THE LAW SOCIETY OF HONG KONG 香港律師會

Second Instalment of 7th Belt and Road Conference

Legal Professionals Joining Efforts in Advancing EIGHT MAJOR STEPS to Build High Quality Belt and Road Cooperation

THE LAW SOCIETY OF HONG KONG 香港律師會

Promotion of Green Economy and the Use of Clean and Future Energy

28th April 2025

About AEC

Founded in 1994, **Allied Environmental Consultants Limited is a Hong Kong based pioneering sustainability and environmental consulting firm with over 30 years' experience**. Our holding company, Allied Sustainability and Environmental Consultants Group Limited ("AEC Group"; stock code: 8320.HK), is the first listed sustainability and environmental consultancy service provider in Hong Kong.

Hong Kong
AEC Hong Kong, our major operating subsidiary, was incorporated

Thailand
Deployed business expansion in Thailand

Malaysia
Established an office in Kuala Lumpur, Malaysia

Vietnam
Deployed business expansion in Vietnam

Shenzhen
Incorporated a wholly-owned subsidiary, "Qianhai Allied Environmental Consultants Shenzhen Company Limited" at Qianhai, Shenzhen of the PRC

Singapore
Set up an office in Singapore

Zhuhai
Established a branch office in Hengqin, Zhuhai, to capture the substantial business opportunities of green and low-carbon industries in Mainland China

Dubai
Deployed business expansion in Dubai

Sustainability Targets

- AEC has committed and pledged to the Business Ambition in line with 1.5°C pathway
- **Near Term Target:** AEC commits to reduce absolute scope 1 and scope 2 GHG emissions by 42% by 2030 from a 2023 base year
- **Net Zero Target:** AEC also commits to reduce scope 1+2+3 emissions by 90% by 2044 from a 2023 base year

~396,295
Estimated GHG emissions reduction of completed sustainability projects for our clients (tCO_2e)

>15 million
Certified green buildings by AEC (m^2)

160+
Number of sustainability projects in 2022

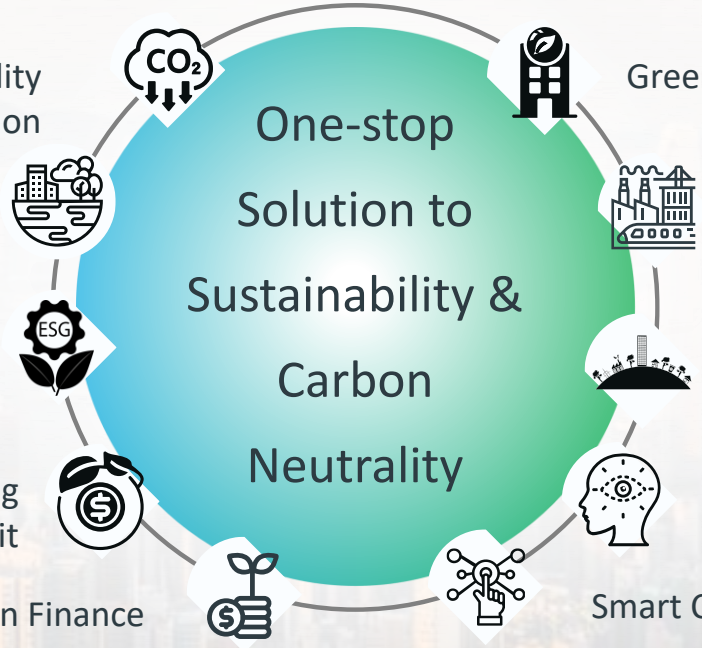
13
Number of sustainability awards and recognitions

