model.
- **Green-construction and retrofit SMEs —** sustainable materials, energy-efficient building services, vernacular and bio-construction. High potential in MENA and SE Asian cities.

These six pathways share a common structural feature: each addresses a local environmental need while building transferable competencies, which limits the mismatch risk that afflicts more speculative "future-jobs" training (Ellen MacArthur Foundation, 2024). The circular-economy pathways in particular are notable for their labour intensity and low entry barriers, making them well suited to youth and women in informal-sector contexts where formal-sector absorption is weak (Circle Economy, 2024).



8.2 The four enabling conditions

Cross-country evidence (Ellen MacArthur Foundation 2024; ADB 2024; WB Skills for the Green Transition 2024) identifies four enabling conditions that consistently distinguish countries with thriving youth green-enterprise ecosystems from those that lack them.

Enabling condition	What it requires	Asia-Pacific exemplars
Access to seed and early- stage finance	Green seed grants (USD 5–50k); patient capital; revolving funds; gender-targeted instruments	India Climate Collaborative; Singapore Enterprise Singapore green track; Saudi Monsha'at green SME stream
Mentorship and acceleration infrastructure	Green-tech accelerators; university– industry links; regional learning cohorts	Turkish ITU Çekirdek green track; Thailand BCG Academy; Korea K-Startup Grand Challenge green
Procurement and market- access support	Public-procurement green criteria; export-promotion green tags	UAE In-Country Value programme; Türkiye Green Deal; Indonesian Green Industry Standard
Skills certification and credentials	Recognised green-skill micro-credentials; portable across borders	Singapore SkillsFuture Sustainability; UNESCO ESD certificates

Source: Ellen MacArthur Foundation 2024; ADB 2024; World Bank 2024; UNESCO 2024 — author's synthesis.



FIGURE 24

Four enabling conditions for youth-led green entrepreneurship across the Asia-Pacific. Cross-country evidence identifies four conditions consistently associated with thriving youth green-enterprise ecosystems.

Source: Ellen MacArthur Foundation 2024; ADB 2024; World Bank Skills for the Green Transition 2024; UNESCO 2024 — author's synthesis.

Figure 24. Four enabling conditions for youth-led green entrepreneurship





CHAPTER 09

CLIMATE FINANCE AND SKILLS-FINANCING PATHWAYS

Climate finance flows to the Asia-Pacific reached approximately US$370 billion in 2024 (ADB 2024; CPI 2024). However, the share that reaches skills and workforce development remains structurally too small: across the main financing channels, the weighted average is below 4%, far below the ILO's recommended 5–10%.

The structural under-funding of skills within climate finance is not primarily a shortage of capital but a problem of allocation and deal design. Large transition-finance vehicles are engineered around generation capacity and infrastructure, where outcomes are measurable and bankable, while workforce components — diffuse, longer-horizon and harder to attribute — are routinely treated as residual (Climate Policy Initiative, 2024; ILO, 2024b). Correcting this requires earmarking mechanisms and covenants built into instruments at origination rather than discretionary add-ons negotiated after the fact.

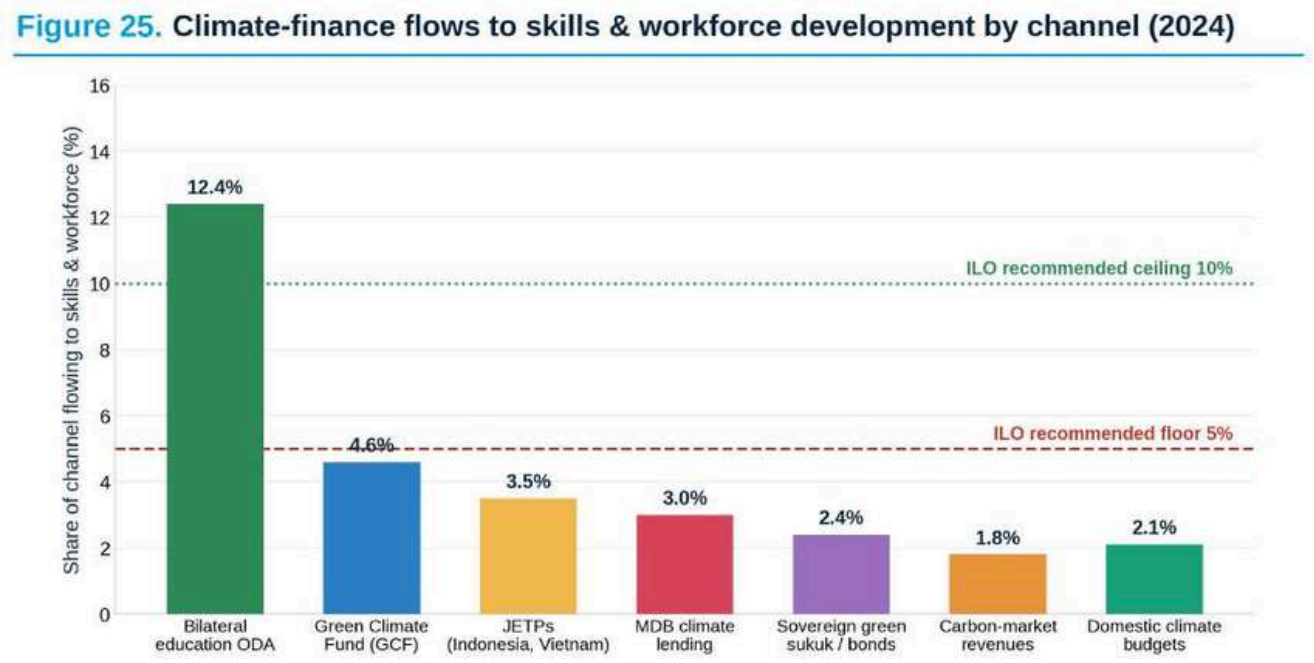


FIGURE 25

Climate-finance flows to skills & workforce development by channel (2024). Only one channel — bilateral education ODA — exceeds the ILO- recommended 5% floor. JETP and MDB flows are well below the benchmark.

Source: OECD DAC CRS 2024; GCF Pipeline Report 2024; JETP Secretariats; ADB Asia Climate Finance Outlook 2024; CPI 2024; ILO 2024.

Source: OECD DAC CRS 2024; GCF Pipeline Report 2024; JETP Secretariats; ADB 2024; CPI 2024; ILO 2024.



9.1 Six financing pathways for green skills

Six concrete pathways can close the gap between the current sub-4% allocation and the ILOrecommended 5–10% floor. Each is anchored in existing institutional capacity and can be scaled within the 2026–2030 horizon.

- **Mandate a 5–10% "skills floor" in JETP and similar deals.** The Indonesia and Vietnam JETPs currently allocate 1.8% and 2.4% respectively to skills. A floor of 5% would unlock approximately US$1.8 billion in additional skills funding across pipeline deals.
- **Establish national Climate Skills Funds.** Modelled on Saudi Arabia's HRDF green track, the UAE Industry 4.0 fund, and the Korean Climate Response Fund. Combine carbon-tax revenues, public budget and concessional MDB finance.
- **Use carbon-market revenues for green TVET.** Carbon pricing now generates over US$100 billion annually globally (World Bank, 2024). Earmarking 20% of revenues to TVET would deliver approximately US$20 billion per year for workforce development.
- **Scale Individual Learning Accounts (ILAs).** Portable, personally-owned training entitlements that workers can use across employers and life-stages. Singapore SkillsFuture is the regional benchmark; replication across UMICs would mobilise US$10–18 billion.
- **Mobilise blended finance through green bonds and sukuk.** Sovereign green bonds with explicit skills-financing covenants. Türkiye, Indonesia and Thailand are early issuers; Saudi Arabia has launched sub-sovereign green sukuk through the Islamic Development Bank.
- **Activate corporate co-financing through ESG mandates.** CSRD-equivalent disclosure rules in the region (Singapore, Hong Kong SAR, Saudi Arabia, Türkiye) create reputational and balance-sheet incentives for corporate skills investment.

The six pathways are deliberately complementary across the public–private spectrum: JETP skills-floors and national Climate Skills Funds anchor public finance, while Individual Learning Accounts and ESG-driven co-financing mobilise private capital and individual agency (World Bank, 2024c; OECD, 2024). The evidence from carbon-pricing systems is particularly compelling — with global carbon-pricing revenue now substantial, even a modest earmark for vocational training would represent one of the largest single sources of workforce finance available to the region (World Bank, 2024c).



FIGURE 26

Six financing pathways to close the green-skills funding gap. The pathways are complementary — JETP floors and Climate Skills Funds anchor public finance; ILAs and ESG co-financing activate private capital.

Sources: GCF Pipeline Report 2024; ADB Asia Climate Finance Outlook 2024; World Bank Climate Finance Atlas 2024; OECD DAC CRS; JETP Secretariats; ILO 2024.



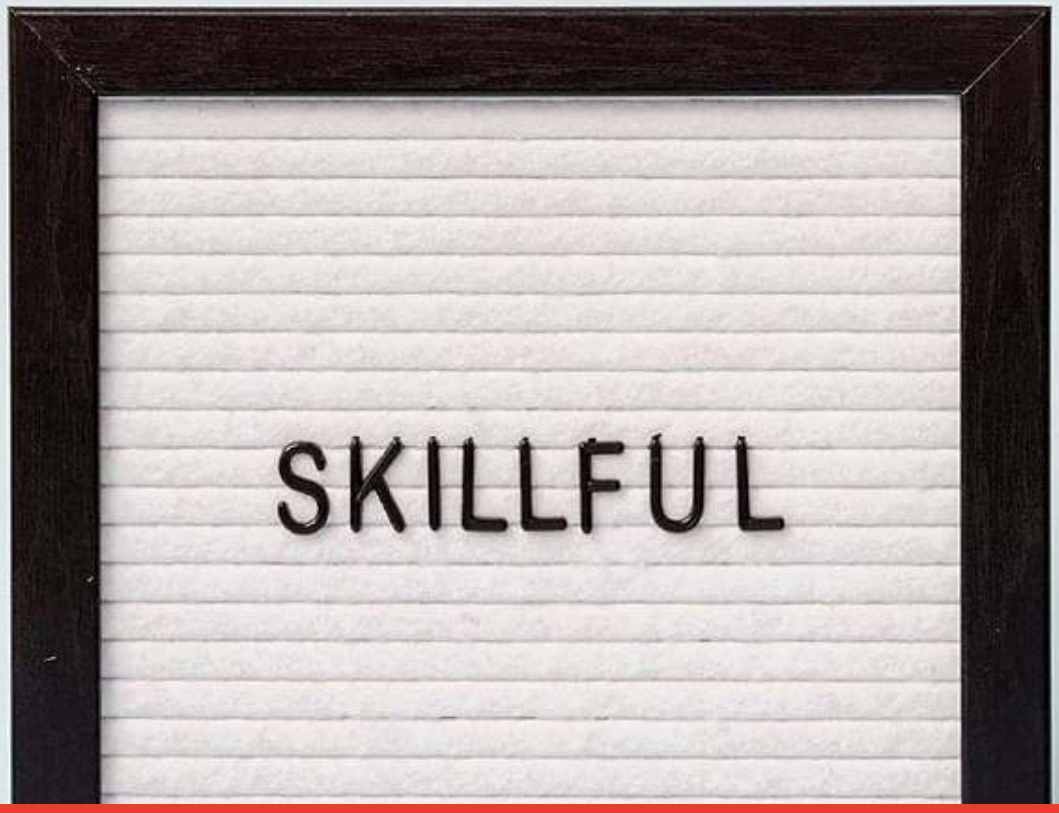
9.2 Ten priority financing instruments

Translating the six pathways into operational delivery requires ten financing instruments matched to lead institutions, indicative envelopes and time horizons. Each is anchored to a phase in the policy roadmap (Section 12).

