

MUFG TRANSIT

Reflections from APAC – COP29 and Beyond

December 2024
ESG Finance Department

MUFG Bank, Ltd.
A member of MUFG, a global financial group

Accomplishments



1

Article 6 gets operational paving the way for international carbon markets

2

L&D fund kicks off.
Uptake in **blended finance and commitments from MDBs** to climate financing

3

Launch of **Energy storage and power grids pledge** - 6x increase over 2022 levels

4

Singapore shows leadership in carbon market with key announcements



Setbacks

1

New Collective Quantified Goal – increase in target but clearly not enough

2

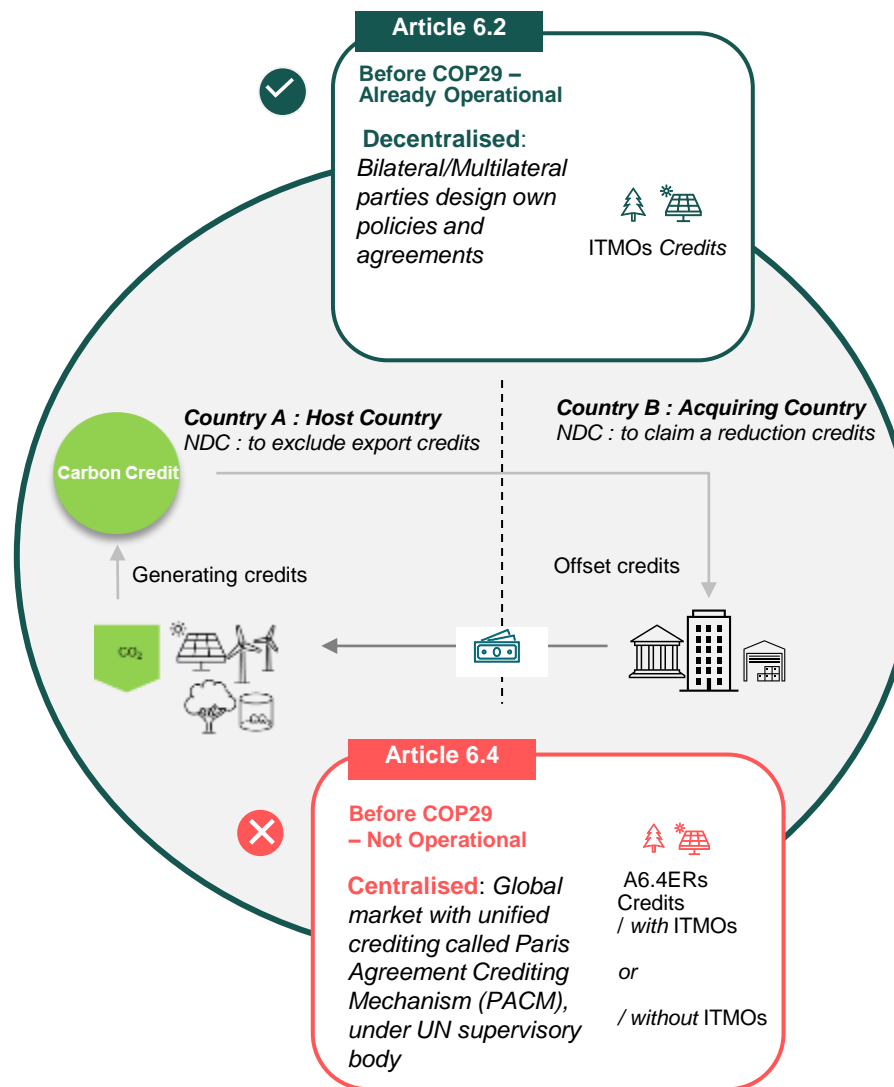
No mention of transitioning away from fossil fuels in official texts, unlike COP28

Carbon Credits | Full operationalisation of Article 6 achieved with adoption of Article 6.4