100+
Number of stakeholder engagement projects

Climate Resilience & ESG

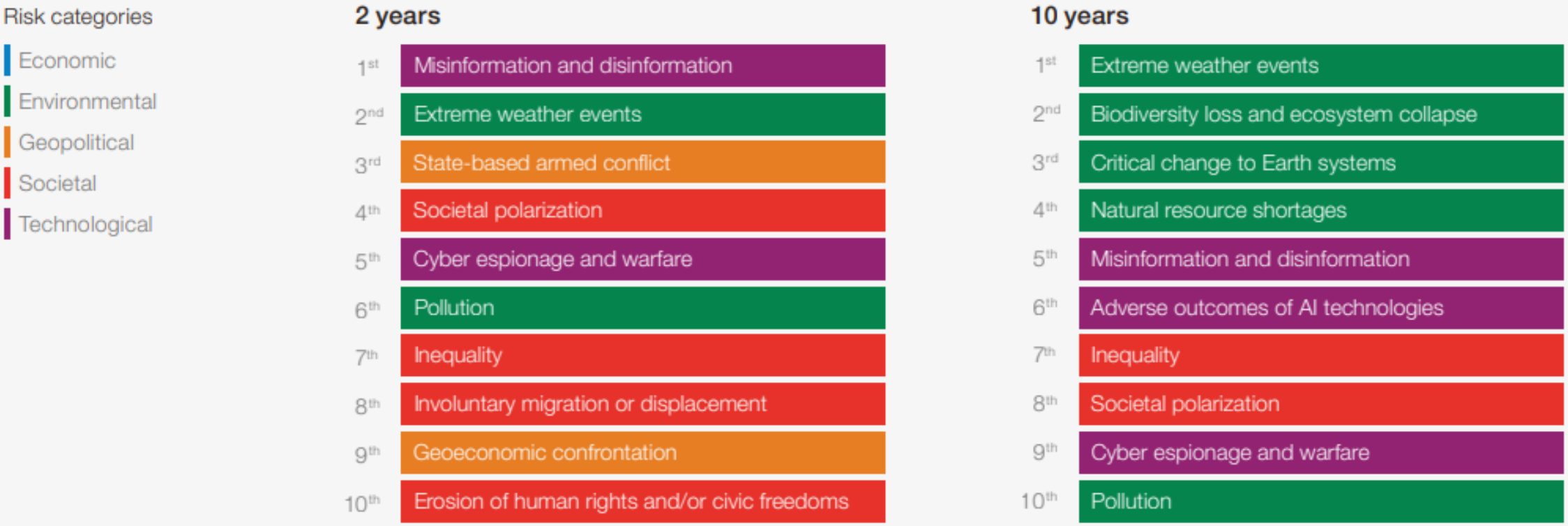
AEC 沛然環保

Stock Code 8320.HK



Sustainable Built Environment

Global risks ranked by severity



Source

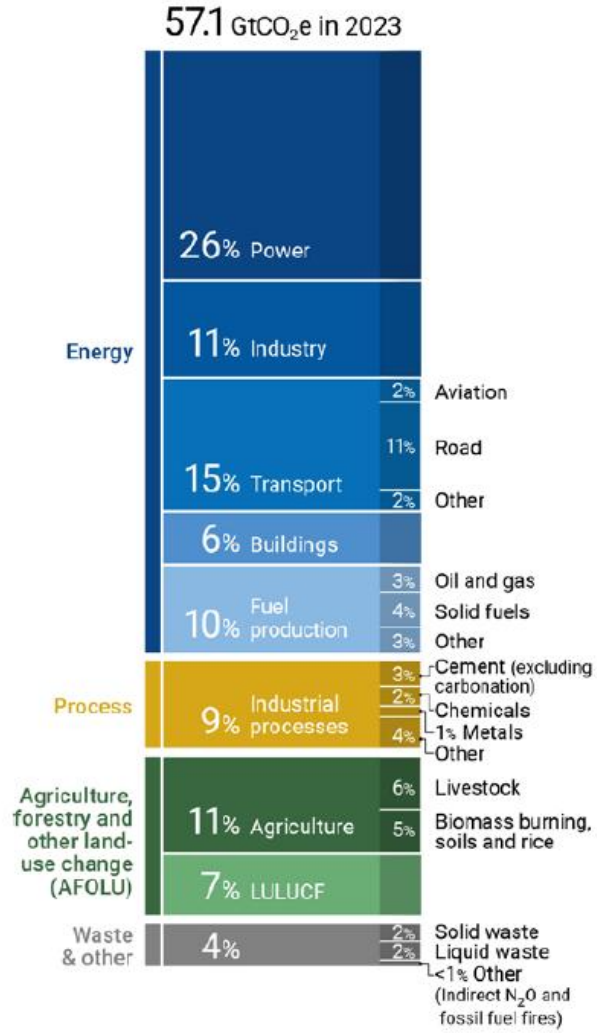
World Economic Forum Global Risks Perception Survey 2024-2025.

Record High Emissions in 2023

Global greenhouse gas emissions set a **new record** of 57.1 GtCO2e in 2023, a **1.3 per cent increase from 2022 levels**

In 2023, the **power sector** (electricity generation) remained the **largest source of global emissions**, contributing **15.1 $GtCO_2e$ (26%),**

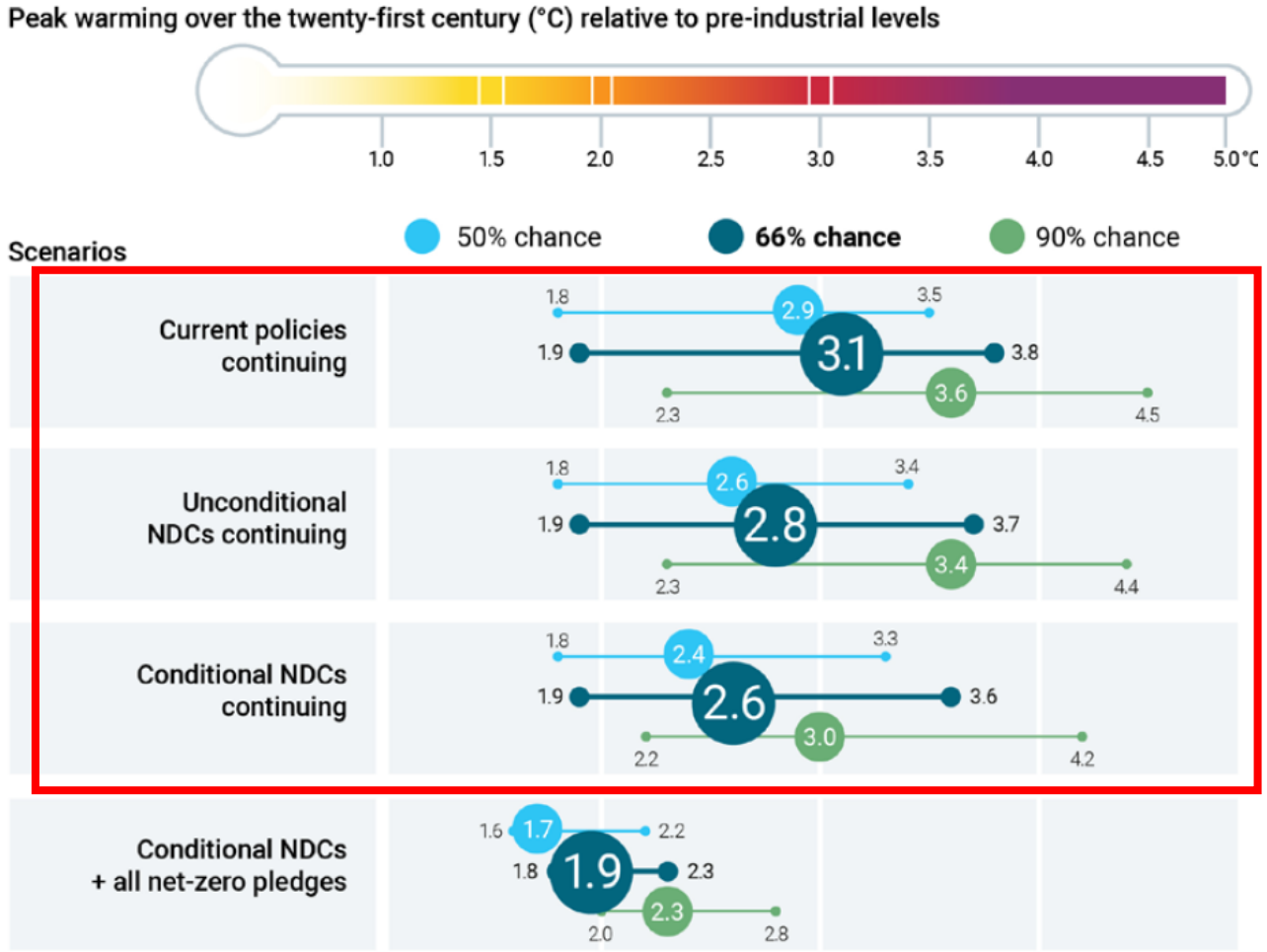
- followed by the transport sector (8.4 $GtCO_2e$ – 15%),
- agriculture (6.5 $GtCO_2e$ – 11%), and
- industry (6.5 $GtCO_2e$ – 11%)



