

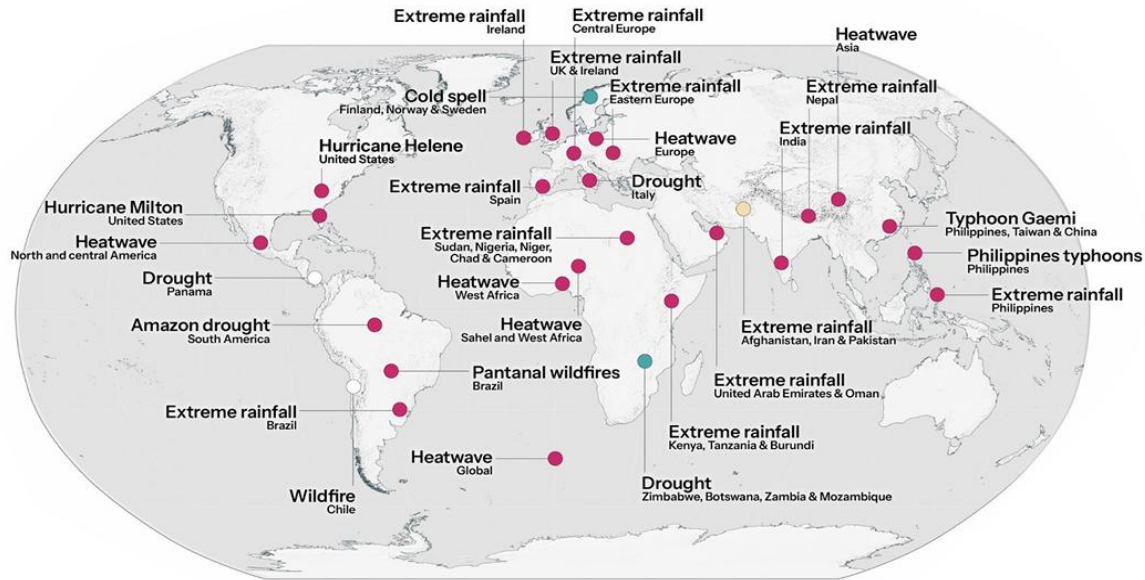
Green Leadership Conference

Transitioning Malaysia into Green Economy Powerhouse

Lee Heng Guie
Executive Director
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#Code Red for Global and Malaysia: Climate Change Impacts Surge Dramatically



● More severe / likely *Source: World Weather Attribution*
○ No evidence of change
● Less severe / likely
● Inconclusive

- ❖ The year 2024 was the warmest year since global records began in 1850 at 1.29°C (2.32°F) above the 20th century average of 13.9°C (57.0°F).
- ❖ Climate change contributed to over 3,700 deaths and the displacement of millions in 2024 alone.
- ❖ The ten hottest years in recorded history have all occurred within the last decade, including 2024.

#1 Record-breaking Philippines typhoon season was 'supercharged' by climate change

#2 Australia's wild weather: fire evacuations and floods



#3 Malaysia was hit hard by severe floods that took lives and caused billions in damage

#4 Los Angeles wildfires with more than USD250 billion in damages and economic loss



Source: Bernama; The Guardian; Malay Mail; NBC News



Malaysia's Journey Towards A Green Economy

Malaysia's Vision of Green Economy

- Foster the development of a **clean and efficient “green” economy**.
- Moves beyond its status as manufacturing and services hubs; meeting sustainability goals (low carbon emissions), **highly efficient use of resources, and maintaining a healthy, and well-educated populace**.

Policy Interventions and Financing Measures

- **Decarbonising** industries
- Promoting **renewable energy**
- Establishing a **circular economy**
- Reducing **carbon emissions**
- Integrating **Environmental, Social, and Governance (ESG)** principles

Preparing for a New Employment Ecosystem

- Creation of **“green industries, goods and services as well as jobs”**.
- Require a **different skillset** than those in fossil fuel-dependent industries.
- **Anticipate the trends** that will shape the way people will work in the coming decades.