Operationalisation of Paris Agreement Article 6.4, a standardised framework to facilitate an international flow of carbon credits, brought back positive sentiments to unlock value of carbon sink in APAC

Article 6.4 Key Highlights

1. The CDM's afforestation and reforestation projects can be transitioned, subject to submission by 2025, host country approval and necessary compliance under 6.4 mechanism.
2. Currently allows only **reduction** or **removal** credits. Eligibility for **avoidance** credits to be decided in 2028.
3. Carbon credits can be issued in 2 forms;
 - Mitigation Contribution A6.4ERs (A6.4ERs without ITMOs)
 - Authorised A6.4ERs (A6.4ERs with ITMOs)
4. 5 % of all issued A6.4ERs to be sold by the UN to finance climate change adaptation activities in developing countries under the Adaptation Fund
5. 2% of all A6.4ERs issued are to be canceled upfront ensuring a contribution to a mitigation of global emissions
6. Guidelines & methodologies for new project approvals to be developed in early 2025



Glossary

CDM: The Clean Development Mechanism

ITMOs-Internationally Transferrable Mitigation Outcomes

A6.4ERs - Article 6.4 Emission Reduction Units

A6.4ERs - with ITMOs
Authorised A6.4ERs – with correspondent adjustment that the host country agrees to deduct from its NDC and can be counted towards the achievement of the acquiring country

A6.4ERs - without ITMOs
Mitigation Contribution A6.4ERs – that the host country will use for its own NDC and cannot be counted towards the achievement of the acquiring country

Article 6.4 | Implications on APAC

Little relevance to EU
CBAM

Mixed implications on
CORSIA and overall
APAC carbon landscape

EU CBAM



- **Neutral** - Unlikely for now that A6.4ERs would be recognised since the third country carbon price should be in the form of tax or a fee possibly under an ETS or as tax that is imposed on production-based emissions.

CORSIA



- **Positive** – Expected to be fully recognised under CORSIA, another UN-backed program, thereby allowing A6.4ERs to qualify as CORSIA eligible emission units, bringing additional supply of eligible credits into CORSIA offset program.
- The APAC's exposed airlines such as Singapore Airlines, Cathay, Korean Air, Thai Airways, EVA Air etc. are in a good position to secure the A6.4ERs credits in APAC, given that Asean issuers are currently dominating the A6.4ERs projects .

Compliance, Bilateral and Corporate Voluntary Markets



- **Positive** - Anticipate a convergence between bilateral carbon credit mechanisms and A6.4ERs, allowing a use of A6.4ERs from international markets to be offset against a corporate's compliance obligations
- **Negative** - Host countries are likely to prioritise A6.4ERs for domestic use, especially those generated out of lower investment projects, to meet their own NDCs before authorising them for cross-border supply.
- **Positive** – An option for corporates to enhance the integrity of their Net Zero claims under a voluntary offset mechanism with the UN's certified carbon credits

COP29 agrees to a climate finance deal, but far short of expectations

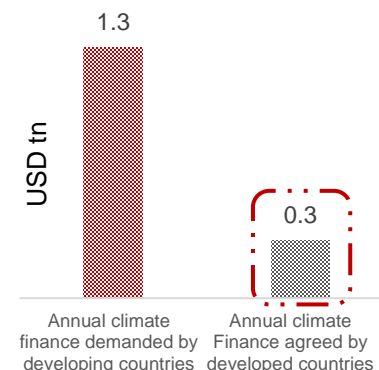
APAC is likely to rely on private financing for energy transition needs



New Collective Quantified Goal:

Better than a no deal?