Source: https://www.unep.org/resources/emissions-gap-report-2024

Projected Warming Exceeds Paris Agreement Goals

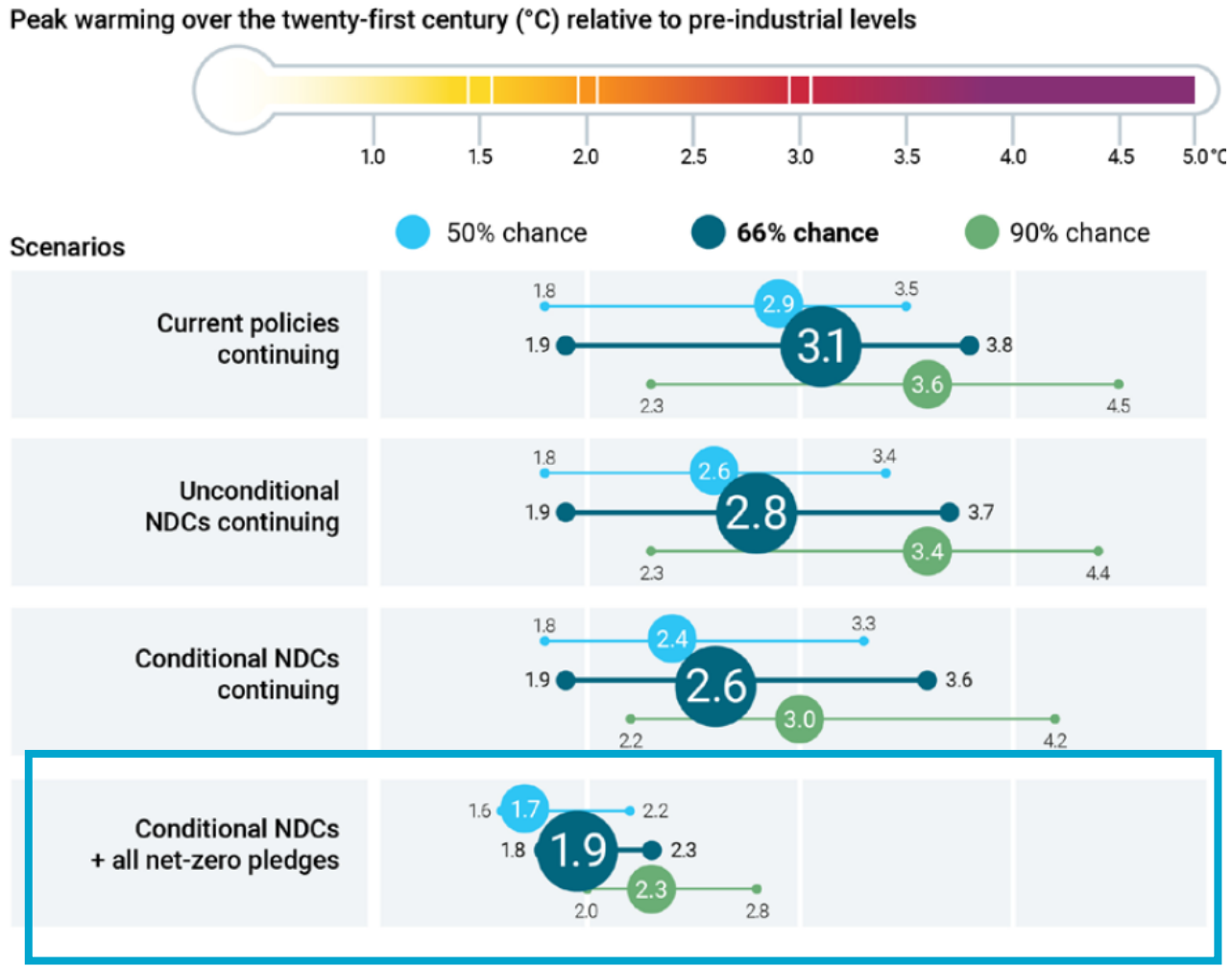
Current policies and actions are **insufficient**, putting the world on track for a **temperature rise of 2.6°C to 3.1°C** by the **end of the century**, **far exceeding** the **Paris Agreement** targets of limiting warming to well below 2°C, preferably to 1.5°C.



Source: https://www.unep.org/resources/emissions-gap-report-2024

Required Emissions Reductions

Annual reduction of approximately 7.5% starting immediately to align with the 1.5°C target

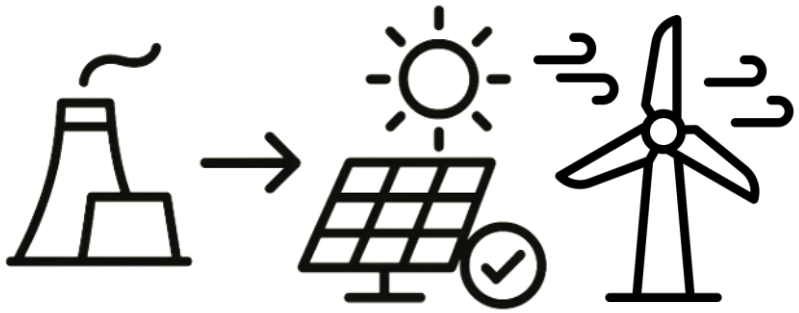


Source: https://www.unep.org/resources/emissions-gap-report-2024

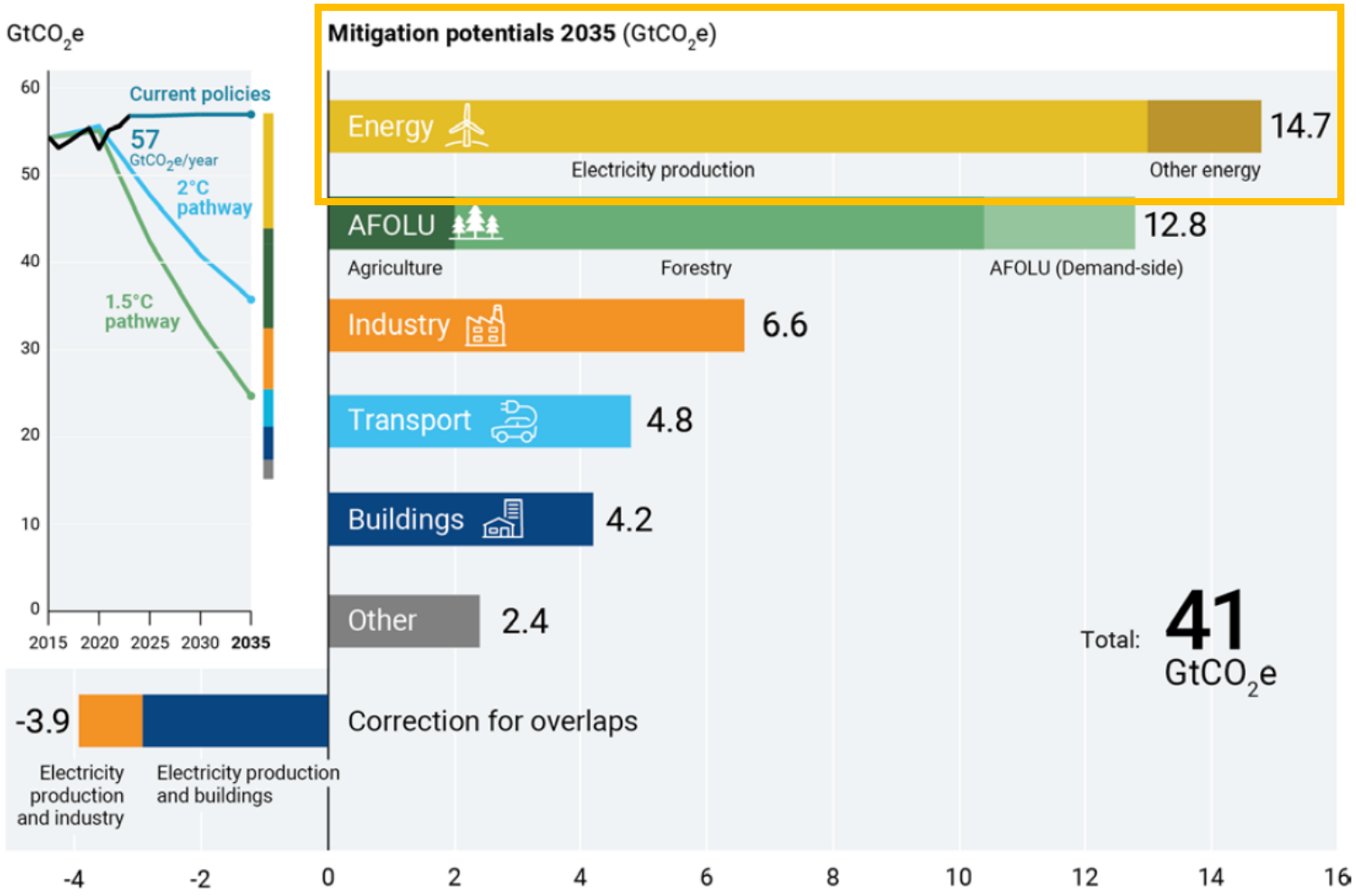
Demand for Energy Transition

Expanded deployment of just two proven, cost-effective technologies — **solar photovoltaics** and **wind energy** accounts for

- 27% of the total emission reduction potential by 2030, 38% by 2035.



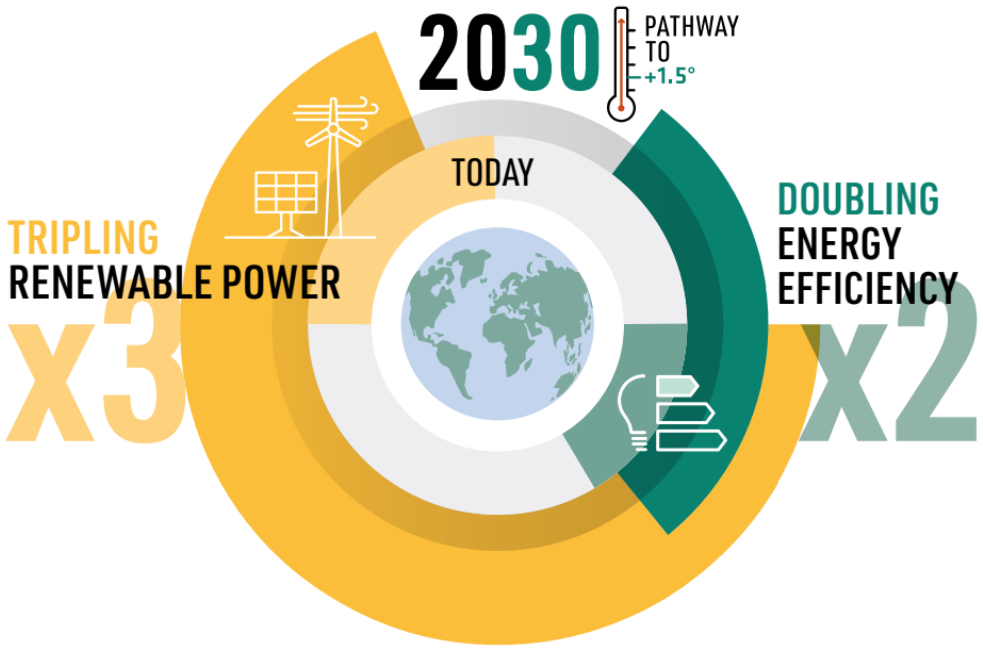
Overview of annual mitigation potentials by 2035

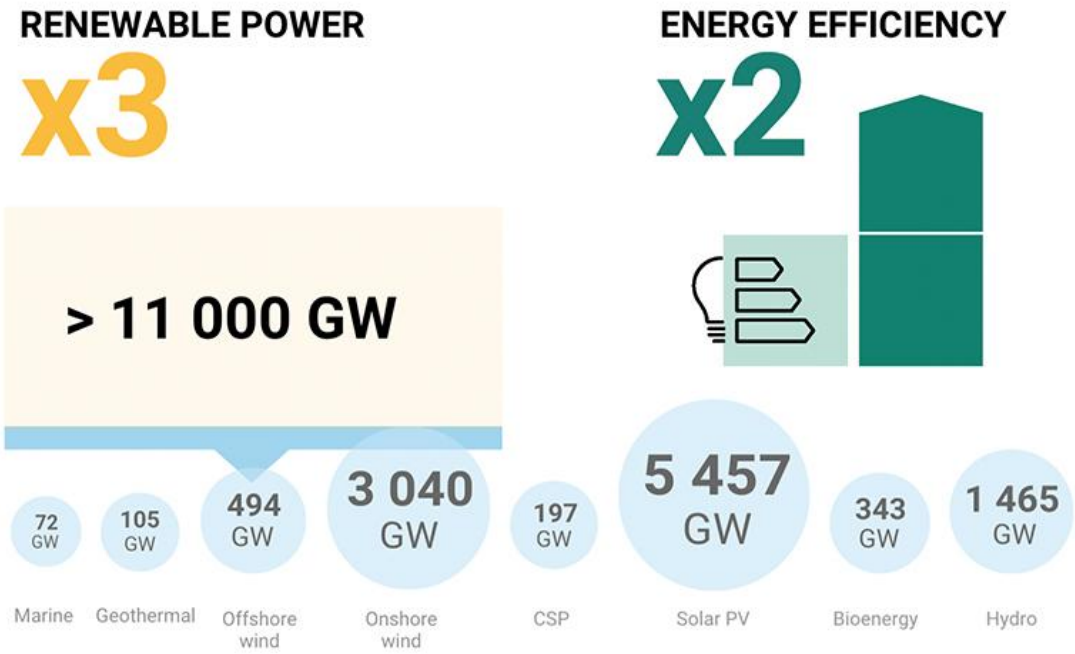


Source: https://www.unep.org/resources/emissions-gap-report-2024

COP28 – Tripling Renewable Energy

The tripling of installed renewable power generation capacity by 2030 is a **key pillar** of the UAE Consensus and a critical milestone for **keeping the 1.5°C goal** within reach (COP28 UAE, 2023)





Achieving the tripling of renewable power capacity to reach 11.2 terawatts (TW) requires **an average annual addition of 1 044 gigawatts (GW)** between 2024 and 2030, which **solar PV (55%)** and **wind energy (34%)** will play key roles in closing this gap