Malaysia's Green Transformation: Policies and Progress

National Energy Policy, 2022-2040

Malaysia Renewable Energy Roadmap

Malaysian Forestry Policy, 2021

Malaysia's Roadmap Towards Zero Single-Use Plastics

Green Technology Master Plan Malaysia, 2021-2030

Nasional Solid Waste Management Policy, 2016

National Energy Efficiency Action Plan, 2016

National Policy on Biological Diversity, 2016-2025

National Water Resource Policy, 2012

Note: The list is not exhaustive.

2023: MADANI Economy

Guided by six core values – Sustainability, Compassion, Respect, Innovation, Prosperity, and Trust – to foster inclusive and sustainable economic growth.

2023: New Industrial Master Plan 2030

A comprehensive industrial policy for the manufacturing and related services sectors, aiming to transform the industry through innovation and competitiveness while embracing emerging global trends. Mission 3 of the plan focuses on achieving net-zero emissions.

700,000 of high-skilled jobs by 2030

2023: National Energy Transition Roadmap, 2023

Outlines a two-phase approach with 10 flagship initiatives designed to attract investments, create green jobs, and reduce carbon emissions by over 10 million tonnes annually.

Approx. 310,000 green growth job opportunities in 2050

2023: Mid-Term Review of 12th Malaysian Plan

Theme 3 emphasises “Advancing Sustainability” that enhance energy sustainability and transforming the water sector through the whole-of-nation approach

2023: Hydrogen Economy & Technology Roadmap

Focuses on developing a hydrogen economy that offers a clean fuel alternative for hard-to-decarbonise sectors and positions Malaysia to be a leader in this emerging technology.

Between 8,000 and 45,000 job opportunities in the clean energy sector by 2030

2025: 13th Malaysian Plan

#1 How will Employment Evolve in a Green Growth Era?

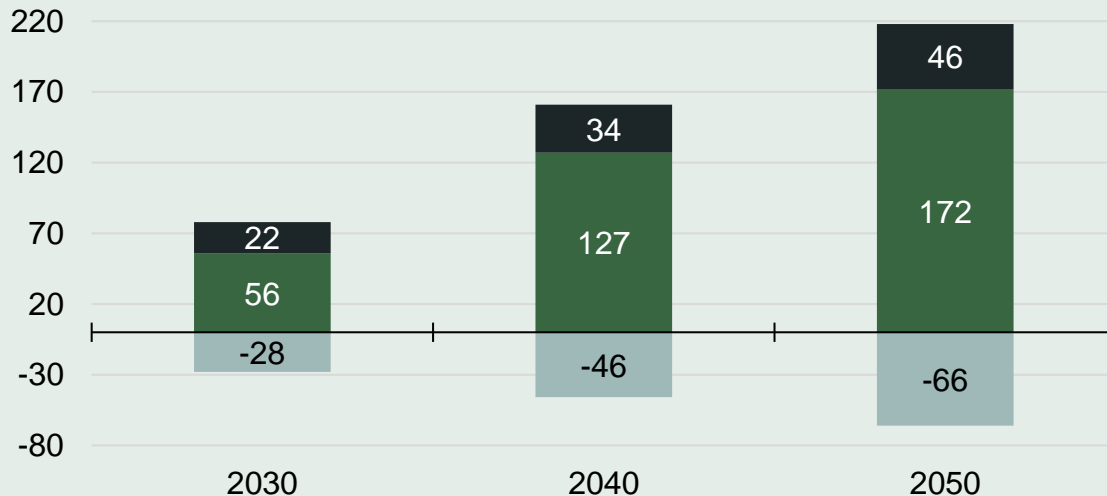


Green transition in a new era of growth and jobs is not simple. **The transition in green, government will need to create a positive impact not just in terms of employment, but also equity and inclusiveness.**



Change in Global Employment from Baseline under Low-Carbon Economy Scenario, million

■ Green Jobs ■ Gray Jobs ■ Other Green Jobs



Source: EY

- **Reshaping of jobs market** – anticipate how the new labour market looks like; how many new jobs created; what green skills levels will be needed.
- **Jobs tied to fossil fuel production/brown industries** may be **lost permanently or displaced**. Globally, more than 18 million jobs related to oil, gas and coal as well as related supply chains may be at risk.
- Ensure transition to be **balancing the social benefits and risks of reducing fossil fuel jobs** while replacing them with green employment.
- **65% of employees are more likely to work for companies with environmental policies** in line with their own values.
- **Two-thirds of workers are expressing a desire to learn green skills.**
- **88% of business school students consider environmental issues in business a top priority** for their future careers.
- **Two-thirds of students are looking for solutions to integrate sustainability** into their future occupations.