- Developed countries agree for “at least” USD 300 bn in annual climate finance by 2035
- Strong discontent from developing nations including India and China due to the amount, and lack of mandatory accountability i.e., enforcement



Source: UNFCC, LSE, COP 29

Impact on APAC

- ASIA main beneficiary ; but far short from the need.**
 Asian countries received USD 30.6 bn on avg. annually from 2016-2019 (largest globally), but the requirements are significantly higher (*OECD*). Asian countries need around USD 70 tn to achieve net zero emissions by 2050. (*ASPI*)

 Within Asia, Indonesia has been the biggest beneficiary (2016-2019).
- Grants, NOT loans**
 Climate Financing in the form of loans would increase the debt vulnerability of APAC nations. Grants only constituted only 5% of total climate finance between 2011 and 2020 globally, whereas debt instruments comprised 61%. (*OECD, UNFCC*)
- ASEAN**
Southeast Asian countries incl. Malaysia, Indonesia, Thailand, Vietnam, Philippines would specifically need USD 190 bn annually (2026-2030) to meet IEA Net Zero Emissions scenario and any shortfall in climate financing is also likely to impact their ability to meet NDCs.

Potential Contributors	Potential Beneficiaries in APAC	Potential Projects
EU, Germany, UK, France, Japan, Australia, New Zealand, Italy incl. other Nations as per Annex -II, UNFCC	Indonesia, Philippines, Vietnam, Thailand, India and other nations as per Annex-I, UNFCC	Climate mitigation projects such as renewable energy, energy efficiency, low-carbon mobility

* Based on trends of annual climate finance flow 2000-2019. Source – Fulcrum, OECD

Consensus on L&D Fund,
and increased MDB
commitments

Collaboration on climate
adaptation and blended
financing initiatives

Global

Climate Finance Action Fund

USD 1 bn public-Private partnership and derisking investment blended finance fund targeting USD 1 bn initially for **climate projects in developing countries**

Focus on – Renewable energy, green industrial projects and food and agriculture.

Increased commitment from MDBs:

USD 120 bn annually by 2030: MDBs announced to increase climate financing for low- and middle-income countries to USD 120 billion a year by 2030.

Loss and Damage Fund:

USD 730 mn Loss and Damage Fund gets operationalised and will start financing projects from 2025. The fund also secured USD 50 mn from **Australia**.

APAC



Blended Finance FAST P

USD 500 mn: Singapore committed USD 500 mn in concessional funding to support the MAS' Financing Asia's Transition Partnership.

MUFG along with BlackRock, MAS, IFC, NEXI, and AIA signed a Statement of Interest to explore a blended finance initiative under the FAST P for private borrowers to finance

Green Investments partnership: **USD 1 bn** blended finance programme by Pentagreen under FAST P to increase the bankability of green and sustainable infrastructure projects in Asia. Focus on - renewable energy, EVs, sustainable transport, and water and waste management.

IF-CAP

USD 2.5 bn Climate Financing Facility launched by ADB targeting **USD 2.5 bn** in guarantees to support climate adaptation needs of APAC. **Australia** committed USD 200 mn to the initiative.

Climate x Health: Lighthouse for Asia Fund

USD 5 Mn - AVPN and Bayer Foundation launched a USD 5 mn fund "Climate x Health: Lighthouse for Asia Fund" to develop climate solutions for community health.

Focus on - food security, infectious disease management, water and sanitation, and climate-health intelligence

Market Activity | Singapore, Indonesia, and Australia



Singapore continued cementing its regional carbon trading hub presence

Indonesia and Australia re-affirmed their commitment to clean energy

Singapore

Pioneering carbon market mechanisms

Leadership in Art 6 negotiations

Co-chaired Art 6 negotiations leading to consensus of all 196 parties that enabled operationalisation of the international carbon markets under Paris Agreement. Singapore, Verra and Gold Standard also issued initial playbook to operationalise Article 6.

Bilateral Carbon Credit Agreements: Signed carbon credit cooperation MOU with Zambia and advanced its negotiations for an implementation agreement with Peru. Singapore currently has implementation agreements only with Papua New Guinea and Ghana.

Carbon Project Development: Singapore launched a grant to support Singapore-based companies on carbon projects development for generating Art 6 carbon credits.