Instrument	Lead institutions	Indicative envelope (USD)	Horizon
Green Climate Fund — Skills & Workforce Window	GCF Secretariat; UNESCO; ILO	4–6 B · 5-year	2026–30
Asia-Pacific Just Transition Facility	ADB; AIIB; ILO	8–12 B · 5-year	2026–30
JETP skills-floor (Indonesia, Vietnam, Senegal)	JETP Secretariats; ADB	1.8–3.5 B additional	2026–28
Sovereign green sukuk — skills covenants	IsDB; Saudi/UAE/Türkiye treasuries	6–9 B · 2026–30	2026–28
Climate Skills Funds (national)	MoF + MoE; HRDF	20–40 B aggregate	2026–30
Individual Learning Accounts (ILAs)	Singapore SkillsFuture model; UMICs	10–18 B aggregate	2027–30
Carbon-market revenue earmark for TVET	WB PMR; EU-ETS-aligned schemes	15–20 B/yr by 2030	2028–30
Education for Sustainable Development bonds	WB; ADB; IsDB; IFC	5–8 B · 7-year	2027–30
Diaspora-mobilisation funds for green skills	IOM; national diaspora ministries	0.5–1 B · 5-year	2028–30
Asia-Pacific Education–Climate Compact (post-2030)	UNESCAP; UNESCO; UNFCCC	TBD · binding	2030+

Source: GCF Pipeline Report 2024; ADB Asia Climate Finance Outlook 2024; World Bank Climate Finance Atlas 2024; OECD DAC CRS; JETP Secretariats; ILO 2024.





CHAPTER 10

GENDER, INCLUSION AND VULNERABLE YOUTH GROUPS

Inclusive design is not an add-on to the green-skills agenda; it is the precondition for delivery at scale. Across Asia-Pacific, four populations are systematically under-served by current green-skills architectures: women and girls; rural and remote youth; refugees and displaced populations; and indigenous peoples and traditional-knowledge holders.

Treating inclusion as a precondition rather than an add-on has a concrete analytical basis: the headline workforce targets in this brief are arithmetically unreachable if the four under-served populations remain excluded, because together they represent a majority of the region's untapped labour reserve (World Economic Forum, 2024; ILO, 2024d). Inclusion is therefore reframed from a fairness consideration into a delivery constraint that determines whether the transition's employment potential can be realised at all.



FIGURE 27

Multidimensional vulnerability dashboard — all 54 Asia-Pacific economies. Composite of climate vulnerability (ND-GAIN), conflict/fragility (INFORM), gender gap (UN Women), NEET (ILO) and digital divide (ITU). Sorted by total vulnerability score.

Source: ND-GAIN 2023; UNDRR INFORM 2025; UN Women 2024; ILO ILOSTAT 2024; ITU 2024 — author's synthesis.

Figure 27. Multidimensional vulnerability dashboard — all 54 economies

	Climate vulnerability	Conflict risk	Gender gap	NEET intensity	Digital divide
Syria	9.1	10.0	8.5	10.0	8.3
Afghanistan	9.1	10.0	8.5	10.0	8.2
Yemen	8.9	10.0	8.4	7.2	8.1
Iraq	7.9	10.0	7.0	7.7	7.3
Myanmar	8.5	10.0	8.3	3.6	7.9
Nauru	8.6	5.9	8.2	7.6	7.8
Solomon Islands	8.4	5.8	8.2	7.0	7.7
Kiribati	8.3	5.8	8.1	7.0	7.6
Lebanon	6.7	10.0	7.4	6.3	6.4
Tuvalu	8.5	5.8	8.2	6.0	7.7
Micronesia	8.3	5.8	8.1	6.4	7.6
Timor-Leste	8.5	6.0	8.1	5.3	7.8
Marshall Islands	8.2	5.7	8.1	5.6	7.6
Vanuatu	8.4	5.8	8.2	4.5	7.7
Samoa	8.1	5.7	8.1	4.8	7.5
Tonga	8.2	5.7	8.1	4.4	7.6
Turkmenistan	8.0	5.5	8.0	5.0	7.3
Nepal	7.4	5.2	7.7	6.3	7.0
Tajikistan	7.7	5.3	7.8	5.6	7.1
Papua New Guinea	8.0	5.5	8.0	4.2	7.4
Lao PDR	7.8	5.4	7.9	4.7	7.2
Palau	8.1	5.6	8.0	3.6	7.5
Bhutan	7.3	5.2	7.8	5.3	7.1
Pakistan	7.1	4.9	7.5	6.0	6.7
Kyrgyzstan	7.4	5.1	7.7	4.9	6.9
Bangladesh	6.7	4.7	7.4	5.7	6.5
Maldives	6.7	5.0	7.6	4.7	6.7
Fiji	6.8	4.8	7.5	4.9	6.6
Sri Lanka	6.3	4.4	7.2	5.7	6.1
Iran	6.3	4.3	7.1	5.5	6.1
Cambodia	7.3	5.0	7.6	2.1	6.9
Mongolia	6.4	4.5	7.2	4.5	6.2
Uzbekistan	6.6	4.5	7.2	3.9	6.2
India	5.7	4.0	6.9	5.7	5.7
Brunei	6.3	4.5	7.3	3.3	6.3
Indonesia	6.1	4.2	7.0	4.0	5.9
Philippines	6.1	4.2	7.1	2.7	6.0
Oman	5.3	3.9	6.8	4.3	5.6
Türkiye	4.6	3.5	6.6	5.6	5.1
Kuwait	5.5	4.0	6.7	3.1	5.8
Jordan	5.7	4.2	7.0	2.5	5.9
Viet Nam	5.9	4.1	7.0	2.1	5.8
Bahrain	4.9	3.7	6.7	2.5	5.4
Saudi Arabia	3.7	3.2	6.4	4.9	4.9
Kazakhstan	5.4	3.8	6.7	1.7	5.4
Thailand	5.5	3.8	6.5	1.1	5.5
Malaysia	5.0	3.5	6.6	2.2	5.2
China	4.8	3.4	6.4	2.8	5.0
UAE	4.1	3.2	6.3	2.5	4.8
Qatar	4.6	3.6	6.6	1.0	5.3
Korea, Rep.	4.2	3.0	4.0	2.8	4.5
Cyprus	4.0	3.1	4.0	2.4	4.8
Japan	4.1	2.9	4.0	1.7	4.5
Singapore	3.5	2.7	4.0	0.8	4.3



10.1 Women and girls

Women hold approximately 32% of jobs in renewable energy globally — higher than the 22% in oil and gas, but well below parity (IRENA, 2024). LinkedIn data show that only 6.5% of women report at least one green skill,

compared with 11.5% of men. The gap is particularly acute in Southern Asia and MENA, where female labour-force participation overall remains below 35%.

The gender gap in green-skill reporting is striking because it is wider than the gap in overall labourforce participation, indicating that women are under-represented not only in work but specifically in the fastest-growing, highest-premium segments of the labour market (LinkedIn Economic Graph, 2024; IRENA, 2024). Left unaddressed, the green transition would entrench rather than narrow existing gender disparities — a risk the brief treats as one of the agenda's central failure modes (World Economic Forum, 2024).

Six interventions are documented to be most effective:

- Targeted scholarships in STEM-green fields.
- Apprenticeship quotas in construction, energy and mobility.
- Mentoring and sponsorship networks (e.g., Women in Renewables; Saudi Women in Energy).
- Pay-transparency rules in green sectors.
- Re-entry programmes for women returning to work after caring responsibilities.
- Care-economy policies enabling participation.

10.2 Rural and remote youth

Rural youth in the Asia-Pacific face combined access barriers: distance from training institutions, lower digital connectivity, weaker employer demand, and earlier labour-force entry. The brief recommends three targeted interventions: mobile TVET delivery (the BRAC Mobile University Bus in Bangladesh is a proven model); digital learning credits for off-grid contexts; and place-based green-jobs investment that anchors employment locally — forestry, restoration, climate-smart agriculture, mini-grid operations.

Place-based investment is critical for rural youth because it addresses the demand side as well as the supply side: training without local employment merely accelerates out-migration, draining the human capital that rural green transitions depend upon (World Bank, 2024b; FAO, 2024). Anchoring green jobs locally — in restoration, distributed energy and climate-smart agriculture — keeps both skills and the young people who hold them in the communities most exposed to climate risk (FAO, 2024).

10.3 Refugees and displaced populations

The Asia-Pacific hosts approximately 12 million refugees and displaced persons, with the largest concentrations in Türkiye (over 4 million), Jordan, Lebanon, Pakistan, Bangladesh and Iran. The UNHCR Refugee Climate Compact (2024) provides a normative framework for inclusive climate-skills delivery. National green-jobs strategies should explicitly enumerate refugee-inclusion pathways, and donor governments should fund parallel training streams that meet host-country labour-market needs while developing transferable competencies for eventual safe return.

Refugee and displaced populations represent a substantial and frequently overlooked labour reserve, concentrated in precisely the host economies under the greatest fiscal strain (UNDP, 2025). Designing green-skills programmes that meet host-country labour-market needs while building portable competencies turns a humanitarian burden into a shared economic asset, and aligns with the normative frameworks now emerging for climate-displacement contexts (UNDP, 2024; UNEP, 2024b).

10.4 Indigenous peoples and traditional ecological knowledge

The Asia-Pacific is home to one of the world's largest indigenous populations, concentrated in Oceania, Southern Asia and South-Eastern Asia — the sub-regions with the highest climate vulnerability. Indigenous and traditional ecological knowledge (TEK) is increasingly recognised as a critical climate mitigation and adaptation resource (UNDP 2024; UNESCO LINKS 2025). The brief recommends that Asia-Pacific states formally recognise indigenous peoples as agents of change in NDCs, National Adaptation Plans and tertiary ESD curricula, and integrate TEK as a mitigation and adaptation solution through HEI-led research and community partnerships.

Recognising traditional ecological knowledge is not solely a matter of cultural inclusion; a growing evidence base shows that indigenous stewardship is associated with superior biodiversity and landmanagement outcomes, making TEK a substantive input to adaptation and mitigation rather than a symbolic one (UNDP, 2024; UNESCO, 2025a). Embedding it in NDCs, National Adaptation Plans and tertiary curricula therefore strengthens the technical quality of climate policy while widening the agenda's legitimacy among the communities on its front line (UNESCO, 2025a).

10.5 Two inclusion targets for 2030

TWO INCLUSION TARGETS FOR 2030

40% female participation in all national green-apprenticeship, TVET-greening and renewables-workforce programmes — a 25-percentage-point increase from the current Asia-Pacific average.