#2 How will Employment Evolve in a Green Growth Era?

4 approaches to defining green jobs: (i) **Sustainability**, (ii) **Green industry**, (iii) **Task profile**, and (iv) **Green task definition**.

1 in 8

Around the world, **only 1 in 8 workers has one or more green skills** – we are far from the green skills penetration that we need.

15%

Between Feb 2022 and Feb 2023, LinkedIn **job postings requiring at least one green skill** have grown by a median of 15.2%

29%

The median LinkedIn **hiring rate for workers with at least one green skill is 29% higher** than the workforce average.

Growth in demand for green skills is outpacing the increase in supply

Between 2022 and 2023

+12.3%

Share of green talent in the workforce

+22.4%

Share of job postings requiring at least one green skill

Source: Global Green Skills Report 2023

Key Findings

1. From 2015 to 2023, employment in the renewable energy industry grew in every country we studied. **For every 100 workers who left the global renewable energy sector, 120 workers joined.**
2. The transition to a greener economy is **driving green skills growth across all industries, including the most carbon-intensive.** For example, the green talent concentration in the oil and gas industry has steadily increased since 2016, reaching 21% in 2023.
3. The **share of auto workers with EV skills (a subset of green skills) rose by a median of 61%** between 2018 and 2023.
4. The **finance industry** (one in 15 has green skills) **is behind industries ranging from energy and mining to agriculture, healthcare, and manufacturing**, when it comes to green talent. That said, with a 14.8% year-over-year increase in its green talent concentration, the **finance industry is greening faster than most industries.**
5. In 81% of transitions into green jobs — jobs that have sustainability at their core — **workers already have green skills or prior green job experience.**
6. Certain green jobs are more likely to be available to workers without prior green job experience. These include **relatively new and quickly growing roles like sustainability manager and energy auditor.**
7. The **skills profile for the average job changed 24% between 2015 and 2022** — and green skills are increasingly among the newly added skill requirements.

Green Job Prospects: Skills for the Future

Green Skills



We need to double the size of the green talent pool by 2050—at a bare minimum—to keep pace with projected demand. Roughly half of jobs in the 2050 green economy will lack qualified candidates if we don't focus on strategic, expansive upskilling. --- LinkedIn



11.6%

Demand for green talent grew 11.6% from 2023 to 2024, twice the rate of supply growth (5.6%).

1 in 2

By 2030, 1 in 5 jobs will lack the green talent needed. By 2050, this gap widens to 1 in 2 jobs.

54.6%

Job seekers with green skills have a 54.6% higher hiring rate. In the US, this advantage increases to 80.3%, and in Ireland, it's 79.8%.

15%

Sustainable Procurement is the fastest-growing green skill, with a 15% increase in LinkedIn profiles mentioning it in 2024.

Source: LinkedIn's Global Green Skills Report 2024

Green Jobs



Shifting global trends in technology, economy, demographics and the green transition are projected to generate 170 million new jobs by 2030, while displacing 92 million others.

--- World Economic Forum



Gen Z is eager to pursue green jobs, viewing them as both a necessity and an opportunity. While this generation represents a significant portion of the future workforce and is highly motivated to acquire green skills, they currently lack the necessary training and opportunities to enter the green job market.

What are the main barriers to securing a green job?

#1 Lack of available job opportunities 63%

#2 Lack of experience 45%

#3 Lack of green skills 40%

Source: LinkedIn's Global Green Skills Report 2024, World Economic Forum's Future of Jobs Report 2025

What are Green Jobs?

Social



Decent work sums up the aspirations of people in their working lives.

- a) Pays a **fair income**
- b) Guarantees a **secure form of employment and safe working conditions**
- c) Ensures **equal opportunities and treatment** for all
- d) **Social protection** for the workers and their families
- e) Offers prospects for **personal development** and encourages **social integration**
- f) Workers are **free to express their concerns** and to organise

“ Green Jobs are **decent jobs** that contribute to **preserving or restoring the environment**, be it in traditional sectors such as the manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency. ”

International Labour Organization (ILO)



Green Jobs help:

- a) Improve **energy and raw materials efficiency**
- b) Limit **greenhouse gas emissions**
- c) Minimise **waste and pollution**
- d) Protect and **restore ecosystems**
- e) **Support adaptation** to the effects of climate change

Environment

How is Green Economy Linked to Technology, Skills, and Jobs?