Interoperability of Taxonomy

Joined the Multi-Jurisdiction Common Ground Taxonomy for green financing and expands an existing agreement between the EU and China

Indonesia

Advancing climate action with new announcements

Clean Energy

Announced its target to add 75 GW of clean energy including nuclear energy by 2040

Coal-phase out

Notified its plans to retire all coal and other fossil-fuel power stations within 15 years, with an aim to bring the nation's net-zero target forward by a decade

Bilateral carbon trading

Mutual Recognition Arrangement that will enable Japan to develop emission reduction projects in Indonesia and claim the benefits through carbon credit certificates. It is also the first collaboration between countries under Art 6.2 of the Paris Agreement.

Australia

Accelerating deployment of clean energy

Hydropower

Australia and Indonesia joined an alliance of 30 govts and international donors to launch a "Global Alliance for Pumped Storage" aiming to advance pumped storage hydropower.

No New Coal Plants

Signed the declaration on "Call to Action for No New Coal" that asks its signatories to develop national climate plans with aim to restrict building new unabated coal plants.

Clean Energy

Australia became a signatory to "Global Clean Power Alliance" that aims to accelerate the global action on clean power by uniting developed and developing countries

Nations align on low-carbon energy sources



Mandate to advance
energy storage and grids
for renewables

Hydrogen and nuclear find
some ground, but few
takers

Focus on energy storage and grid connectivity

Green Energy Pledge:

Thailand joined a group of other nations in signing the pledge to connect green energy zones and corridors to the communities most in need.

Global Energy Storage and Grids Pledge:

Australia joined a group of signatories committing to a goal of deploying 1,500 GW of energy storage globally by 2030 - more than six times the capacity of 2022. The pledge also commits to add or refurbish 25 mn kms of grids globally by 2030.

Energy transition and emission reduction levers find some ground

Phasing out fossil fuel subsidies

New Zealand remained the only nation in APAC nation that joined 15 other signatories for a “**Coalition on Phasing Out Fossil Fuel Incentives Including Subsidies**” to remove barriers and facilitate transparency toward the phase-out of fossil fuel subsidies.

Reducing methane emissions

China and USA announced increased collaboration on reducing emissions from methane and other GHGs as a part of the **Sunnylands Statement** on Enhancing Cooperation to Address the Climate Crisis that was signed in 2023.

The European Commission also launched a **Methane Abatement Partnership Roadmap**.

Alternative energy – Progress hangs on commercial viability

Hydrogen Declaration

COP29 Hydrogen Declaration : **Australia** joined a host of nations to sign the declaration that aims to scale up renewable, zero-emission and low-carbon hydrogen production, and to decarbonise hydrogen production.

Hydrogen Transportation Pipeline

Singapore's Sembcorp Industries signed a joint development framework agreement with **Indonesian** PLN Energi Primer Indonesia to develop a hydrogen transportation pipeline between the two countries.

Nuclear Energy

South Korea became a signatory to “Declaration to Triple Nuclear Energy” that commits to achieve a tripling of global nuclear capacity from 2020 by 2050.

COP29 | APAC's 3 Key Takeaways for 2025

1 Article 6 Carbon Markets

Domestic carbon mechanism rulebook, vital to connect with international markets

The success of Art 6 in facilitating the international transfer of carbon credits hinges on the national implementation post-COP29, to connect domestic regimes with the international frameworks.

India and Vietnam are leading the way in APAC, which already boasts the highest number of projects proposed for Art. 6.4 considerations. In 2025, we anticipate the implementation actions across APAC markets to progress domestic carbon pricing mechanism, unify the framework for cross-border trades, and identify eligible Art 6.4 carbon credit projects – a clarity vital for further market development.

2 NCQG Climate Finance

Will financing shortfalls impact target achievement? A reality check in the upcoming NDCs updates in 2025

International support is essential for the APAC region to achieve its ambitious emission reduction goals, as highlighted by the conditional NDC targets of many countries, especially the **Philippines and Vietnam**.