50% of Asia-Pacific states embed indigenous and traditional ecological knowledge in national climate policies and HEI curricula — a 40-state increase from the current baseline of approximately 5 states.





CHAPTER 11

55-COUNTRY IMPLEMENTATION MATRIX

FIGURE A

Countries covered in the study — all 55 Asia-Pacific and MENA United Nations member states included in the green-skills assessment.



The matrix below sets out for each of the 55 Asia-Pacific UN member states: classification (LDC, LLDC, SIDS); population; youth unemployment and NEET rates; green-skill intensity (LinkedIn 2024); renewable-

energy jobs in 2023; the composite readiness index (0–10); and the net-zero target year. Each sub-regional group is followed by a three-priority-actions table for the 2026–2030 horizon.

The matrix is designed to be read as a planning instrument rather than a ranking. For each state, the indicator columns localise the regional diagnosis — pairing demographic scale and labour-market stress with green-skill intensity, existing renewable employment and net-zero ambition — so that the accompanying three priority actions follow directly from the country's specific constraint profile (author's composite; ILO, 2024d; UNFCCC, 2024). The priorities are deliberately limited to three per state to keep them actionable within the 2026–2030 horizon.



11.1 Southern Asia (9 countries)

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Afghanistan	LDC, LLDC	42.2	18.1%	51.5%	0.6%	1.8	1.4	None
Bangladesh	LDC	173	16.8%	28.5%	3.4%	48.0	4.6	No NZ pledge
Bhutan	LLDC	0.8	22.5%	26.3%	4.1%	1.6	3.5	Carbon-negative
India	—	1,450	16.8%	28.5%	4.5%	1,020	6.0	2070
Iran	—	89.2	23.6%	27.4%	3.2%	8.4	5.3	No pledge
Maldives	SIDS	0.5	14.2%	23.4%	5.4%	0.6	4.1	2030 (cond.)
Nepal	LDC, LLDC	30.9	19.2%	31.4%	2.8%	7.5	3.6	2045
Pakistan	—	245	18.1%	30.1%	2.6%	22.0	4.2	No pledge
Sri Lanka	—	21.9	24.5%	28.6%	4.0%	8.6	5.2	2050 (cond.)

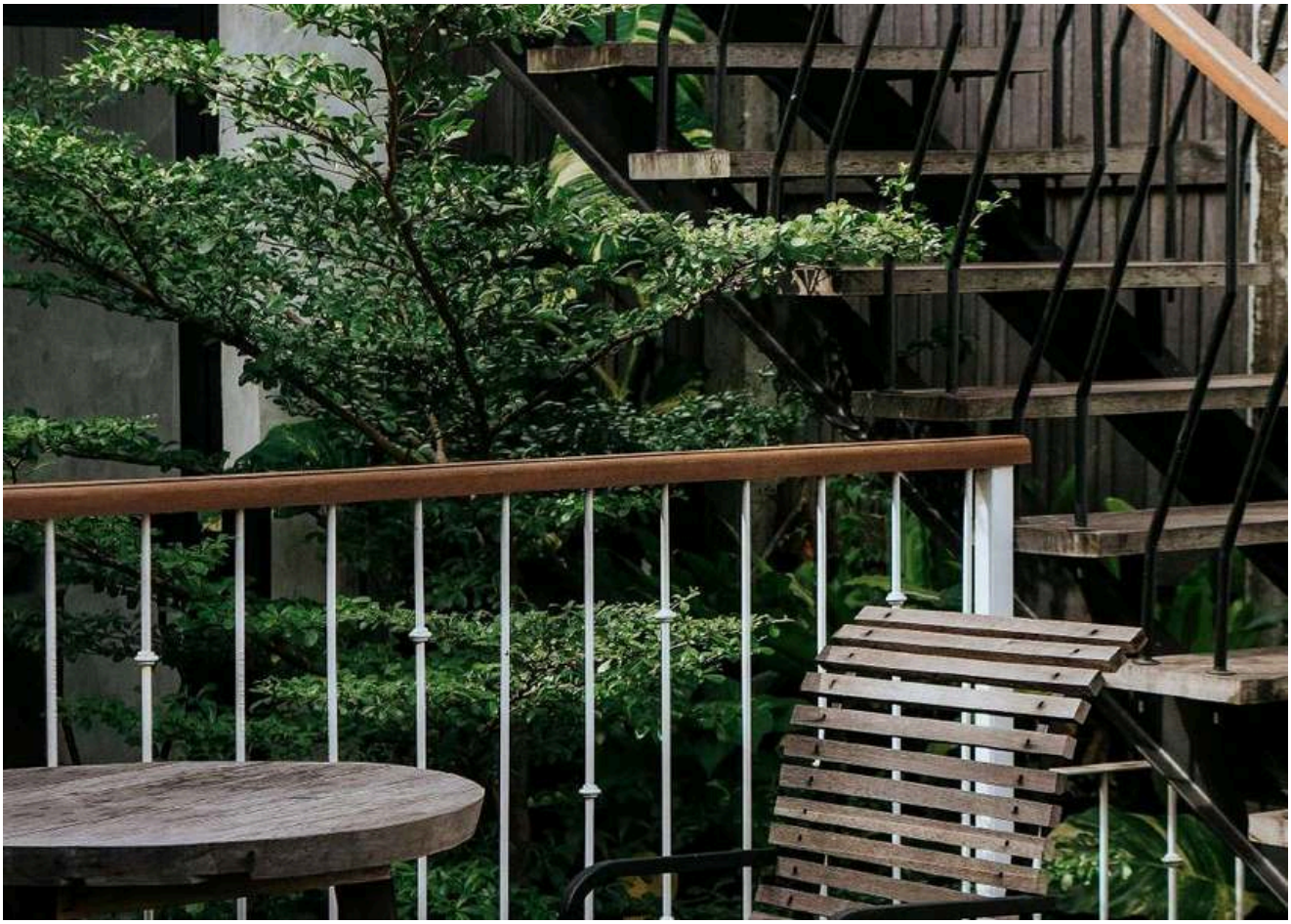


Country	Three priority actions, 2026–2030
Afghanistan	Restore TVET infrastructure · Women-only training · Off-grid solar skills
Bangladesh	Adaptation workforce · Solar Home Systems scaling · Climate-resilient agric.
Bhutan	Carbon-credit specialists · Forestry expansion · Eco-tourism guides
India	Skill Council for Green Jobs scale · PM Surya Ghar rollout · Battery PLI workforce
Iran	Solar industry diversification · Water-efficient agric. · Female STEM access
Maldives	Coastal-resilience jobs · Sustainable-tourism certification · Renewables on outer atolls
Nepal	Hydropower technicians · Mountain adaptation skills · Sustainable tourism
Pakistan	Solar rooftop installers · Floods-resilience workforce · TVET reform
Sri Lanka	Climate-smart agriculture · Eco-tourism · Wind & solar grid scaling



11.2 Central Asia (5 countries)

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Kazakhstan	LLDC	20.0	3.7%	8.4%	4.6%	17.0	6.5	2060
Kyrgyzstan	LLDC	7.1	8.5%	24.5%	2.4%	0.8	3.8	2050 (aspir.)
Tajikistan	LLDC	10.5	6.9%	27.8%	1.6%	1.2	3.4	No pledge
Turkmenistan	LLDC	6.5	5.2%	25.1%	1.0%	0.3	3.0	No pledge
Uzbekistan	LLDC	36.5	6.8%	19.5%	2.9%	4.8	5.0	2050 (aspir.)



Country	Three priority actions, 2026–2030
Kazakhstan	Coal-region reskilling · Renewables auctions · Critical minerals
Kyrgyzstan	Mountain-water mgmt. · Hydropower training · Energy-efficient buildings
Tajikistan	Hydro maintenance technicians · Climate-smart agric. · Female LFP
Turkmenistan	Methane-reduction technicians · Solar diversification · Educational openness
Uzbekistan	Solar/wind auctions scaling · Energy-efficient industry · Water-tech engineers



11.3 Eastern Asia (5 countries)

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
China	—	1,410	14.9%	14.1%	5.8%	7,400	7.3	2060
DPRK	—	26.2	—	—	—	—	—	No pledge
Japan	—	124	4.2%	8.5%	6.5%	200	8.2	2050 (law)
Mongolia	LLDC	3.5	19.2%	22.7%	3.4%	2.6	5.1	No pledge
Republic of Korea	—	51.6	5.9%	14.0%	6.3%	95.0	8.1	2050 (law)



Country	Three priority actions, 2026–2030
China	EV/battery skilling at scale · AI for sustainability · Just-transition for coal regions
DPRK	Data unavailable · No reporting · —
Japan	GX League workforce expansion · Aging-workforce reskilling · Hydrogen-economy training
Mongolia	Coal-region reskilling · Solar for nomadic households · Sustainable mining
Republic of Korea	K-Hydrogen workforce · Battery/semiconductor reskilling · Green-finance certificates



11.4 South-Eastern Asia (11 countries)

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Brunei Darussalam	–	0.5	28.6%	16.4%	4.8%	0.4	4.9	2050
Cambodia	LDC	17.0	0.9%	10.5%	2.4%	5.2	3.9	2050 (cond.)
Indonesia	–	282	13.4%	19.9%	3.6%	130	5.6	2060
Lao PDR	LDC, LLDC	7.7	18.5%	23.6%	1.9%	1.5	3.2	2050
Malaysia	–	34.1	11.3%	11.1%	5.8%	35.0	6.9	2050
Myanmar	LDC	54.5	4.5%	17.8%	1.8%	3.5	2.0	No pledge
Philippines	–	117	6.2%	13.5%	4.2%	62.0	5.5	No pledge
Singapore	SIDS	5.9	8.7%	4.2%	9.0%	10.0	8.6	2050
Thailand	–	71.7	4.6%	5.4%	4.6%	30.0	6.4	2065
Timor-Leste	LDC, SIDS	1.4	6.4%	26.5%	1.4%	0.4	2.1	No pledge
Viet Nam	–	101	8.0%	10.3%	4.4%	80.0	5.8	2050



Country	Three priority actions, 2026–2030
Brunei Darussalam	Diversification from O&G · Carbon-capture skills · Sustainable forestry
Cambodia	Garment-sector greening · Sustainable agric. · Solar mini-grids
Indonesia	JETP $20B implementation · Coal-region reskilling · Nickel-supply-chain green jobs
Lao PDR	Hydropower technicians · Sustainable forestry · Green-finance literacy
Malaysia	NETR workforce plan · Sustainable palm-oil · Carbon-services hub
Myanmar	Crisis-resilient TVET · Off-grid solar · Sustainable agric.
Philippines	Geothermal/solar engineers · Climate-resilience workforce · Care-economy + green jobs
Singapore	SkillsFuture green tracks · Carbon-services hub · Green-finance leadership
Thailand	EV manufacturing pivot · Bio-economy skills · Tourism decarbonisation
Timor-Leste	Foundational TVET build-out · Solar mini-grids · Coastal-fisheries adaptation
Viet Nam	JETP $15.5B implementation · Solar/wind workforce · Manufacturing decarb.