#3 Jobs that are good for people, good for the environment and good for the economy. Green jobs are decent and socially responsible as well as for the preservation and restoration of the environment. --- ILO



Solar Technician

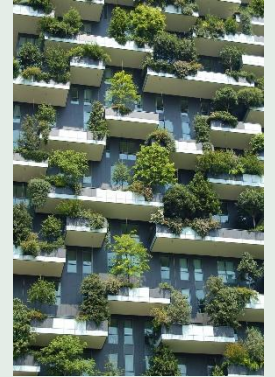
Supply Chain Sustainability Analyst in Mining Industry



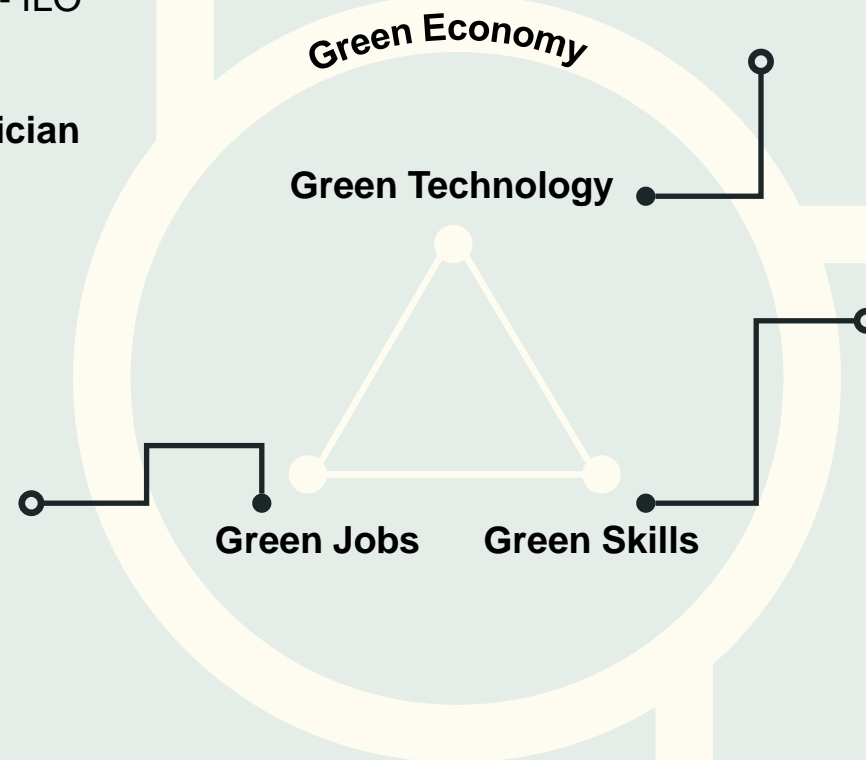
#1 Technologies that aim to minimise environmental impact and promote sustainability.



Solar Panel



Green Building



#2 Knowledge, abilities, values and attitudes needed to live in, develop and support a sustainable and resource-efficient society --- United Nations

A - Technical skills: Renewable energy technologies, energy efficiency

B - Transferable skills: Problem-solving, critical thinking, communication

C - Environmental awareness: Understanding of environmental issues, sustainability principles

All of Them are Green Jobs!

	Outcome Approach (Direct)	Process Approach (Indirect)
Description	<p>Focus on producing goods or services (final result) that benefit the environment or conserve resources.</p> <p>It can be further broken down into sectoral and occupational categories.</p>	<p>Involves integrating sustainable practices into an organisation's production processes.</p>
Skill Requirement	<p>Knowledge of environmental technologies, ability to measure and improve resource efficiency, and understanding of sustainable practices.</p>	<p>Proficiency in cleaner production technologies, expertise in waste reduction methods, and skills in environmental impact assessment.</p>
Sample of Roles	<p>Sectoral: All jobs within the renewable energy sector.</p> <p>Occupational: Solar Panel Installer, Wind Turbine Technician, Environmental Scientist</p>	<p>Energy Auditor, Sustainable Procurement Specialist, Water Conservation Specialist, Repair Technician</p>

Source: CEPS; SERC's analysis

Malaysia's Green Jobs Definition

Malaysia follows ILO's definition - Green jobs are decent jobs that contribute to preserving or restoring the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency.