Source: https://www.unep.org/resources/emissions-gap-report-2024

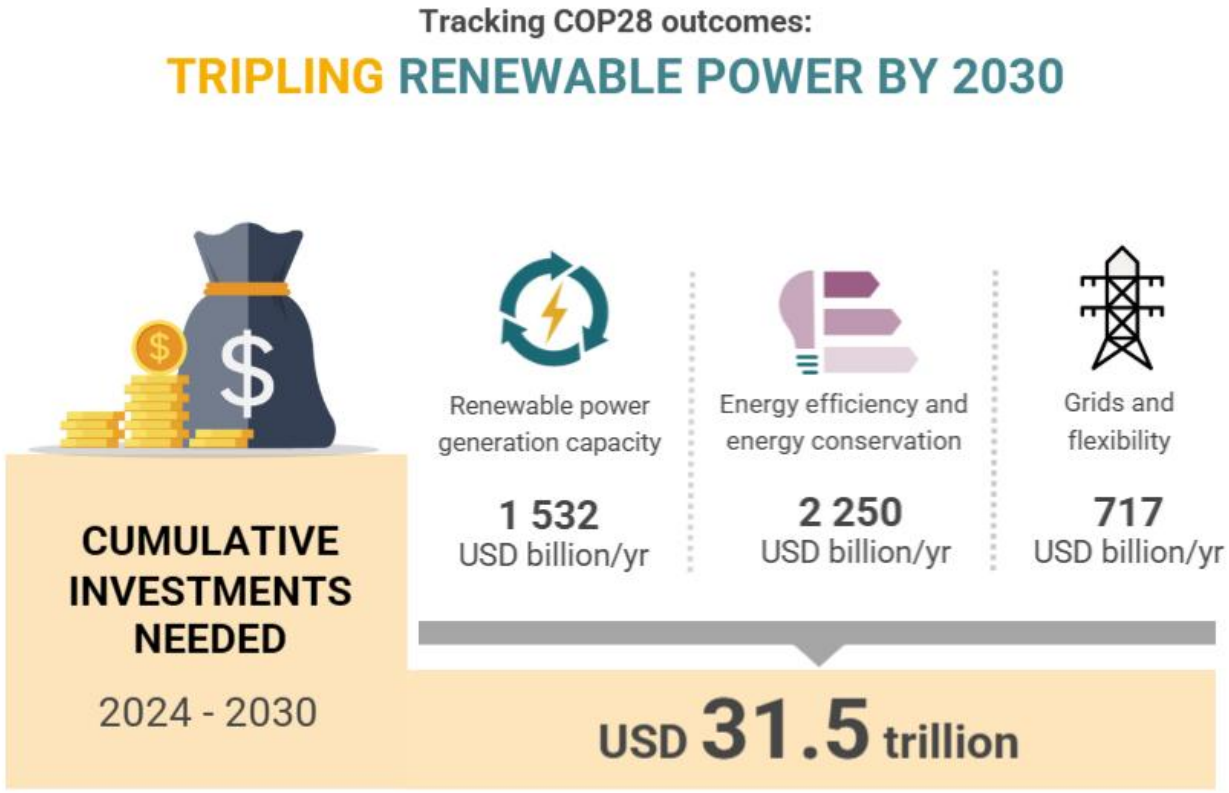
COP29 Global Energy Storage and Grids Pledge

COP29
Baku
Azerbaijan

- ✓ A sixfold increase of **energy storage** from 2022 levels, essential for **integrating** variable renewable energy sources like solar and wind **into the power grid**.
- ✓ **Expansion and modernization of power grids** to enhance electricity transmission and distribution
- ✓ Increase in **annual investments** to over USD 600 billion by 2030 to support the development of resilient and interconnected power systems.

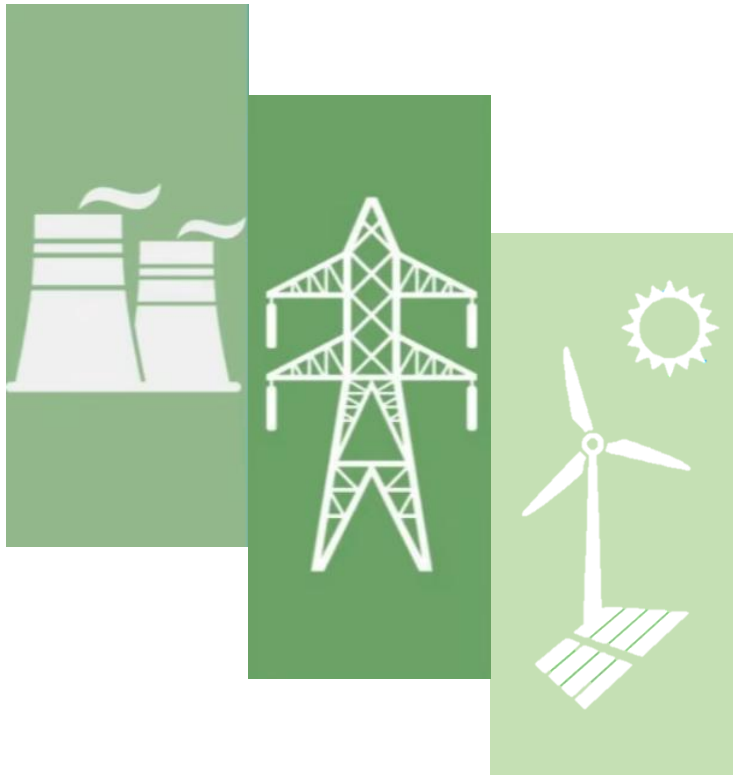
Financing Gap of Tripling Renewable Power

- Developing countries (excl. China) received only 14% of global energy transition investments in 2023.
- Although **investments in renewable capacity reached a record high of USD 570 billion in 2023**, the report sees a **significant shortfall of USD 1.5 trillion each year** between 2024 and 2030
- 31.5 trillion USD in cumulative investment in renewables, grids, flexibility, efficiency and conservation is required



Source: https://www.irena.org/News/articles/2024/Nov/Investment-Takes-Centerstage-at-COP29-Ministerial-to-Triple-Renewables

Technical Gap



Grid Integration and Intermittency:

- Existing grid designed primarily for fossil fuels
- Require **smart grids** and **energy storage solutions** to cater variable input from renewables

Infrastructure and Supply Chains:

- Green transition may require **significant changes to existing infrastructure**, including power grids, transportation systems, and energy storage facilities

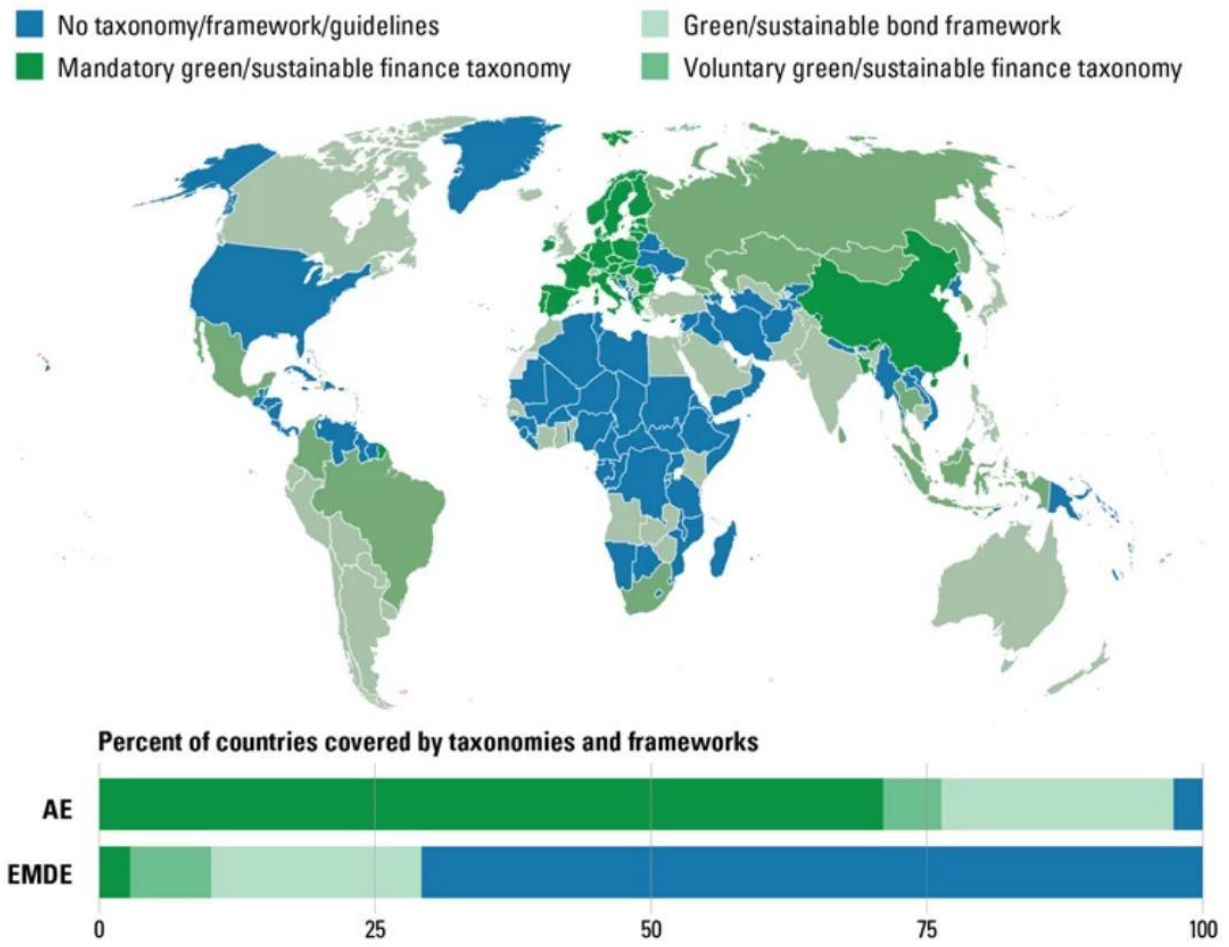
Skill Gap:

- Requires a **skilled workforce with expertise** in new technologies and processes.

Source: https://cop29.az/en/pages/global-energy-storage-and-grids-pledge-background-information

Policy Fragmentation

- Complex, varying standards and taxonomies
- Varying regulatory and legal frameworks across the region could hinder cross-border investment and project implementation.
- Policy and regulatory enhancements needed to facilitate adoption of new energy and technology, such as hydrogen, CCUS
- Challenges and opportunities for resources sharing and regional collaboration to reduce energy disparities and accelerate renewable energy adoption



Source: Finance & Prosperity (World Bank 2024)

Urgent Actions for Green Energy Transitions

Adapt policies & regulations

Develop a skilled workforce

Scale-up and expand distribution of financing

Strengthen international collaboration

Modernise and expand infrastructure

Source: https://www.irena.org/Digital-Report/Tracking-progress-toward-tripling-renewable-energy-capacity-and-doubling-energy-efficiency-by-2030

ASEAN's Energy Transition Trends

THAILAND

Target:
To achieve carbon neutrality by 2050 and net zero GHG emissions by 2065

Key initiatives:

- Draft Climate Change Act (CCA)
- Carbon Capture and Storage (CCS) and Utilisation (CCUS)
- Utility Green Tariff (UGT)
- Direct Power Purchase Agreement ("PPA")
- Small Modular Reactors ("SMRs")
- Solar Energy Expansion

VIETNAM

Target:
To achieve net zero GHG emissions by 2050

Key initiatives:

- **Law on Electricity 2024**: integrating offshore wind & energy storage systems into national grid
- **Regulatory reforms**: Boosting confidence for renewable sector
- **Update National Power Development Plan**: addition of wind, hydro, biomass and waste-to-power projects, pilot battery storage systems

INDONESIA

Target:
To achieve net zero GHG emissions by 2060

Key initiatives:

- **Geothermal resources** eligible for financial incentives & government support
- **Just Energy Transition Partnership ("JETP"):** US$1.3m invested in infrastructure, phase-out of coal-fired power plants
- **Regulatory updates:** banning new coal power plants, procurement for RE projects

SINGAPORE

Target:
To achieve net zero GHG emissions by 2050

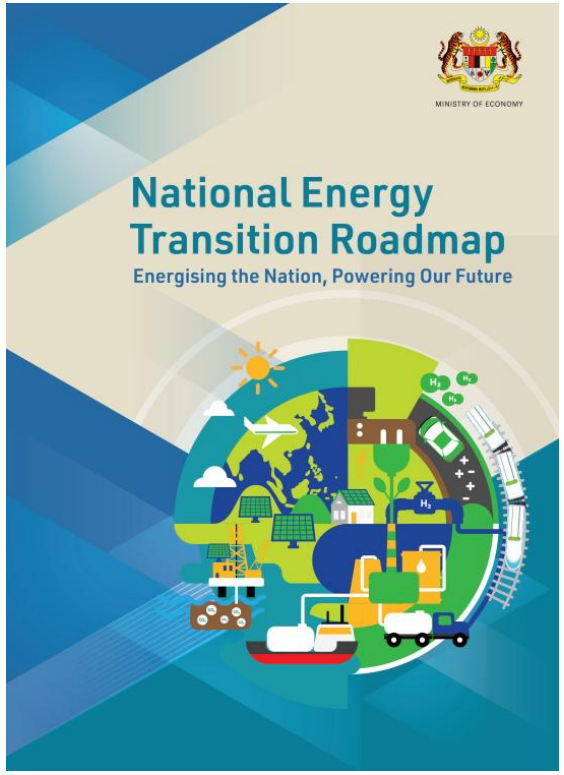
Key initiatives:

- **Solar Energy:** Energy Storage Systems ("ESS")
- **Regional power grids**: Imports RE from Indonesia, Cambodia, Vietnam
- **Low Carbon Alternatives:** Hydrogen and deep geothermal systems
- **Regulatory enhancements:** regulate energy markets

Source: https://www.wfw.com/articles/powering-asias-future-legal-insights-on-energy-transition-trends-for-2025/

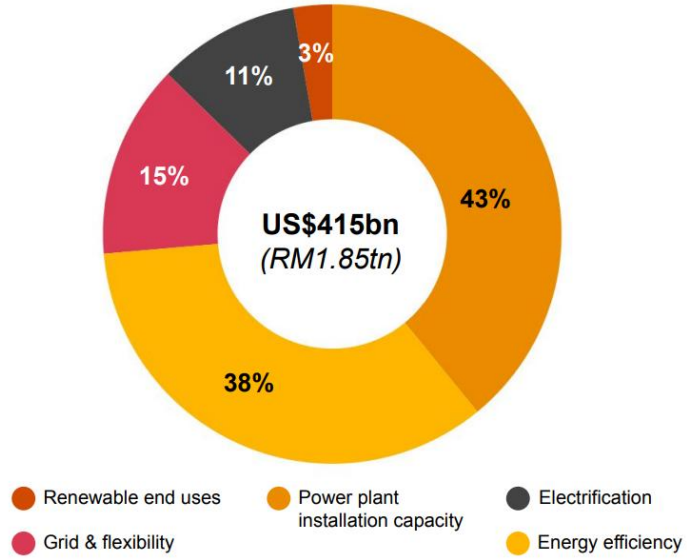
ASEAN Energy Transition : Malaysia's Roadmap

Malaysia's National Energy Transition Roadmap (NETR), launched 2023, outlines the country's strategic plan to transition towards a **low-carbon, sustainable, and inclusive energy future**.