11.5 Western Asia (MENA) (13 countries)

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Bahrain	—	1.6	5.2%	12.4%	7.4%	0.6	6.6	2060
Cyprus	—	1.3	13.6%	11.9%	9.4%	2.4	7.7	2050
Iraq	—	46.5	35.8%	38.4%	1.4%	2.2	3.1	No pledge
Jordan	—	11.5	11.2%	12.5%	5.6%	6.8	5.7	No pledge
Kuwait	—	4.8	14.7%	15.6%	6.4%	0.9	5.9	2060
Lebanon	—	5.5	27.5%	31.4%	3.4%	1.2	4.7	No pledge
Oman	—	4.7	13.2%	21.6%	6.8%	1.6	6.2	2050
Qatar	—	3.0	0.4%	0.6%	8.6%	1.0	6.8	2050 (aspir.)
Saudi Arabia	—	36.5	16.1%	24.5%	11.7%	25.0	7.5	2060
Syria	—	23.2	39.2%	51.8%	0.7%	0.5	1.3	No pledge
Türkiye	—	85.4	18.0%	28.0%	7.8%	86.0	7.0	2053
UAE	—	9.9	9.0%	12.4%	9.2%	18.0	7.6	2050
Yemen	LDC	34.4	17.5%	36.2%	0.5%	0.6	1.7	No pledge



Country	Three priority actions, 2026–2030
Bahrain	Green-finance certification · Solar deployment skills · Female STEM participation
Cyprus	EU Green Deal alignment · Solar/storage workforce · Maritime decarb.
Iraq	Reconstruction-green nexus · Water-resilience skills · Solar deployment
Jordan	Solar at scale · Water-efficient agric. · Refugee-inclusive TVET
Kuwait	Diversification from O&G · Solar at scale · STEM curriculum reform
Lebanon	Crisis-resilient TVET · Solar / battery installers · Green entrepreneurship
Oman	Green-hydrogen workforce · Logistics & ports · Tourism decarbonisation
Qatar	LNG decarbonisation · Solar build-out · Female STEM
Saudi Arabia	NEOM workforce · Green-hydrogen leadership · HRDF green-skills tracks
Syria	Reconstruction-green nexus · Off-grid solar · Refugee-inclusive training
Türkiye	Green Deal Action Plan delivery · EV/battery industry skilling · Climate-Skills Passport
UAE	Net Zero by 2050 workforce · AI for sustainability · 200k+ green jobs target
Yemen	Crisis-recovery TVET · Off-grid solar · Water-security workforce



11.6 Oceania — Pacific SIDS (12 countries)

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Fiji	SIDS	0.9	13.5%	24.6%	3.6%	1.4	4.4	2050
Kiribati	LDC, SIDS	0.1	24.0%	35.0%	1.0%	0.1	2.5	No pledge
Marshall Islands	SIDS	0.04	18.5%	28.0%	1.4%	0.1	2.6	2050
Micronesia (FSM)	SIDS	0.1	17.5%	32.0%	1.2%	0.1	2.5	No pledge
Nauru	SIDS	0.01	26.0%	38.0%	0.8%	0.0	2.2	No pledge
Palau	SIDS	0.02	12.0%	18.0%	1.6%	0.0	2.8	2050
Papua New Guinea	SIDS	10.5	4.6%	21.0%	1.4%	1.5	2.9	No pledge
Samoa	SIDS	0.2	16.5%	24.0%	1.8%	0.1	2.7	2050
Solomon Islands	LDC, SIDS	0.7	25.0%	35.0%	1.2%	0.2	2.4	No pledge
Tonga	SIDS	0.1	13.0%	22.0%	1.6%	0.1	2.6	2050 (renew.)
Tuvalu	LDC, SIDS	0.01	22.0%	30.0%	1.0%	0.0	2.3	2025 (elec.)
Vanuatu	SIDS	0.3	11.0%	22.5%	1.5%	0.1	2.3	2050



Country	Three priority actions, 2026–2030
Fiji	Climate-resilience workforce · Renewables scaling · Marine-tourism
Kiribati	Coastal-adaptation skills · Solar mini-grids · Migration with dignity
Marshall Islands	Adaptation workforce · Renewables scaling · Loss-and-damage capacity
Micronesia (FSM)	Climate-resilience workforce · Marine-resource mgmt. · Renewables training
Nauru	Diversification (post-phosphate) · Solar mini-grids · Food-security workforce
Palau	Marine-protected area mgmt. · Eco-tourism · Renewables scaling
Papua New Guinea	Forestry-emissions workforce · Mining-just-transition · Off-grid solar
Samoa	100% renewables target · Cyclone-resilience · Sustainable agric.
Solomon Islands	Forestry & fisheries skilling · Climate-resilient infra. · Off-grid solar
Tonga	Volcano + cyclone resilience · Renewables target 70% · Diaspora skills return
Tuvalu	Existential adaptation · Migration with dignity · 100% renewables (delivered)
Vanuatu	Loss-and-damage leadership · Renewables scaling · Climate-adaptation workforce





CHAPTER 12

POLICY ROADMAP 2026–2030 AND BEYOND

The brief's 17 recommendations are organised across four time-bound phases. Each phase carries specific milestones, accountability anchors and financing instruments.

The phasing is sequenced to match the rhythm of the international climate architecture, so that domestic skills milestones reinforce rather than compete with the NDC and ESD cycles (UNFCCC, 2024; UNESCO, 2022). Foundations precede Scaling because diagnostics, taxonomies and baseline data are prerequisites for the credible target-setting that later phases require; attempting to scale delivery without this groundwork is the most common failure mode the brief identifies in existing national programmes (ILO, 2024b; OECD, 2023a).

12.1 Phase 1: Foundations (2026–2027)

- National Green-Skills Strategies in all 55 states by end-2027.
- Common Asia-Pacific Green-Skills Taxonomy, jointly developed by UNESCO, WEF and ILO.
- Baseline diagnostics and data infrastructure — each state publishes baseline data on green-skill intensity, youth NEET, TVET capacity, and finance flows.
- Youth Climate Corps pilots across 20 countries, modelled on the US AmeriCorps Climate Corps and the EU Solidarity Corps.
- Education expenditure raised to a minimum 4% of GDP in LDCs/SIDS, financed through concessional MDB instruments.

12.2 Phase 2: Scaling (2027–2028)

- Greening of TVET — 80% of national TVET qualifications updated to embed sustainability competencies.
- Climate-Skills Passports — portable digital credentials operational across all 55 states, anchored in the UNESCO Recommendation on Micro-credentials (2023).
- JETPs raise skills share to a minimum 5–10% of total deal value (currently below 3.5%).
- Gender-green quotas in renewable apprenticeships: minimum 40% female participation by 2028.
- 100 new UNESCO Chairs in ESD and Climate Action across underserved sub-regions (Pacific SIDS, Central Asia, Lower-MENA, South Asia LDCs).
- Asia-Pacific Accreditation Support Programme — 50 HEIs supported to gain AACSB/ABET accreditation in underserved sub-regions.

12.3 Phase 3: Delivery (2028–2030)

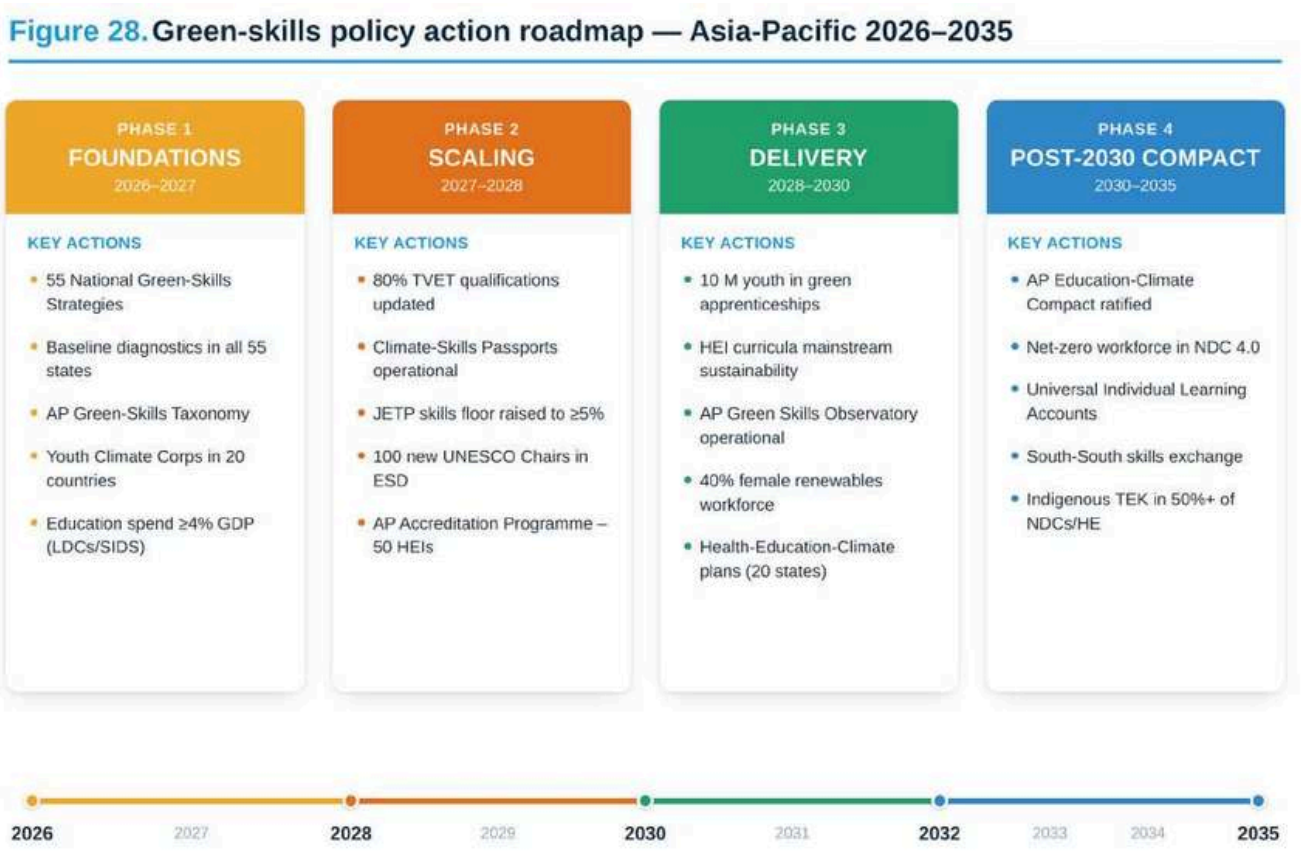
- 10 million Asia-Pacific youth in verified green apprenticeships.
- University curricula mainstream sustainability across all accredited programmes.
- Asia-Pacific Green Skills Observatory operational, hosted jointly by UNESCAP, ILO Bangkok and an academic partner.
- Female participation in renewables workforce ≥ 40% region-wide.
- Integrated Health–Education–Climate Resilience plans in 20 most-vulnerable states; minimum 2% of national budgets to cross-sectoral programming.
- Standardised HEI-level carbon-footprint reporting (Scope 1, 2 and 3) across all THE Impact Rankings participants.