MASCO Code	Job Title
3142-15	Agricultural Assistant
3719-07	Agricultural Inspector
1311-06	Agricultural Manager
2426-05	Agriculture Biotech Researcher
2131-08	Biologist
1321-05	Energy Manager
2143-05	Environmental Analyst
2133-01	Environmental Control Officer Grade C41
1214-13	Sustainability Manager
2164-02	Town Planner

Note: List if not exhaustive

Source: Malaysia Standard Classification of Occupations (MASCO)

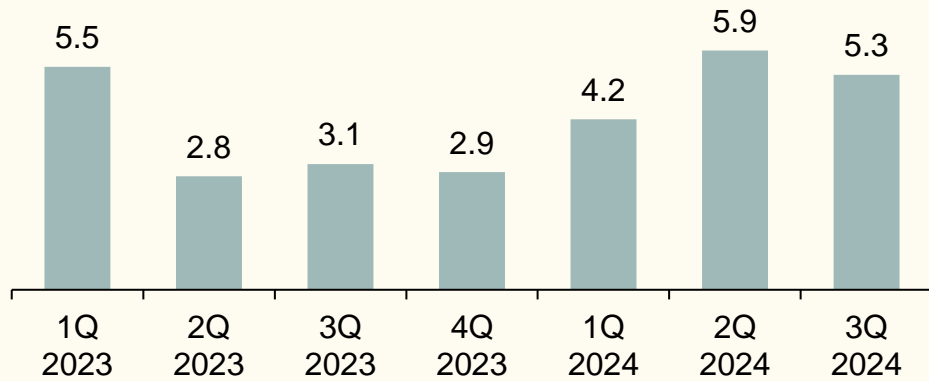


There are more! Green jobs are not just about sustainability; they represent a shift toward a resilient and inclusive economy."



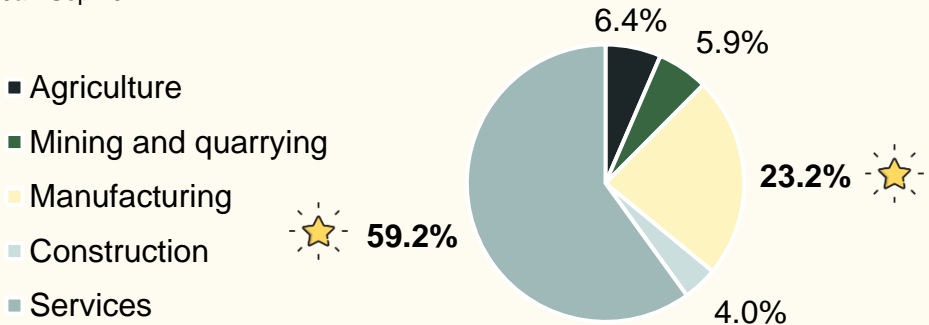
Malaysia: Where are Green Jobs Coming From?