NETR's Responsible Transition Pathway:

- **Increased use of RE** in the power generation mix
- **Close to fully phased-out coal** from the power generation mix
- Broad based **energy efficiency initiatives** pursued, optimising energy consumption across key sectors, namely residential, commercial, industrial, and transport to **prevent wastage** and indirectly prolong the lifespan of indigenous resources
- The **shift to electrification and biofuels** expedited in the **transport** sector.

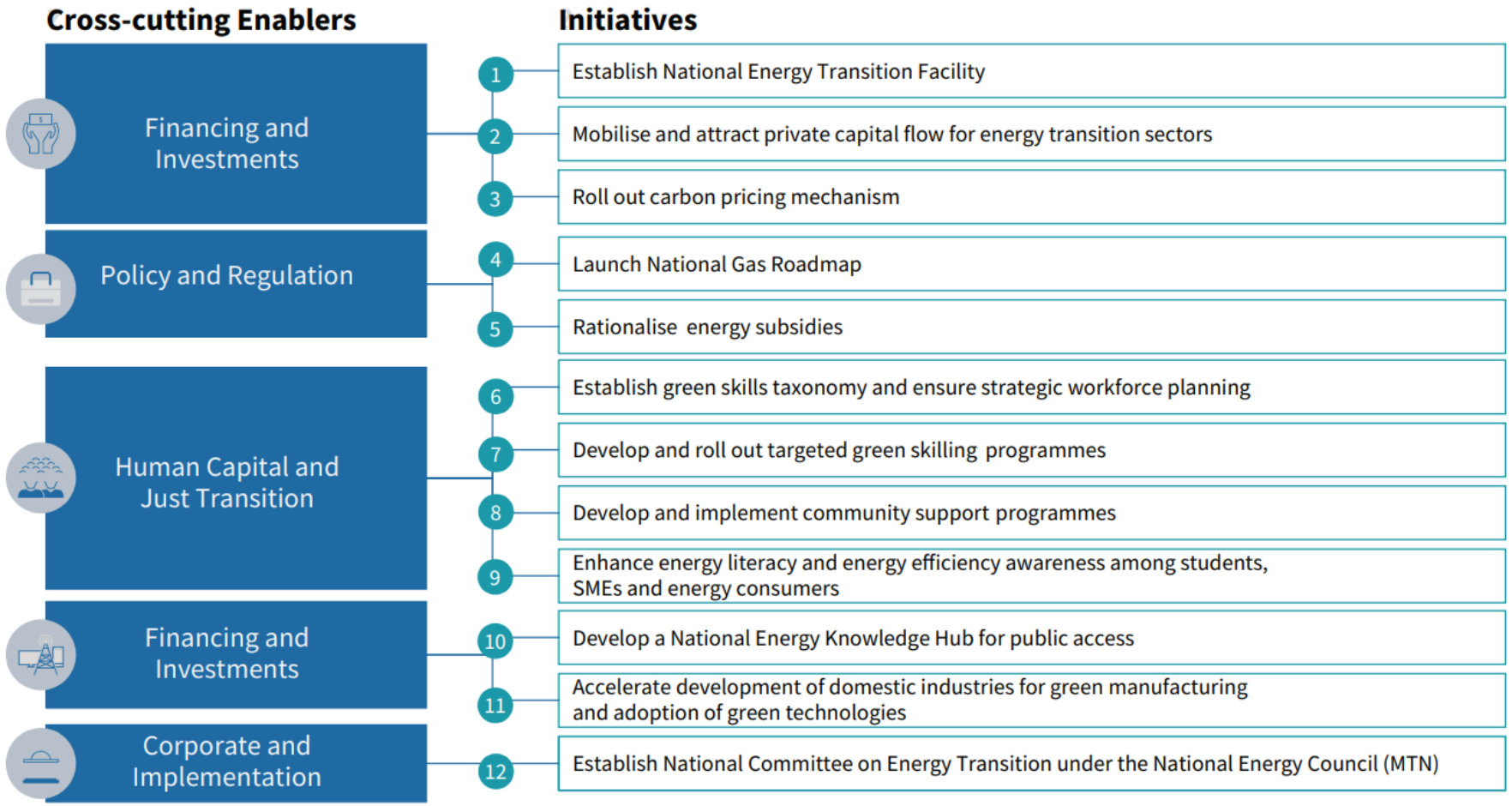


Energy transition initiatives are estimated to require up to RM1.85tn in financing by 2050

Source: https://ekonomi.gov.my/sites/default/files/2023-09/National%20Energy%20Transition%20Roadmap_0.pdf

ASEAN Energy Transition : Malaysia's Roadmap

Key initiatives to expedite Malaysia's energy transition journey



Source: https://ekonomi.gov.my/sites/default/files/2023-09/National%20Energy%20Transition%20Roadmap_0.pdf

Hong Kong's Unique Role

- FSTB sustainability roadmap sets Hong Kong's approach to require PAEs to fully adopt ISSB Standards by 2028 and AFRC will drive the development of Hong Kong's regulatory regime. ESG integration readiness, setting benchmark for BRI projects
- Global Green Finance Hub – gateway for green capital mobilization, transition finance, blended finance innovation for BRI clean energy projects, etc
- Dispute resolution for cross-border projects – many BRI contracts choose Hong Kong arbitration for cross-border disputes, mitigate risks in emerging markets
- Voluntary carbon market – potential for setting up Carbon Connect for internationalizing China's carbon market
- Green fintech – ESG data, analytics, AI, carbon trading, digital infrastructure for ESG disclosure and accountability
- Green tech testing ground – waste to hydrogen technology, electricity-free cooling coating materials, etc
- Hong Kong's legal and professional services experienced in harmonizing standards, such as aligning ESG frameworks, CGT for mapping China and EU green taxonomies, etc
- Talent development for green transition – CASI, HKIQEP
- And more…