12.4 Phase 4: Post-2030 Compact (2030–2035)

- Asia-Pacific Education–Climate Compact (UN-binding) adopted by all 55 member states at the 2030 High-Level Political Forum.
- Net-zero workforce strategies embedded in every NDC 4.0 submission.
- Lifelong learning entitlements universalised through Individual Learning Accounts in all uppermiddle and high-income economies.
- South-South skills exchange institutionalised through UNESCO chairs, university partnerships and TVET-twinning programmes.
- Recognition of indigenous and traditional ecological knowledge embedded in 50%+ of AsiaPacific NDCs and HEI curricula.

FIGURE 28

Green-skills policy action roadmap — Asia-Pacific 2026–2035. Four phases align with the UNFCCC NDC 4.0 cycle (2028 submission, 2030 implementation), the UNESCO ESD for 2030 Roadmap, and a successor compact post-2030.Source: UNFCCC NDC 4.0 cycle 2024; UNESCO ESD-for-2030 Roadmap





CHAPTER 13

COUNTRY SPOTLIGHTS — TÜRKIYE, SAUDI ARABIA, UAE, INDIA, INDONESIA

Five priority economies illustrate the range of opportunities, constraints and policy archetypes across the AsiaPacific. Each spotlight follows a standardised structure: context, headline indicators, illustrative interventions and three near-term policy priorities. The five spotlights are chosen to span the brief's principal policy archetypes rather than to identify "best performers": Türkiye as a Mediterranean bridge economy, Saudi Arabia and the UAE as resource-economy pivots, India as the largest-volume mobilisation, and Indonesia as the central test of whether transition finance can be converted into workforce outcomes (UNFCCC, 2024; IRENA & ILO, 2024). Read together, they demonstrate that there is no single template — the appropriate intervention mix depends on each economy's starting capacity, fiscal space and demographic structure.

FIGURE 29

Country implementation scorecards — 12 priority Asia-Pacific economies, five dimensions on a 0–10 scale. Sources: LinkedIn Global Green Skills Report 2024; IEA WEI 2024; UNFCCC NDC Synthesis 2024; UNESCO-UNEVOC; ILO Just Transition Reports.Sources: LinkedIn Global Green Skills Report 2024; IEA WEI 2024; UNFCCC NDC Synthesis 2024; UNESCO-UNEVOC; ILO Just Transition Reports

Figure 29. Country implementation scorecards — 12 priority Asia-Pacific economies





COUNTRY SPOTLIGHT 13.1

TÜRKIYE

The Mediterranean linchpin

13.1 Türkiye — the Mediterranean linchpin

85.4	7.8 %	12.8	2053
M Population UN DESA 2024	Green-skill intensity LinkedIn 2024	M Youth aged 15–24 ILO 2024	Net-zero target year UNFCCC

Türkiye combines the highest green-skill intensity in the Mediterranean basin (7.8%) with the OECD's latest net-zero pledge (2053). Renewables-installed capacity already exceeds 60 GW — the highest among the 13 MENA member states — and the Green Deal Action Plan (2021) anchors a comprehensive policy architecture aligned with the EU. The Climate Change Mitigation Strategy (2024) and the ratification of the Paris Agreement signal accelerating ambition. However, an 18% youth unemployment rate and a 38.5% female NEET rate — the highest in the OECD — highlight a skills-to-jobs bridge that remains incomplete.

- **Priority 1.** Embed the Green Deal Action Plan in all MEB and YÖK accredited curricula by 2027.
- **Priority 2.** EV and battery industry skilling — anchor TOGG, TÜBİTAK and ASELSAN valuechain workforce strategies.
- **Priority 3.** Launch a Türkiye Climate-Skills Passport for youth and reintegrating women, portable across the EU Acquis equivalence.





COUNTRY SPOTLIGHT 13.2

SAUDI ARABIA

The knowledge-economy pivot



13.2 Saudi Arabia — the knowledge-economy pivot

36.5 M
Population UN DESA

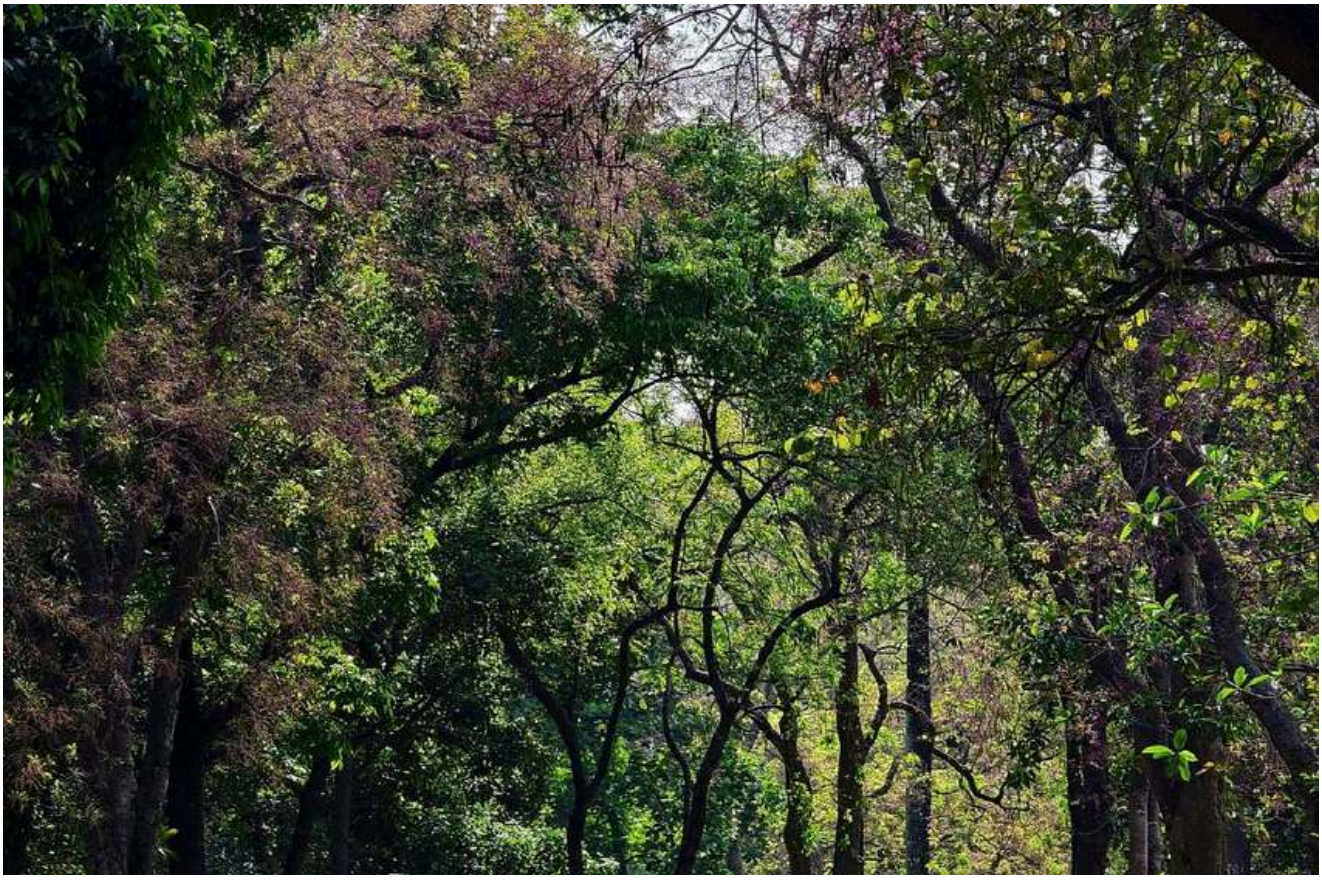
11.7 %
3rd globally on green-skill intensity LinkedIn 2024

US$187 B
Saudi Green Initiative budget SGI 2024

2060
Net-zero target year UNFCCC

Saudi Vision 2030 and the Saudi Green Initiative anchor the most ambitious workforce transformation linked to a resourceeconomy pivot in any contemporary economy. Anchor projects include NEOM (US$500 billion), the Red Sea Tourism Development, and large-scale green hydrogen at Yanbu and NEOM. The Human Resources Development Fund (HRDF) has enrolled approximately one million Saudis in reskilling programmes between 2021 and 2024, with sustainability and digital tracks central to the prospectus. PSU and KFUPM lead the regional research agenda; PSU is the first university in Saudi Arabia to be Carbon Neutral Certified and to host a UNESCO Chair in ESD, Green Skills and Climate Actions.

- **Priority 1.** Scale HRDF green tracks to 500,000 enrolees by 2028; embed green-skills requirements in all Saudization (Nitaqat) targets.
- **Priority 2.** Position Saudi Arabia as the regional green-hydrogen workforce leader through dedicated KAUST, KFUPM and PSU programmes.
- **Priority 3.** Female green-jobs target: 35% female participation in renewables and CCUS workforce by 2030 (up from 27% in 2024).