A shortfall of committed climate finance has been pronounced. However, the extent of its impact has not yet been defined. Look out for the impact on the **NDCs in February 2025** when all the markets are due to submit their revised NDCs targets for 2035.

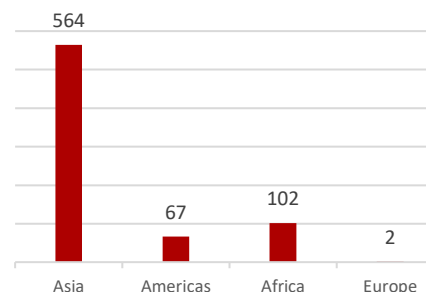
3 Energy Grid Connectivity

Green grid - unlocking renewable energy resources

COP29 pledges on increasing energy storage and grid infrastructure.

We expect that green grids will take a center stage in 2025. The **Java-Bali and Sumatra grid** in Indonesia, along with **Sarawak – Brunei & Sarawak – Singapore grids** in Malaysia are particularly noteworthy as they are set to unlock significant renewable energy resources for much-needed domestic and international markets.

Geographical split of Article 6.4 projects



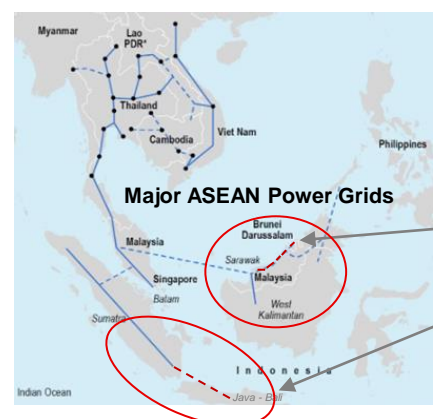
Markets	No of Projects	Areas
India	471	Solar, Bioenergy
Vietnam	13	Wind, Hydro, Bioenergy
Indonesia	4	Bioenergy, Hydro, E-Bus
Thailand	3	Solar, Bioenergy

Source: UNEPCCC. As of 6th Dec 2024

Current GHG emission reduction targets under NDCs against 2030 BAU

	Conditional	Unconditional	Contingent on Int'l support
Philippines	75%	2.71%	~ 72%
Vietnam	43.5%	15.8%	~28%
Indonesia	43%	32%	11%
Thailand	40%	30%	10%

Source: Climate Action Tracker. As of 11th Dec 2024.



- Sarawak – Brunei & Sarawak - Singapore grids
- Sumatra with Java and Bali Grid

Source – IEA. Note – Map for representation purpose only. Scale may not be accurate

MUFG ESG | Thought Leadership Highlights in FY2024

MUFG Net Zero World (MUFG NOW)

A flagship event series designed to foster dialogue and cooperation between public and private sectors to advance sustainability goals across APAC.



1,600+

Clients Engaged

140

Client C-Suite

12

Markets covered in APAC

3

Events co-hosted with Partner banks

At the Crossroads – **Hong Kong's** Strategic Role in Asia's Green Ecosystem

✓ Attendees:107



India - Accelerating Ambition and Finance

✓ Attendees:145



Krungsri-MUFG ESG Symposium (**Thailand**)

✓ Attendees:574



Philippines- Scaling up for a decarbonized future

✓ Attendees: 184



Strengthening Momentum – **Indonesia's** Transition to Net Zero

✓ Attendees:200



Sep'23

Oct'23

Nov'23

Feb'24

Mar'24

May'24

May'24

Jun'24

Sep'24

Sep'24

Nov'24

The Right Blend- **Singapore's** Role in Asia Net Zero Transition

✓ Attendees:100



Australia – Transition and Access to Global Capital

✓ Attendees:72



Decoding Technologies and Finance for **Malaysia's** Transition Journey

✓ Attendees:120



Marching Forward **Vietnam's** Green Transition

✓ Attendees:120



Hong Kong – Asia's Green Finance Hub

✓ Attendees:135



Australia - Alternative Opportunities in the Energy Transition

✓ Attendees: 83

China – Transition to Net Zero

✓ Attendees: 95

MUFG ESG I Thought Leadership Highlights in FY2024

Energy Transition Roundtables with Consulate-General of Japan in Perth (Australia)