Enhancing standards of environmental professionals

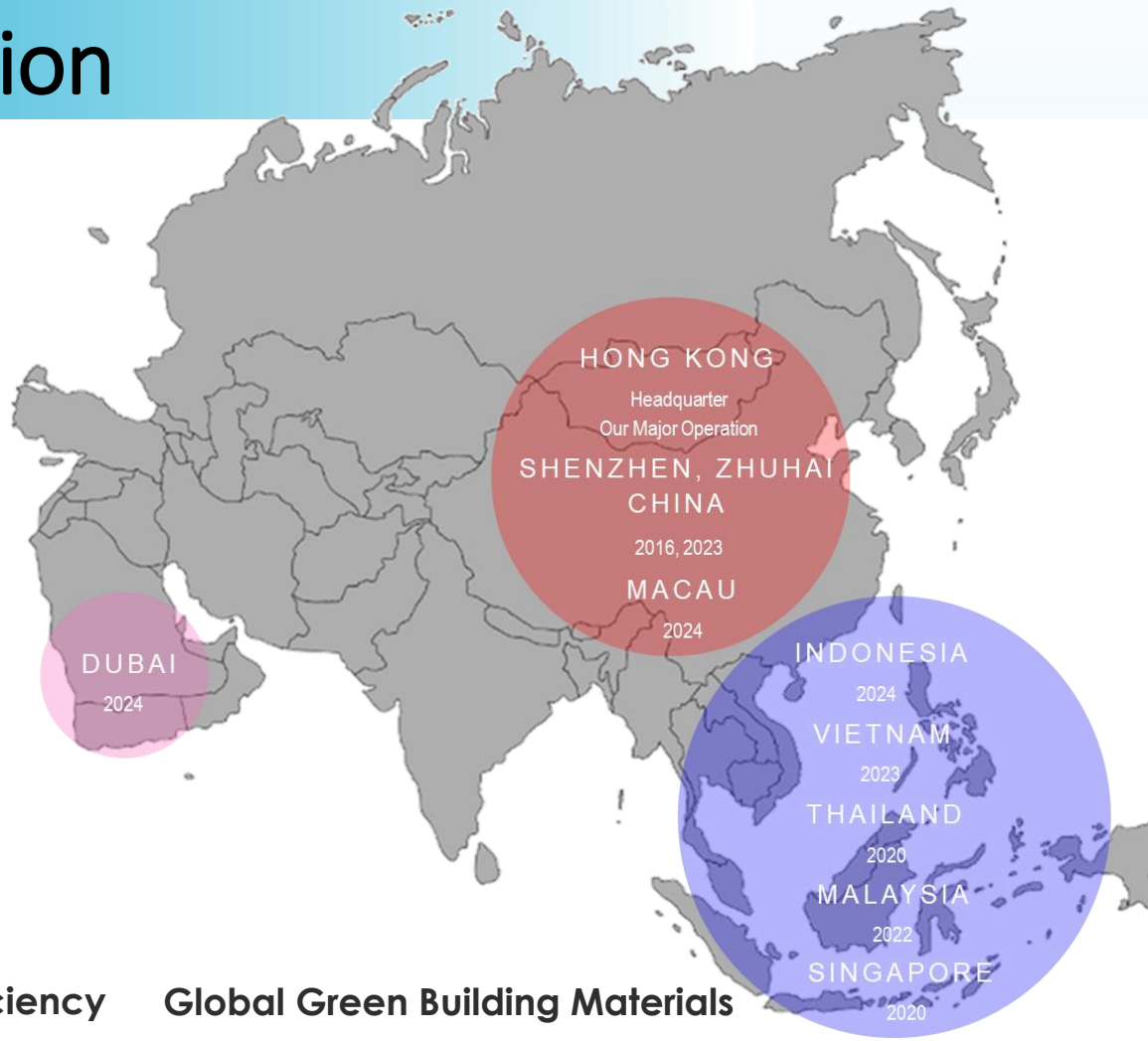
AEC Group's BRI Strategy : Our Green Vision to Global Mission

- **Establishing Global Presence**

Establishing international offices is crucial for AEC Group to enhance its global footprint, enabling localized engagement with diverse markets and stakeholders while driving sustainable practices tailored to regional needs.

- **Green Innovation : Sustainability X Marketability**

Green technology promotes energy-efficient solutions, green building practices, sustainable planning, wellness enhancement and carbon credit management. By leveraging top notch technologies through strategic collaborations, we aims to provide all-rounded and comprehensive sustainable solutions to our clients.



Global Cleantech

2020: $1.3 trillion
2025: $2.5 trillion
CAGR of 14%

Global Renewable Energy

2020: 2,799 GW
29.4% of total electricity generation
2021-2026: CAGR of 8.3%
International Renewable Energy Agency (IRENA)

Global Energy Efficiency

2019: $241.6 billion
2024: $357.8 billion
CAGR of 8.2%
International Energy Agency (IEA)

Global Green Building Materials

2020: $284.8 billion
2027: $567.6 billion
CAGR of 9.5%

AEC Group's BRI Strategy : Our Green Vision to Global Mission

1. Strategic Collaboration to advance Green Development

AEC Group actively participates in the Belt and Road Initiative, focusing on sustainable infrastructure projects that enhance connectivity and promote economic growth across participating countries.

2. Collaboration with Local Stakeholders

Engaging with local governments and communities is crucial for AEC Group, ensuring that projects align with regional needs and contribute to social development while adhering to ESG principles.

3. Sustainability Integration

AEC Group emphasizes the integration of environmental sustainability in all Belt and Road projects, aiming to minimize ecological impact and promote green technologies throughout the initiative's implementations

4. Partnership with Bank for promoting Green Finance

In Sep 2023, AEC Group partnered with Standard Chartered Bank (Hong Kong) Limited to promote sustainable finance in the real estate and infrastructure sectors across ASEAN and other Asian markets.

AEC Group's BRI Strategy : Our Green Vision to Global Mission

- **Thought Leadership and Advocacy**

  Participated in global industry councils and committees, such as WorldGBC, CRREM, GRESB, IWBI, USGBC. From 2021 to 2024, we have organized and participated in more than 270 events related to the promotion of sustainable development:

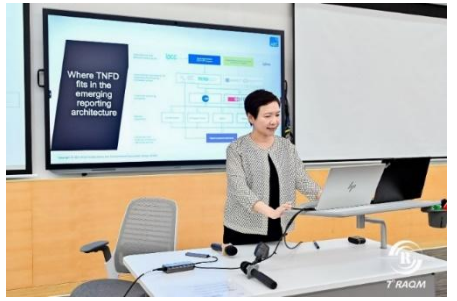
  - *Seminars, Webinars & Talks: 205*
  - *Teaching & Training: 38*
  - *Other events： 27*

RETHINK 2024

Green and Sustainable Finance Training Course

2023 GRESB Regional Insights Hong Kong

7RAQM Forum



2024 Climate Action Week in London

LEED V5 Evolution in Action" seminar

CASI

TVB Green Forum

Net Zero Real Estate Pioneers for Hong Kong and Mainland China CRREM Early Adopter Program

Collaborations in Malaysia for Talent Development & Capacity Building

- AEC Group partnered with key associations such as **Architect Association Malaysia (PAM)**, **Institute of Engineers Malaysia (IEM)**, **Master Builders Association Malaysia (MBAM)**, **Green Real Estate (GreenRE)** and **Human Resource Development Corporation (HRD Corp)** for tailored training sessions and seminars.
- Collaborate with 3 universities to mentor students, give talks, and introduce sustainability syllabus to their engineering faculty.

University Nottingham Malaysia (UNM)

Universiti Tunku Abdul Rahman (UTAR)

Xiamen University Malaysia

- Intend to emulate the sustainability programmes in Hong Kong to Malaysia as part of our knowledge transfer programmes.

UNM Training

MBAM Seminar

THANK YOU FOR LISTENING!

AEC 沛然環保

| Hong Kong | Macau | Mainland China | Singapore
Indonesia | Thailand | Malaysia | Vietnam | Dubai

Headquarters

+ 852 2815 7028

asecg.com/

Visit Us

Contact Us

info@aechk.com

Allied Sustainability and Environmental Consultants Group Limited

27/F, Overseas Trust Bank Building,
160 Gloucester Road,
Wan Chai, Hong Kong.