COUNTRY SPOTLIGHT 13.3

UNITED ARAB EMIRATES

AI for sustainability

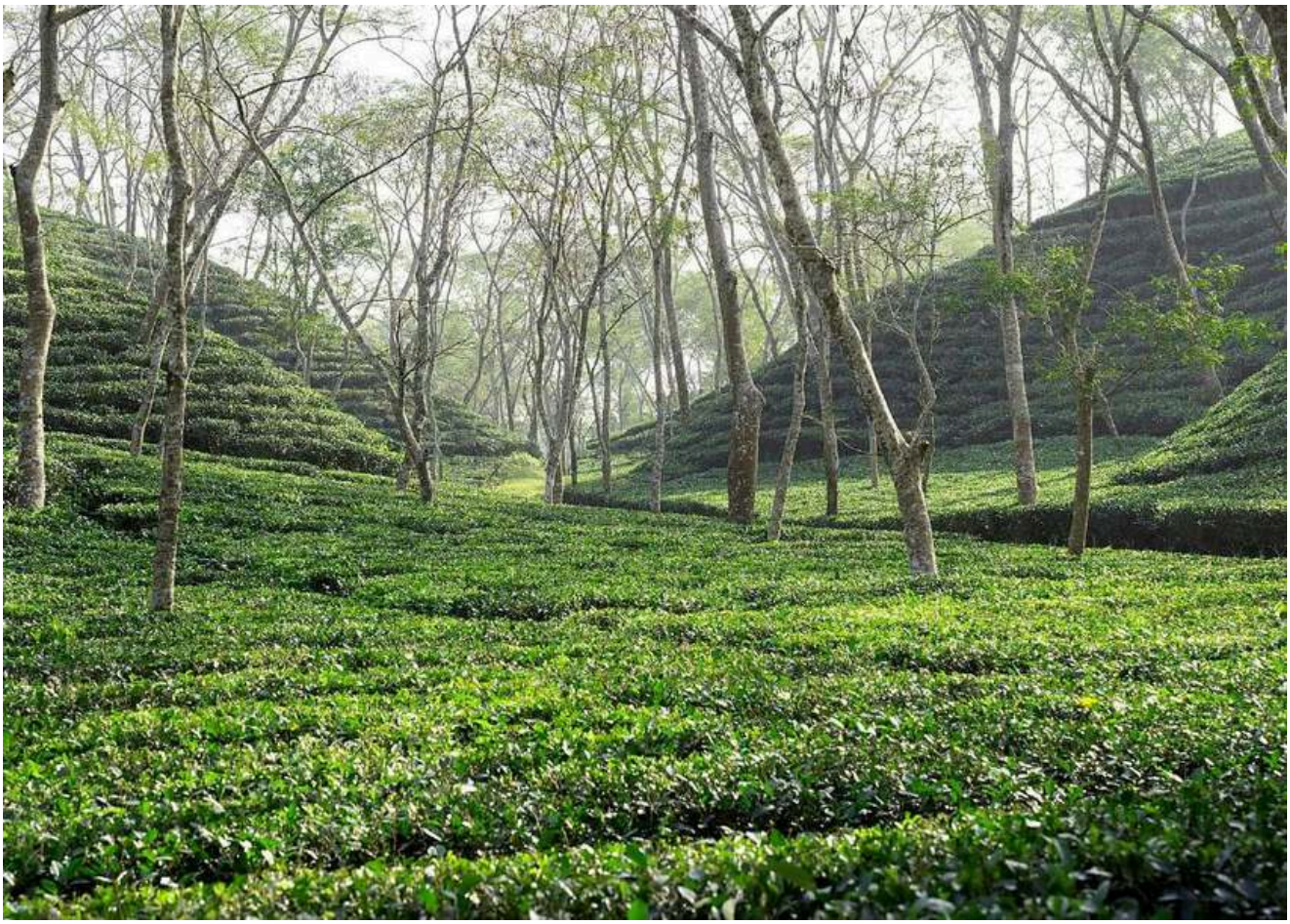


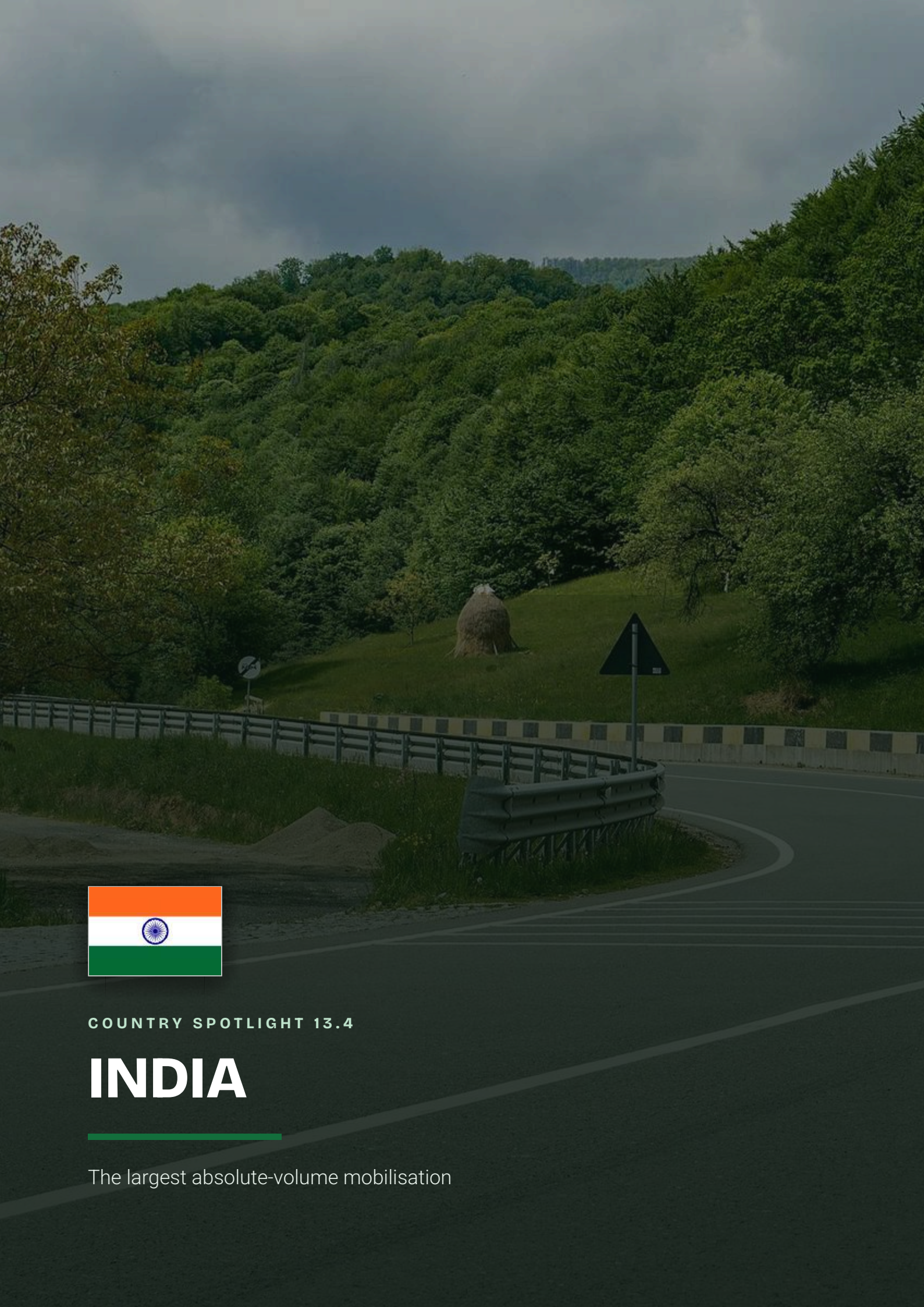
13.3 United Arab Emirates — AI for sustainability

9.95 M	9.2 %	US$163 B	2050
Population UN DESA	Green-skill intensity LinkedIn 2024	Clean-energy investment by 2050 UAE MoEI 2024	Net-zero target year UNFCCC

The UAE Net Zero by 2050 strategy commits approximately US$163 billion to clean-energy investment, targets 200,000+ green jobs by 2030, and integrates AI with sustainability curricula through the world's first AI Ministry. Masdar City and Mohammed bin Rashid Solar Park anchor a comprehensive renewables hub. The Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) provides a unique platform for AI-for-sustainability research and talent development. The UAE chairs the global COP28 climate summit legacy through the UAE Consensus and the Green Skills Pledge.

- **Priority 1.** Operationalise the 200,000 green-jobs target by 2030 with explicit Emiratisation and gender pathways.
- **Priority 2.** Position MBZUAI as the global hub for AI-for-sustainability skills; extend programmes through Khalifa University and UAEU.
- **Priority 3.** Launch a UAE Climate-Skills Passport portable across the GCC.





COUNTRY SPOTLIGHT 13.4

INDIA

The largest absolute-volume mobilisation

13.4 India — the largest absolute-volume green-skills mobilisation

1.45 B	1.02 M	500 GW	2070
Population UN DESA	Renewable jobs 2023 (3.5 M by 2030) IRENA 2024	Non-fossil capacity target by 2030 MoP India	Net-zero target year UNFCCC

India's 2030 targets — 500 GW non-fossil capacity, 3.5 million renewable-energy jobs (IRENA, 2024), and 10 million rooftop-solar installations under the PM Surya Ghar Muft Bijli Yojana by 2027 — represent the largest absolute-volume green-skills mobilisation in any emerging economy. The Skill Council for Green Jobs has developed 30+ Qualification Packs aligned to renewable energy, e-mobility, waste management and sustainable construction — a regional model. The Production-Linked Incentive (PLI) schemes for solar PV, batteries and green hydrogen commit approximately US$26 billion. India also hosts the International Solar Alliance (ISA) and the Coalition for Disaster Resilient Infrastructure (CDRI), giving it a unique multilateral footprint for SouthSouth green-skills cooperation. India hosts 135 institutions in the THE Impact Rankings — the regional leader by volume.

- **Priority 1.** Scale the Skill Council for Green Jobs to 100+ Qualification Packs and 1 million certifications per year by 2028; integrate with the National Education Policy 2020.
- **Priority 2.** Operationalise the PM Surya Ghar Yojana with a national rooftop-solar installer apprenticeship of 100,000 youth by 2027.
- **Priority 3.** Anchor International Solar Alliance and CDRI member-state green-skills agendas through dedicated South-South training streams.





COUNTRY SPOTLIGHT 13.5

INDONESIA

The JETP delivery test case

13.5 Indonesia — the JETP delivery test case & GSDC 2026 host

282 M	US$20 B	13.4 %	2060
Population UN DESA	JETP commitment (largest globally) JETP Sec.	Youth unemployment ILO 2024	Net-zero target year UNFCCC

Indonesia hosts the largest Just Energy Transition Partnership in operation (US$20 billion, 2022), but skills allocation remains below 2% of deal value. The country combines significant coal-region transition risk — concentrated in Kalimantan and Sumatra — with one of the world's largest critical-minerals value chains for the global EV transition (nickel, cobalt). The President's Asta Cita green-economy agenda anchors the policy direction. As host of the Global Sustainable Development Congress (GSDC) 2026, Indonesia is positioned to lead a regional skills-finance reform agenda. The Comprehensive Investment and Policy Plan (CIPP) targets 44% renewables in the power mix by 2030 and a peak in power-sector emissions of 250 Mt CO_2 by 2030.

- **Priority 1.** Renegotiate the JETP to dedicate 5–10% of its US$20 billion envelope to skills, TVET and just-transition pathways.
- **Priority 2.** Anchor coal-region reskilling in Kalimantan and Sumatra with dedicated provincial green-skills hubs — 250,000 workers by 2030.
- **Priority 3.** Operationalise the green-jobs strategy for the nickel–EV value chain with environmental, social and labour safeguards (ESG, OHS, indigenous-community FPIC).





CHAPTER 14

SDG LINKAGE FRAMEWORK — SDGS 4, 8, 9, 13, 17

The green-skills agenda is most effective when treated as a multi-SDG nexus rather than a singlegoal intervention. The brief frames its recommendations against five primary SDGs and the cross-cutting SDGs 5 (gender equality) and 10 (reduced inequalities).

Framing green skills as a multi-SDG nexus is more than a presentational choice; it reflects the empirical interdependence of the goals. Progress on decent work (SDG 8) and climate action (SDG 13) is gated by the quality of education systems (SDG 4), which in turn depends on innovation capacity (SDG 9) and on the partnerships and finance that cut across SDG 17 (UN DESA, 2024; Chankseliani & McCowan, 2021). Policies designed around a single goal tend to under-deliver because they neglect these dependencies, whereas nexus framing surfaces the complementarities that make integrated programming more efficient (Sachs et al., 2025).

FIGURE 30

The five primary SDGs anchoring the green-skills agenda. SDG 4 (Quality Education), SDG 8 (Decent Work), SDG 9 (Industry, Innovation, Infrastructure), SDG 13 (Climate Action), SDG 17 (Partnerships for the Goals).





14.1 SDG 4 · Quality Education

Target 4.4 commits to substantially increasing the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. The green-skills agenda is the most concrete operationalisation of Target 4.4 in the 2026–2030 horizon. UNESCO's ESD for 2030 Roadmap provides the implementation architecture.