Real Gross Domestic Product (GDP), %



Real GDP Contribution by Sector, % Share

Jan-Sep 2024

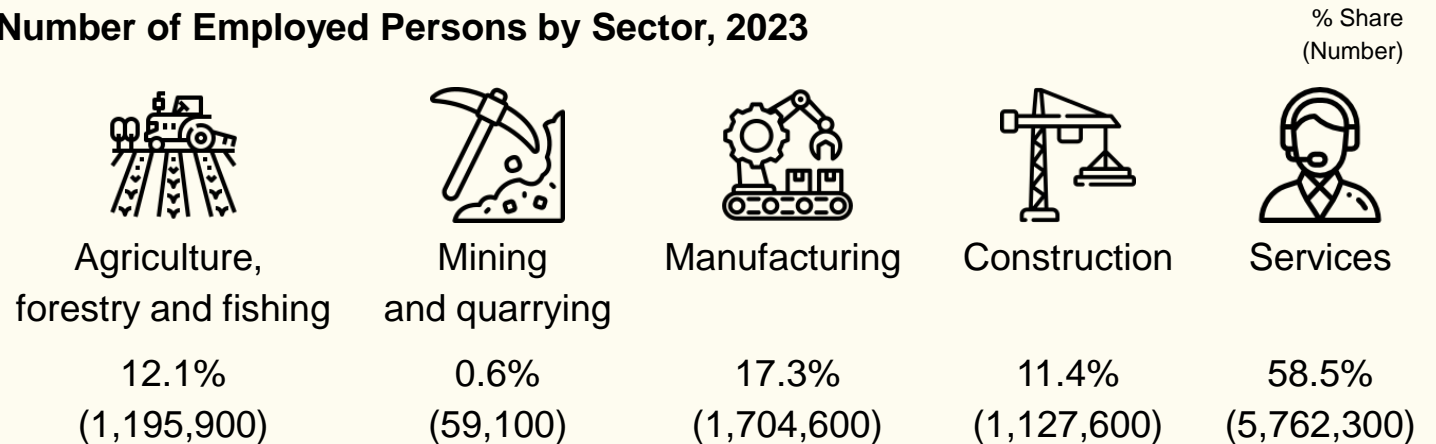


Source: DOSM

Business Establishment, 2024

	Services	Wholesale & Retail Trade	Manufacturing	Primary	Total
Micro	371,491	287,794	55,018	9,669	750,548 (67.1%)
Small	117,189	121,405	32,090	6,542	305,761 (27.4%)
Medium	5,846	4,814	4,259	1,065	17,652 (1.6%)
Large	18,316	17,749	2,163	1,998	43,908 (3.9%)
Total	512,842	431,762	93,530	19,274	1,117,869

Number of Employed Persons by Sector, 2023



Malaysia's Green Transition is Progressing Gradually

2024 Green Economy Index Score

	Malaysia	Who is the Best?
Overall	43/100 2 nd in ASEAN	Singapore
Ambition How well the country has defined its climate goals.	50/100 3 rd in ASEAN	Singapore
Progress The current level of greenhouse gas emissions and other relevant environmental indicators.	33/100 8 th in ASEAN	Vietnam
Roadmap The steps and actions required to achieve climate goals across various sectors of the economy	49/100 2 nd in ASEAN	Singapore
Accelerators The availability of regulatory framework, funding mechanisms and infrastructure.	59/100 2 nd in ASEAN	Singapore
Investment The amount of capital being invested in green projects and initiatives.	4/100 4 th in ASEAN	Laos

Source: Southeast Asia's Green Economy 2024

Energy Transition Index 2024

Top Three (3) in ASEAN



Source: Southeast Asia's Green Economy 2024

This signifies a robust commitment to sustainable energy practices and positions the country favorably for future developments in the green economy.

- **From 2001 to 2023**, Malaysian Investment Development Authority (MIDA) had attracted **a total of 4,230 Green Technology projects and services**.
- Total approved investments of **RM41 billion** were **domestic investment** (88.4% of total approvals).
- **Green skills are not currently a high priority** for employees in Malaysia, **with only 15% considering them important**.
- According to the Green Jobs Portal, **there were 30,000 green jobs available** in Malaysia in 2023.

The Challenges

#1 Workforce Skills Gaps

- Demand for green skills in the **construction and electricity generation industry surged. Job postings requiring green skills soared 60% over the past year, outpacing growth in any other sector.**
- **Green hiring increased by 7.3% during this period, while the supply of green-skilled workers grew at a slower rate of 4.8%.** This accelerated demand comes at a critical juncture as the industry adapts to rising resource demands.
- **In Malaysia, only 15% of employees prioritise green skills.** Lack of time is a significant barrier to acquiring analytical, green, and soft skills.

#2 Impact of Deglobalisation

- **Limited resources allocated to green initiatives due to competing priorities within strategic plans** can hinder progress in green initiatives. For instance, the global focus on semiconductor and AI development may divert resources and attention away from green investments, potentially slowing down the transition to a green economy.