I. 27 Jun- Sharing on MUFG Transition Whitepaper

Daisuke Nishiyama, ex- Head of Sustainable Business Division at MUFG presented a comparative analysis of energy transition models in the EU, US, Japan & other countries to CEOs & managing directors of major Japanese energy & resource companies in Western Australia



II. 17 Sep – Sharing on Critical Minerals

Department of Jobs, Tourism, Science and Innovation (JTSI) shared insights on current state of energy & resource industry and its future prospects in Western Australia

Roundtable for Japanese companies to compare notes in areas of 'Hydrogen & Critical Minerals' & 'Emerging Energy Transition'



III. 9 Dec – Review & Outlook of Energy Transition in 2024

Roundtable reviewed 2024's advancements & setbacks in technology, regulatory frameworks, infrastructure costs, geo-strategic dynamics, legal disputes, financing & energy demand projection for the region

Client Seminars in South Korea (13 Dec)



- The online Japanese and Korean client seminars dedicated for South Korea market attended by over 130 participants.

- The insightful session discussed lessons learned from developed countries as featured in the MUFG Transition Whitepaper 3.0. It highlighted global trends and notable green technologies, such as hydrogen ammonia, offshore wind, and SAF, which are gaining traction in South Korea. Additionally, the session covered relevant regulations and projects related to these technologies in South Korea..

MUFG TRANSIT | ESG Market Intelligence insights

MUFG TRANSIT publications focus on 3 key sustainability themes

Energy Transition:



Apr-23: APAC Sustainability Journey - Vol I

APAC energy transition landscape & national decarbonisation strategies

Jul-23: APAC Sustainability Journey - Vol II

APAC energy transition market updates, regional green taxonomy developments

Oct-23: APAC Sustainability Journey - Vol III

Transition rulebooks & taxonomies in APAC, disclosure landscape

Feb-24: APAC Sustainability Journey – ESG Disclosures

Global and APAC ESG disclosure landscape

Mar-24: APAC Sustainability Journey – Accelerating Sustainable Finance in APAC

Taxonomies and sustainable finance policies in APAC

Low-Carbon Energy:



May-23: APAC Low Carbon Energy – Vol I

Global hydrogen landscape, national policies & unlocking the hydrogen potential in APAC

Aug-23: APAC Low Carbon Energy – Vol II

Introduction to CCUS/CCS, global policies & APAC potential

Nov-23: APAC Low Carbon Energy – Vol III

Introduction to biofuels, sustainable aviation fuel (SAF)

Carbon Offsets:



Jun-23: APAC Carbon Offsets – Vol I

Overview of carbon offsets, pricing, reporting, accounting and policies

Sep-23: APAC Carbon Offsets – Vol II

Update of integrity standards & of compliance & voluntary markets in APAC

Jan-24: APAC Carbon Offsets – Vol III

Bilateral carbon markets in APAC

Aug-24: APAC Carbon Offsets – Vol IV

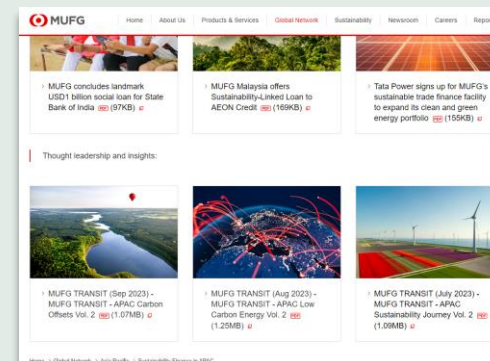
CBAM and its Impact on APAC Iron & Steel Sector

Published on MUFG's Global Website

(<https://www.bk.mufg.jp/global/globalnetwork/asiapacific/sustainabilityfinance/transit.html>)

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