14.2 SDG 8 · Decent Work and Economic Growth

Target 8.6 commits to substantially reducing the proportion of youth not in employment, education or training (NEET). Green jobs offer one of the highest-leverage pathways for NEET reduction, particularly when combined with apprenticeship structures and just-transition financing. Target 8.5 (decent work for women and men) and 8.b (Global Jobs Pact) reinforce this nexus.



14.3 SDG 9 · Industry, Innovation and Infrastructure

Target 9.5 commits to enhancing scientific research, upgrading the technological capabilities of industrial sectors, and encouraging innovation and substantially increasing R&D workers. Asia-Pacific R&D expenditure averages 1.5% of GDP — half the OECD average. The brief recommends a 1% GDP floor on R&D in upper-middle-income economies and 0.5% in LDCs/SIDS.

14.4 SDG 13 · Climate Action

Target 13.3 commits to improving education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. Less than 40% of NDCs reference skills development; embedding workforce targets in every NDC 4.0 submission is the single most actionable lever.

14.5 SDG 17 · Partnerships for the Goals

Target 17.9 commits to enhancing international support for implementing effective and targeted capacity-building, including through North-South, South-South and triangular cooperation. The proposed Asia-Pacific Education–Climate Sustainability Compact (Section 12.4) operationalises this commitment regionally.



14.6 SDG cross-cutting matrix

Recommendation	Primary SDG	Secondary SDGs	Cross-cutting
National Green-Skills Strategies	SDG 4	SDG 8, 13	5, 10
Asia-Pacific Green-Skills Taxonomy	SDG 4	SDG 13, 17	5
Education expenditure 4–6% GDP	SDG 4	SDG 10	5
Workforce targets in NDC 3.0	SDG 13	SDG 8	10
Digital divide for climate education	SDG 4	SDG 9, 17	5, 10
Scale ESD across HEIs (100 UNESCO Chairs)	SDG 4	SDG 13	5, 17
Close accreditation gap	SDG 4	SDG 9	10
University research for climate (R&D ≥ 1% GDP)	SDG 9	SDG 13, 17	—
Gender parity in STEM and climate research	SDG 4	SDG 5, 8	10
HEI carbon-footprint reporting	SDG 13	SDG 17	—
Regional SDG 4–13 monitoring dashboard	SDG 4	SDG 13, 17	—
Integrated Health–Education–Climate plans	SDG 3	SDG 4, 13	5, 10
10 M green apprenticeships	SDG 8	SDG 13	5, 10
Climate-education disruption tracking	SDG 4	SDG 13	10
Skills-climate finance governance	SDG 16	SDG 17	—
AP Education–Climate Compact 2030– 2050	All	—	All
Indigenous & traditional ecological knowledge	SDG 13	SDG 15, 10	5

Source: UN DESA SDG Indicator Framework 2024; UNESCO ESD for 2030 Roadmap; ILO Just Transition Guidelines 2024; author's synthesis.



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Appendix A — Methodology

This brief is based on a mixed-methods evidence-synthesis approach combining (a) secondary-data synthesis from the 16 multilateral and statistical sources listed in Section 2.4 and Figure 3; (b) policydocument content analysis of all 55 NDCs and net-zero pledges submitted to the UNFCCC as of January 2026; (c) cross-sectional analysis of LinkedIn Economic Graph hiring data (2018–2024); and (d) consultations with policy stakeholders convened through the UNESCO Chair and the Department of Climate Change Adaptation and Local Policies of Türkiye.

A.1 Country coverage

All 55 Asia-Pacific UN member states are included. The country list follows UN-ESCAP's 2024 classification with three additions: Cyprus, Iran and Türkiye, which are treated as part of the brief's Western Asia and Mediterranean coverage zone. The Democratic People's Republic of Korea (DPRK) is listed but cannot be ranked due to absence of internationally-comparable data.

A.2 Composite readiness index

The composite readiness index combines five equally-weighted dimensions: (1) hiring growth in green roles (LinkedIn, 2024); (2) clean-energy investment per capita (IEA, 2024); (3) talent supply — share of LinkedIn members reporting at least one green skill; (4) policy ambition — NDC ambition score combined with net-zero target year; (5) just-transition planning — UNFCCC NDC text analysis plus ILO Just Transition Country Profiles. Each dimension is normalised to a 0–10 scale and averaged. The composite is therefore a directionally-meaningful index, not a precise empirical measure.

A.3 Vulnerability dashboard

The multidimensional vulnerability dashboard combines five normalised dimensions on a 0–10 scale (10 = critical): climate vulnerability (ND-GAIN 2023); conflict/fragility risk (INFORM 2025); gender gap (UN Women 2024); NEET intensity (ILO ILOSTAT 2024); digital divide (ITU 2024). Equal weighting is used; sensitivity testing with alternative weighting (giving climate vulnerability double weight) does not materially alter the country ranking, with rank shifts confined to ±3 positions.

A.4 Limitations

- Data lags. LinkedIn hiring data captures formal-sector hiring patterns; informal-sector dynamics (large in Southern Asia and SE Asia) are underrepresented.
- DPRK exclusion. The DPRK does not participate in most international reporting frameworks; the 55-state coverage is therefore effectively 54 in most analytical exercises.
- Year-to-year volatility. Several indicators (renewable-energy jobs, hiring growth) display year-toyear volatility; the brief uses three-year rolling averages where possible.
- Projection uncertainty. The 78 M global net-jobs figure, 10 M apprenticeships pathway, and 2050 demand-supply gaps depend on policy choices and are point estimates within reasonable ranges.

Appendix B — Full 55-Country Indicator Table

Comprehensive country-level data for all 55 Asia-Pacific UN member states. Indicators: classification (LDC = Least Developed Country, LLDC = Landlocked Developing Country, SIDS = Small Island Developing State), population (millions, 2024), youth unemployment rate (15–24), NEET rate (15–24), green-skill intensity (LinkedIn 2024), renewable-energy jobs in 2023 (thousands), composite readiness index, and net-zero pledge year.

Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Bahrain	—	1.6	5.2%	12.4%	7.4%	0.6	6.6	2060
Cyprus	—	1.3	13.6%	11.9%	9.4%	2.4	7.7	2050
Iraq	—	46.5	35.8%	38.4%	1.4%	2.2	3.1	No pledge
Jordan	—	11.5	11.2%	12.5%	5.6%	6.8	5.7	No pledge
Kuwait	—	4.8	14.7%	15.6%	6.4%	0.9	5.9	2060
Lebanon	—	5.5	27.5%	31.4%	3.4%	1.2	4.7	No pledge
Oman	—	4.7	13.2%	21.6%	6.8%	1.6	6.2	2050
Qatar	—	3.0	0.4%	0.6%	8.6%	1.0	6.8	2050 (asp.)
Saudi Arabia	—	36.5	16.1%	24.5%	11.7%	25.0	7.5	2060
Syria	—	23.2	39.2%	51.8%	0.7%	0.5	1.3	No pledge
Türkiye	—	85.4	18.0%	28.0%	7.8%	86.0	7.0	2053
United Arab Emirates	—	9.9	9.0%	12.4%	9.2%	18.0	7.6	2050
Yemen	LDC	34.4	17.5%	36.2%	0.5%	0.6	1.7	No pledge
China	—	1,410	14.9%	14.1%	5.8%	7,400	7.3	2060
DPRK	—	26.2	—	—	—	—	—	No pledge
Japan	—	124	4.2%	8.5%	6.5%	200	8.2	2050
Mongolia	LLDC	3.5	19.2%	22.7%	3.4%	2.6	5.1	No pledge
Korea, Rep.	—	51.6	5.9%	14.0%	6.3%	95.0	8.1	2050
Brunei Darussalam	—	0.5	28.6%	16.4%	4.8%	0.4	4.9	2050
Cambodia	LDC	17.0	0.9%	10.5%	2.4%	5.2	3.9	2050 (cond.)
Indonesia	—	282	13.4%	19.9%	3.6%	130	5.6	2060
Lao PDR	LDC, LLDC	7.7	18.5%	23.6%	1.9%	1.5	3.2	2050
Malaysia	—	34.1	11.3%	11.1%	5.8%	35.0	6.9	2050
Myanmar	LDC	54.5	4.5%	17.8%	1.8%	3.5	2.0	No pledge



Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Philippines	—	117	6.2%	13.5%	4.2%	62.0	5.5	No pledge
Singapore	—	5.9	8.7%	4.2%	9.0%	10.0	8.6	2050
Thailand	—	71.7	4.6%	5.4%	4.6%	30.0	6.4	2065
Timor-Leste	LDC, SIDS	1.4	6.4%	26.5%	1.4%	0.4	2.1	No pledge
Viet Nam	—	101	8.0%	10.3%	4.4%	80.0	5.8	2050
Afghanistan	LDC, LLDC	42.2	18.1%	51.5%	0.6%	1.8	1.4	No pledge
Bangladesh	LDC	173	16.8%	28.5%	3.4%	48.0	4.6	No pledge
Bhutan	LLDC	0.8	22.5%	26.3%	4.1%	1.6	3.5	Carbon-neg.
India	—	1,450	16.8%	28.5%	4.5%	1,020	6.0	2070
Iran	—	89.2	23.6%	27.4%	3.2%	8.4	5.3	No pledge
Maldives	SIDS	0.5	14.2%	23.4%	5.4%	0.6	4.1	2030 (cond.)
Nepal	LDC, LLDC	30.9	19.2%	31.4%	2.8%	7.5	3.6	2045
Pakistan	—	245	18.1%	30.1%	2.6%	22.0	4.2	No pledge
Sri Lanka	—	21.9	24.5%	28.6%	4.0%	8.6	5.2	2050 (cond.)
Kazakhstan	LLDC	20.0	3.7%	8.4%	4.6%	17.0	6.5	2060
Kyrgyzstan	LLDC	7.1	8.5%	24.5%	2.4%	0.8	3.8	2050 (asp.)
Tajikistan	LLDC	10.5	6.9%	27.8%	1.6%	1.2	3.4	No pledge
Turkmenistan	LLDC	6.5	5.2%	25.1%	1.0%	0.3	3.0	No pledge
Uzbekistan	LLDC	36.5	6.8%	19.5%	2.9%	4.8	5.0	2050 (asp.)
Fiji	SIDS	0.9	13.5%	24.6%	3.6%	1.4	4.4	2050
Kiribati	LDC, SIDS	0.1	24.0%	35.0%	1.0%	0.1	2.5	No pledge
Marshall Islands	SIDS	0.04	18.5%	28.0%	1.4%	0.1	2.6	2050
Micronesia (FSM)	SIDS	0.1	17.5%	32.0%	1.2%	0.1	2.5	No pledge
Nauru	SIDS	0.01	26.0%	38.0%	0.8%	0.0	2.2	No pledge
Palau	SIDS	0.02	12.0%	18.0%	1.6%	0.0	2.8	2050
Papua New Guinea	SIDS	10.5	4.6%	21.0%	1.4%	1.5	2.9	No pledge
Samoa	SIDS	0.2	16.5%	24.0%	1.8%	0.1	2.7	2050
Solomon Islands	LDC, SIDS	0.7	25.0%	35.0%	1.2%	0.2	2.4	No pledge
Tonga	SIDS	0.1	13.0%	22.0%	1.6%	0.1	2.6	2050 (rnw.)



Country	Class.	Pop. (M)	Y- Unemp.	NEET	GS %	Renew '23 (K)	Readiness	Net-Zero
Tuvalu	LDC, SIDS	0.01	22.0%	30.0%	1.0%	0.0	2.3	2025 (elec.)
Vanuatu	SIDS	0.3	11.0%	22.5%	1.5%	0.1	2.3	2050

Source: Population: UN DESA 2024. Youth unemployment & NEET: ILO 2024. GS%: LinkedIn 2024. Renew jobs: IRENA & ILO 2024. Net-zero: UNFCCC NDC Registry 2024. Readiness: author's composite (Section 4).



Appendix C — Sectoral Green-Jobs Opportunities

The Asia-Pacific green-jobs market spans eight major sectoral clusters. The table below sets out their projected size in 2030, leading sub-regions, key skill profiles and indicative training pathways.

Sector cluster	2030 jobs (M)	Leading sub-regions	Key skill profiles
Renewable energy (solar, wind, geothermal, hydro)	9.4 M	East Asia, MENA, India	PV installers · Wind technicians · Grid integration engineers
Sustainable cities & infrastructure	12.6 M	East Asia, SE Asia, MENA	Energy auditors · Smart-city planners · Green-building technicians
Sustainable agriculture & food systems	5.2 M	South Asia, SE Asia, Oceania	Agroforestry · Climate-smart irrigation · Bio-input specialists
Circular economy	4.8 M	East Asia, SE Asia	Repair & remanufacture · Recycling · Product designers
Climate adaptation services	3.7 M	South Asia, Oceania, MENA	Coastal-resilience · Early- warning systems · Disaster planners
Electric mobility & sustainable transport	3.4 M	East Asia, SE Asia, MENA	EV battery technicians · Charging-infrastructure · Fleet operators
Green finance & ESG analytics	1.9 M	Singapore, GCC, Türkiye	Carbon analysts · ESG assurance · Climate-risk modellers
Green hydrogen & CCUS	1.1 M	GCC, Australia, China	Hydrogen engineers · CCUS technicians · Pipeline & storage

Source: IRENA & ILO 2024; WEF Future of Jobs 2025; ILO Green Jobs Programme; ADB 2024; UNESCO Chair synthesis.

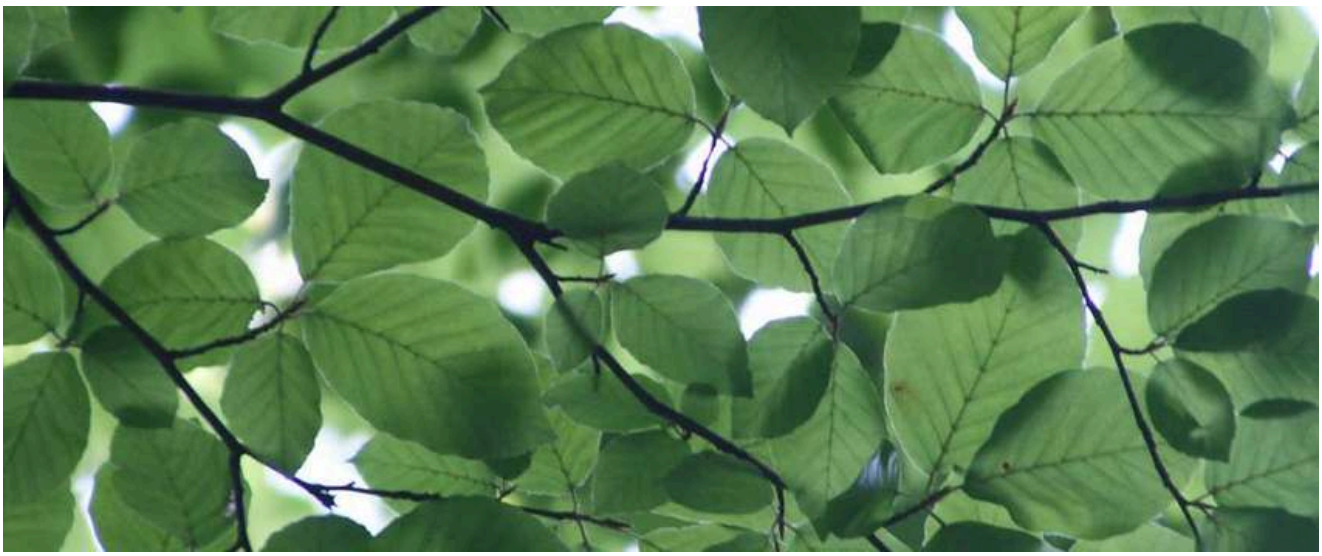


Appendix D — Financing Instruments and Partners

A consolidated view of the ten priority financing instruments, lead institutions, indicative envelopes and supporting partners for the 2026–2030 horizon.

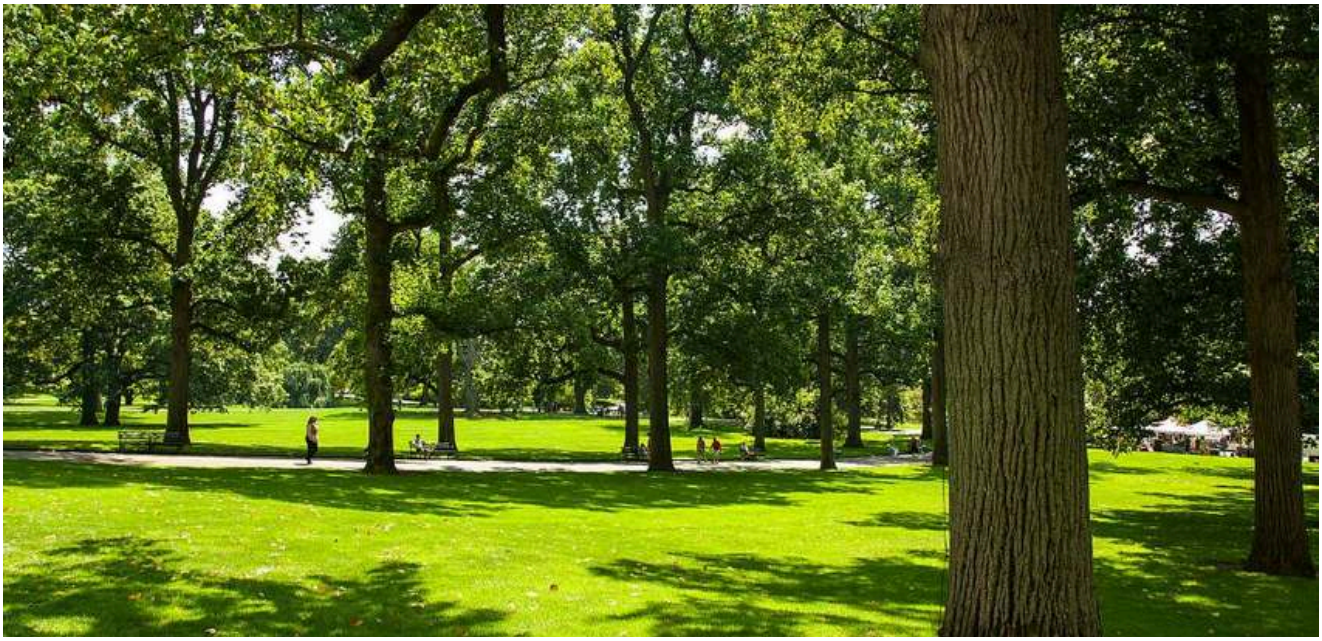
Instrument	Lead institution	Envelope (USD)	Supporting partners
Green Climate Fund — Skills & Workforce Window	GCF Secretariat	4–6 B (5-yr)	UNESCO; ILO; UNDP; UNICEF
Asia-Pacific Just Transition Facility	ADB	8–12 B (5-yr)	AIIB; ILO; UNDP; UN-ESCAP
JETP skills-floor (Indonesia, Vietnam)	JETP Secretariats	1.8–3.5 B (additional)	ADB; IPG donor governments
Sovereign green sukuk — skills covenants	IsDB + nat'l treasuries	6–9 B (2026–30)	Saudi PIF; UAE ADQ; Türkiye Treasury
Climate Skills Funds (national)	Ministries of Finance & Education	20–40 B aggregate	HRDF (KSA); Skill India; SkillsFuture (SG)
Individual Learning Accounts (ILAs)	National governments	10–18 B aggregate	OECD policy support; ILO
Carbon-market revenue earmark for TVET	World Bank PMR	15–20 B/yr by 2030	EU CBAM-aligned schemes; voluntary registries
Education for Sustainable Development bonds	World Bank + IFC	5–8 B (7-yr)	ADB; IsDB; AIIB
Diaspora-mobilisation funds	IOM + nat'l diaspora ministries	0.5–1 B (5-yr)	Türkiye YTB; India MEA- Diaspora
AP Education–Climate Compact (post-2030)	UNESCAP + UNFCCC	TBD (binding)	UNESCO; UNDP; ILO; ADB

Source: GCF Pipeline Report 2024; ADB 2024; World Bank Climate Finance Atlas 2024; JETP Secretariats; IsDB Sukuk Outlook 2024; OECD DAC CRS; author's synthesis.



Appendix E — Glossary

Term	Definition
Green skills	Knowledge, abilities, values and attitudes needed to live in, develop and support a resource-efficient, climate-resilient and sustainable society (UNESCO 2022; CEDEFOP 2024).
Green jobs	Decent jobs that contribute to environmental sustainability, in any sector (ILO 2024).
Just transition	A transition to environmentally sustainable economies that maximises decent-work outcomes and minimises adverse impacts on workers and communities (ILO Just Transition Guidelines).
Twin transition	The convergent green and digital transitions: 73% of fastest-growing green roles require advanced digital skills (WEF Future of Jobs 2025).
NEET	Youth not in education, employment or training. SDG indicator 8.6.1.
Net-zero	A state in which anthropogenic GHG emissions are balanced by anthropogenic removals over a specified period (IPCC AR6).
TVET	Technical and Vocational Education and Training — formal and non-formal learning for occupational fields (UNESCO-UNEVOC).
ESD	Education for Sustainable Development — UNESCO's flagship education programme for sustainability competencies.
NDC	Nationally Determined Contribution — each Paris Agreement signatory's climate pledge, revised every five years.
JETP	Just Energy Transition Partnership — multilateral coal-region transition deals (operating in Indonesia, Vietnam, South Africa, Senegal).
Climate-Skills Passport	Proposed portable digital credential for green-skills certification, anchored in UNESCO Recommendation on Micro-credentials (2023).
Composite readiness index	Five-dimensional 0–10 score used in this brief: hiring growth, investment intensity, talent supply, policy ambition, just-transition planning.





COP31

POLICY PAPER

Green Skills & Jobs: Comparative Evidence Across 55 Countries is the most comprehensive regional benchmark to date of the green-skills, green-jobs and youth-employment landscape across Türkiye, MENA and Asia-Pacific. Drawing on sixteen multilateral and statistical databases, it sets out 17 evidence-based recommendations across four time horizons to 2035 — and a delivery architecture for the 750 million young people who will decide whether the net-zero transition succeeds.

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UNESCO Chair in ESD, Green Skills and Climate Actions