#3 Social Equity and Inclusion

- **A just green transition requires addressing social equity.** Workers in traditional industries face job displacement risks and need access to retraining opportunities in emerging green sectors. Disadvantaged groups must be prioritised in this transition. Effective social dialogue and stakeholder collaboration are crucial for developing inclusive policies that support all workers.
- A UNESCO study on lifelong learning for older adults highlighted several barriers, including **logistical challenges, limited access to information, and a decrease in self-confidence among older learners.**

#4 Ensuring Accountability and Transparency in Green Claims

- **Greenwashing, where companies or even governments make misleading or exaggerated claims about their environmental performance,** can erode public trust and hinder genuine progress towards a green economy.
- **Robust mechanisms are needed to hold actors accountable.** These include: (1) Independent verification and certification of green claims, (2) Clear and consistent reporting standards for environmental performance, (3) Mandatory disclosure of environmental, social, and governance (ESG) data, (4) Educating consumers to identify genuine green products and services, (5) Strong legal frameworks with clear penalties for greenwashing.

Learning from Leaders: Benchmarking Analysis

While Malaysia has implemented policies similar to other countries, the **key differentiator lies in the effectiveness of execution and the continuous evaluation of strategies to adapt to evolving market dynamics.**

#1 Denmark:

- **GreenREFORM Model:** A detailed environmental and climate economic simulation model for key sectors such as energy, agriculture, and transportation.
- **Green Tax Reform:** Introducing taxes on emissions, such as for agriculture, which is designed to incentivise sustainable practices.
- **Green Jobs Strategy:** Denmark's strategy in the agriculture sector focuses on reducing emissions, land protection, and food security while fostering innovation.
- **Enhanced Vocational Training (VET):** Denmark prioritises a "green transition" by investing in renewable energy, upskilling the workforce with green competencies through VET, fostering green technology innovation, and supporting job creation in sustainable sectors like agriculture.

#2 Norway:

- **Green Industrial Initiative:** Launched to create jobs in the green sectors, with a focus on offshore wind, hydrogen, batteries, and the maritime industry.
- **Circular Economy:** Promotes waste reduction and resource efficiency across industries, encouraging sustainable production methods.

#3 Indonesia:

- **Green Competency Standards & Training Programs:** Development of work competency standards and training programs tailored to green jobs, enhancing workforce readiness.
- **Green Financing & Carbon Pricing:** Introduction of green financing mechanisms and carbon pricing to support green investment.

Interventions for a Green Future: A Call to Action



Green initiatives are ongoing endeavors requiring collective efforts. Technological advancements continuously reveal new insights into human impact on ecosystems, necessitating policy adjustments and new skill sets to address evolving challenges.



#1 Green Jobs and Skills Development:

- **Expand Vocational Training:** Create green-focused vocational training programs (VET) modelled after successful examples (e.g., Denmark, Indonesia).
- **Strengthen Public-Academia-Industry Partnerships:** Build stronger partnerships between vocational training institutions and green industries.

#2 Business and Workforce Considerations:

- **Active Labor Market Policies:** Public and private collaborations are essential to develop and train a green-skilled workforce.
- **Tailored Training Programs:** Design training programs that address specific workforce needs and career pathways in the green sector.

#3 Green Policy and Regulatory Framework:

- **Gradually Adopt Carbon Pricing Mechanisms:** A phased approach is essential to foster adoption across sectors (other than iron and steel and energy industries in Budget 2025). Carbon pricing should serve as an incentive for sustainable practices rather than a tool for revenue collection.
- **Develop Green Sector-Specific Strategies:** Adopt targeted green strategies for **non-energy sectors like agriculture and transportation**. For example, Denmark's GreenREFORM model offers a detailed economic simulation to support environmental and climate objectives.
- **Establish Transparent Goals and Targets:** Publicly accessible data, such as the number of students graduating with green skills and jobs created in green industries, is critical for informed decision-making and tracking progress.
- **Regular Evaluation and Auditing, Parliamentary Oversight:** Regular evaluations, including independent audits and parliamentary oversight, are crucial to assess the true impact of government green initiatives, address potential greenwashing, and ensure alignment with national goals. This will help prevent underestimation of environmental impacts and ensure that green initiatives deliver genuine environmental and social benefits.

THANK YOU

Address : 6th Floor, Wisma Chinese Chamber,
258, Jalan Ampang,
50450 Kuala Lumpur, Malaysia.
Tel : 603 - 4260 3116 / 3119
Email : serc@accimserc.com
Website : <https://www.accimserc.com>

For our website:



For our LinkedIn:

