

CLIMATE ACTION IN CHALLENGING TIMES:
**HOLDING THE
LINE ON 1.5°C**

ASIA-PACIFIC CONTEXT

Complement to WWF's global expectations paper ahead of 30th United Nations Climate Conference (COP30) in Brazil

November 2025

CONTENTS

INTRODUCTION	03
REDUCING GREENHOUSE GAS EMISSIONS	04
Mitigation efforts related to waste and forests	05
Renewable energy	06
Zero carbon steel	07
Industrial decarbonisation	07
CLIMATE CHANGE ADAPTATION AND VULNERABILITY TO ACCELERATING IMPACTS	08
Vulnerable groups	09
National Adaptation Plans	10
Taking into account IPs & LCs	11
Finance for adaptation	12
Loss and Damage	13
FINANCIAL SUPPORT FOR THE GLOBAL SOUTH	14
Financing for developing countries	15
Taxes on fossil fuel profits	15
Fossil fuel subsidies	16
Financial transaction levies	16
Fair debt relief and restructuring for climate-vulnerable nations	17
Shifting from dialogue to effective action under article 2.1(C)	18
RENEWABLE ENERGY TECHNOLOGIES AND LOW CARBON SOLUTIONS	18
A NATURE PACKAGE: BIODIVERSITY AND ECOSYSTEMS	19
Halting and reversing deforestation and land conversion	20
Tropical Forest Forever Facility	21
CLIMATE JUSTICE AND THE SOCIAL IMPACTS OF CLIMATE CHANGE	24
Just Transition	24
The role and rights of Indigenous Peoples	25
Facilitative Working Group of the Local Communities and Indigenous Peoples Platform	25
CONCLUSION	27
REFERENCES	28

Defining the Asia-Pacific region

There is no universally standardised grouping of the countries comprising the "Asia-Pacific region". For this report, the region is defined as extending from the United Arab Emirates in the west to Kiribati in the east. Some references cited may apply different regional boundaries.

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INTRODUCTION

The Asia-Pacific region, home to 60% of the world's population, stands at a critical crossroads in the global climate agenda. As one of the world's most climate-vulnerable regions – and a significant contributor to global emissions – it faces a dual challenge: adapting to intensifying climate impacts while transitioning to a low-carbon, resilient future.

This challenge is compounded by the region's extraordinary ecological and cultural significance. Asia-Pacific hosts 17 of the world's 36 biodiversity hotspots¹ and nearly a fifth of global forest cover², making it vital to the planet's natural heritage and climate stability. It is also home to more than two-thirds of the global Indigenous population³ – whose traditional knowledge and stewardship have long safeguarded biodiversity and ecosystems. The region is highly diverse, spanning small island states and populous nations, with wide differences in energy resources, economic development, and demographics that shape climate vulnerabilities and opportunities for action.

Without stronger mitigation and adaptation efforts, the region is projected to experience increasingly severe and frequent heatwaves, floods, droughts, tropical storms, and the spread of infectious diseases. Climate-dependent sectors such as agriculture, fisheries, and forestry are expected to suffer substantial losses, and under a high-emissions scenario, regional gross domestic product could fall by 17% by 2070 – and 41% by 2100⁴. These effects will be regressive, disproportionately impacting poorer nations, small island developing states, and fragile economies.

The United Nations' 'Global Stocktake' process in 2023 highlighted the world's inadequate response to climate change since the Paris Agreement. As the 30th United Nations Climate Change Conference (COP30) approaches in November 2025 in Brazil, it presents a pivotal moment for Asia-Pacific countries to raise ambition in their next round of Nationally Determined Contributions (NDCs) or national climate plans, and deliver climate goals through inclusive, just and equitable transitions.

The region also faces a widening "nature-finance gap", exacerbated by declining government aid. Bridging this gap is essential to meet the intertwined goals of climate action, biodiversity conservation and ecosystem restoration, including commitments under the [Global Biodiversity Framework](#) (Targets 3 and 8), the [Cali Fund](#) and [Article 8\(j\)](#) of the [Convention on Biological Diversity](#), the [Sustainable Development Goals](#), and the [Convention to Combat Desertification](#).

To match the scale of the crisis, countries must pursue bold, integrated action. Enhanced NDCs must not only close the emissions gap to limit warming to 1.5°C, but also address gaps identified in the first Global Stocktake.

Transboundary cooperation is critical: many countries share river basins, forests, and energy grids, requiring collaboration on landscape restoration, sustainable water management, and cross-border energy trade. Article 6 of the Paris Agreement offers pathways for cooperative approaches and carbon market mechanisms that can unlock greater ambition and lower decarbonisation costs.

Governments must also commit to ending deforestation, reversing forest degradation, and halting ecosystem conversion, recognizing nature-based solutions as key to mitigation and adaptation. A just transition away from fossil fuels – backed by investment in renewable energy, energy efficiency, and universal energy access – is essential to achieve climate goals while supporting inclusive development. At the same time, the region must strengthen adaptation and resilience to protect lives, livelihoods and ecosystems.

These priorities must guide preparations for COP30, ensuring that Asia-Pacific plays a decisive role in shaping a more sustainable, climate-resilient future.

OVERVIEW: WWF'S COP30 EXPECTATIONS

- Enhanced NDCs: Parties submit strengthened NDCs well ahead of COP30 that reflect the Global Stocktake outcome and Paris Agreement goals. At COP30, address any remaining gaps through new national and multilateral initiatives, alongside stronger implementation mechanisms and support.
- Nature Package: Secure an ambitious package centred on halting deforestation and ecosystem conversion.
- Energy Transition: Agree on measures to accelerate an equitable and just transition away from fossil fuels, while scaling up renewable energy, efficiency and universal energy access.
- Adaptation: Finalize adaptation indicators under the [UAE Framework for Global Climate Resilience](#), and increase action and support to strengthen resilience against escalating climate impacts.
- Global Climate Action Agenda: Support a stronger and more effective [Action Agenda](#), with adequate capacity and instruments to meaningfully close the gaps on mitigation, adaptation and resilience.

For further detail, refer to WWF's [global expectations paper for COP30](#).

REDUCING GREENHOUSE GAS EMISSIONS

The first line of defence against climate disruption is the reduction of greenhouse gas emissions and atmospheric concentrations, to avoid pushing global warming far beyond 1.5°C.

The Asia-Pacific region needs to prioritise ambitious, economy-wide mitigation efforts across key sectors: forests and land use, waste, energy, and heavy industry – particularly steel.

60%

of the world's greenhouse gas emissions are generated in Asia-Pacific, with an annual growth rate of 2% since 2010⁵. Asia is largely responsible, while Pacific islands account for just 0.02% of global emissions⁶.

As a member of G7, the Japan government should intensify its domestic emissions reduction and accelerate the expansion of renewable energy introduction in the Asia-Pacific region.

This is a result of heavy reliance on fossil fuels, rapid urbanization, rising standards of living and expanding mobility needs in the region.

92%

of people in Asia-Pacific are exposed to poor air quality⁷.



The Asia-Pacific region has substantial renewable energy generation potential and is well positioned to benefit from the transition to net-zero⁸. The intensity of emissions in Asia has decreased by over 50% since 2000⁹.

Major economies like China are cutting emissions while growing economically¹⁰. Pakistan has committed to a 50% reduction in emissions by 2030 compared to a business-as-usual scenario¹¹ and the United Arab Emirates has set a reduction target of 47% by 2035 compared to 2019 levels¹². Carbon markets are expanding, with China and South Korea leading, and Indonesia launching IDXCarbon in January 2025¹³. In May 2025, Malaysia introduced a Forest Conservation Certificate to finance sustainable forest protection¹⁴. Singapore's rising carbon tax supports its 2050 net-zero goal¹⁵. Meanwhile, regional companies are joining the First Movers Coalition to decarbonize heavy industry¹⁶, and there has been a substantive increase in members from the region to the United Nations-backed campaign Race to Zero¹⁷, signalling growing climate ambition across Asia-Pacific. Pakistan's Net Zero Coalition was one of the first initiatives from the Global South to be recognized by Race to Zero¹⁸.

WASTE AND FORESTS

Waste generated from agriculture, forestry and other land use (AFOLU) sectors are a significant source of greenhouse gases in Asia-Pacific, with AFOLU emissions representing the third largest share in the region, after energy systems and industry¹⁹.

Mitigation measures include improving land management practices, enhancing carbon sequestration, reducing food loss and waste, and conserving ecosystems.



34%

of the world's greenhouse gas emissions from AFOLU sectors come from Asia-Pacific²⁰.

1.1 TRILLION TONNES

the amount of waste expected to be generated in Asia-Pacific by 2030, up from 802 million tonnes in 2016²¹.



Asia holds the highest potential for reducing emissions in AFOLU sectors, due to its significant contribution to global emissions and the huge potential for emissions reduction through rice cultivation and soil restoration. In Southeast Asia, for example, changes to cultivation practices result in considerable reductions in methane emissions while increasing rice yield²², and forest frontiers can be restored by scaling up agroforestry approaches²³.

Viet Nam's "Sustainable Development of One Million Hectares of High-Quality, Low-Emission Rice Associated with Green Growth in the Mekong Delta" project aims to cut rice-related emissions²⁴ and Pakistan's "10 Billion Tree Tsunami Afforestation Programme" aims to restore degraded land²⁵. Papua New Guinea helped pioneer REDD+ globally at COP11²⁶ and Malaysia is one of the few countries to have reported REDD+ results to UNFCCC²⁷. Cambodia and Bhutan focus on expanding (60% by 2030²⁸) and maintaining (60%²⁹) forest cover, respectively. The Philippines enforces plastic waste responsibility through its Extended Producer Responsibility Act³⁰, and Pakistan's 2021 climate change policy and associated implementation framework prioritise AFOLU as a key area for climate change mitigation and adaptation³¹.

RENEWABLE ENERGY



4 MILLION GWH

or approximately 27% of electricity in Asia-Pacific came from renewable energy sources, like solar, wind and hydropower, in 2022³² (compared to 8 million GWh just from coal).



Climate finance in Asia-Pacific has been heavily concentrated in renewable energy, accounting for 91% of global flows in 2018-2019 – primarily directed toward solar, wind, and hydropower in China and India. Low-carbon transport financing also grew, with increased rail and transit investments and rising electric vehicle adoption³³.

Countries across the region are scaling up efforts. India tripled its renewable capacity to 232 GW by 2025 and aims for 500 GW by 2030³⁴. Viet Nam leads Southeast Asia in solar and wind development, targeting 70% renewable energy by 2050³⁵. Malaysia's National Energy Transition Roadmap aims for 70% renewables by 2050 and 310,000 green jobs³⁶. Renewable energy reached 24.3% of Malaysia's capacity mix in 2024, supported by initiatives like Large-Scale Solar and Net Energy Metering³⁷. Pakistan plans for 60% renewable energy by 2030³⁸. South Korea's offshore wind power has a technical potential estimated at 624 GW, and is aiming for 14.3 GW of installed capacity by 2030³⁹. Australia saw record clean energy investment in 2024, with a target of 82% renewable electricity by 2030⁴⁰. The Philippines generated 21% of its electricity from renewables in 2024 and targets 35% by 2040, in line with policies such as the Renewable Energy Act of 2008 and Energy Efficiency and Conservation Act of 2019⁴¹.



ZERO CARBON STEEL

3/4

of all steel is made in Asia⁴². Steel is responsible for around 7% of global greenhouse gas emissions⁴³, and global demand for steel is expected to rise.

INDUSTRIAL DECARBONISATION

60%

of the world's coal consumption occurs in East Asia and Pacific⁵⁰, with the region also a major producer of fossil fuels. Australia is the world's third-largest fossil fuel exporter, and its coal and gas exports were responsible for 1.2 billion tonnes of CO2 emissions in 2023⁵¹. Fossil fuel dependency remains a barrier to region's energy transition.



Steel producers across Asia-Pacific are accelerating decarbonization.

Indonesia's Gunung Raja Paksi, one of the country's largest private steel companies, aims for carbon neutrality by 2050 and is exploring green hydrogen, backed by Indonesian and Australian governments⁴⁴. Australia is investing in supporting its steel-producing trading partners to decarbonise their supply chains, including through the recent announcement of a AUD1 billion (approx. US\$650 million) Green Iron Investment Fund⁴⁵. China, the world's largest steel producer, targets carbon neutrality by 2060⁴⁶, with Baowu Steel leading efforts to cut emissions per tonne by 30% by 2035⁴⁷. India is considering green steel mandates for public projects, while producers invest in hydrogen and clean technologies⁴⁸. Singapore is promoting low-carbon steel in construction through initiatives like the ULI Greenprint collaboration with China's real estate industry⁴⁹.

Asia-Pacific cut its carbon intensity by 2.8% in 2022 – more than double the 2021 rate⁵², but still below the pace needed. Demand for low carbon assets could trigger "unprecedented capital reallocation" of US\$3.5 trillion in new spending each year by 2050⁵³.

Countries are stepping up: Viet Nam recently revealed its coal phase-out plan⁵⁴. South Korea's emissions trading scheme, K-ETS, covered 79% of national emissions in 2022⁵⁵ and the government aims to achieve carbon neutrality by 2050⁵⁶. India is decarbonizing industry with rooftop solar⁵⁷ and biomass⁵⁸, Pakistan aims to completely ban imported coal⁵⁹, and Indonesia is developing a carbon tax⁶⁰.

CLIMATE CHANGE ADAPTATION AND VULNERABILITY TO ACCELERATING IMPACTS



43,000

people have died in Asia-Pacific each year due to disasters since 1970. Asia-Pacific is the world's most disaster-prone region⁶¹.

15cm

further sea level rise in next three decades predicted by NASA, even if greenhouse gas emissions targets are met⁶². Tuvalu, Kiribati and Fiji have been battling rising sea levels for years, and Bangladesh, China and India were highlighted by the United Nations in 2023 as being at high risk⁶³. Many sedimentary coasts and deltas across Asia-Pacific are receding faster than sea levels are rising. Large parts of the Mekong Delta, for example, home to 17 million people and thousands of businesses, could fall below sea level by 2100 unless the underlying drivers are addressed⁶⁴.

2024

was China's hottest year on record, India's warmest year since 1901⁶⁵, and the hottest year on record in the Southwest Pacific⁶⁶.



Pacific Island nations are advancing climate adaptation through national policies and targeted programmes. Fiji has integrated climate adaptation into its national policies through the 2021 Climate Change Act⁶⁷ and its National Adaptation Plan Framework is guided by the REDD+ Policy, which reflects the dual role REDD+ plays both in climate change mitigation and adaptation⁶⁸. In 2023, Papua New Guinea launched the country's National REDD+ Safeguards Guidelines which accommodate for the development of REDD+ in the country, Free, Prior and Informed Consent (FPIC), Benefit Sharing and Distribution and Grievance Redress Mechanisms⁶⁹.

In Asia, the Southeast Asia Climate Adaptation and Resilience (SEACAR) Alliance is a regional initiative to advance the resilience of cities and local communities at the forefront of climate change⁷⁰. In the Philippines, the Climate Change Commission oversees adaptation through initiatives like the Communities of Resilience programme and the People's Survival Fund⁷¹. Pakistan has developed a National Adaptation Plan (2023-2030) to provide a framework for implementing adaptation, promote inclusivity, facilitate collaboration among stakeholders and serve as a tool for climate finance mobilization⁷².

GROUPS IN VULNERABLE CONDITIONS

80%

of global displacements triggered by climate change are women⁷³.

Those most vulnerable to the adverse effects of climate change in the Asia-Pacific region are people who already face marginalization – such as women, children, older persons, persons with disabilities, ethnic and gender minorities, and those living in rural areas⁷⁴.



Gender-responsive implementation remains limited in Asia-Pacific. Nationally Determined Contributions, or national climate plans, often lack meaningful inclusion of diverse social perspectives, particularly in disaster risk reduction. Key barriers include the underrepresentation of marginalized groups in climate and disaster risk reduction governance, a lack of full and effective participation in governance bodies and environmental decision-making arenas, policies that overlook lived realities, persistent inequalities in land rights, economic discrimination, and limited access to finance and technology.

Within the UNFCCC, women continue to face barriers to participating in climate action and negotiations due to low representation – despite gender equality being an official goal^{75,76}. Just 2.3% of climate finance is dedicated to improving gender equality, and less than 0.1% of all global philanthropic funding is allocated to the intersection of gender and the environment⁷⁷.



81.5% of Nationally Determined Contributions submitted to UNFCCC make **significant references to gender**, as at 31 July 2024, as do **90% of National Adaptation Plans**⁷⁸. **96% identify at least one other group** – most commonly youth, Indigenous Peoples, and the elderly⁷⁹.

The Marshall Islands conducted a study to identify the best ways to advance gender equality and human rights objectives through its efforts on climate change adaptation efforts⁸⁰.

UNFCCC is currently developing a new Gender Plan of Action, aiming for adoption at COP30⁸¹.

NATIONAL ADAPTATION PLANS

8%

of climate financing in the region was directed to adaptation (91% went to mitigation) in 2018-2019.

There have been efforts to achieve a better balance, but wide disparities persist. The United Nations estimates that adaptation finance globally covered less than half of all adaptation needs and would not reach the 2030 target without a fundamental change⁸².



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Financing for adaptation has risen by 30%, directed particularly at disaster risk management, natural resource management and coastal protection⁸³. As of June 2025, Cambodia, Fiji, Kiribati, Nepal, Sri Lanka and Timor Leste had all submitted National Adaptation Plans to the UNFCCC⁸⁴. Bangladesh introduced an annual budget for mitigation and adaptation activities, within its Climate Change Strategy and Action Plan in 2008^{85, 86}. Its updated Climate Fiscal Framework 2020 has a broader remit, including the private sector, non-governmental organizations and civil society organizations, and highlights relevant fiscal policies like insurance⁸⁷.



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TAKING INTO ACCOUNT INDIGENOUS PEOPLES AND LOCAL COMMUNITIES

1%

of climate-related official development assistance was allocated to Indigenous and community-led organizations from 2011-2020. With a few exceptions, Indigenous Peoples are invisible as rights-holders, knowledge-holders and agents of positive change in national climate policies across Asia⁸⁹.

17%

of climate and energy funding intended for Indigenous Peoples and local communities actually reaches them⁹⁰.



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US\$1.7 BILLION

was pledged by governments and private funders at COP26 in support of Indigenous and local communities' tenure rights in recognition of their global contributions to climate change mitigation, adaptation and protecting biodiversity⁹¹.



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In the Asia-Pacific region, countries are increasingly recognizing the rights and roles of Indigenous Peoples and local communities in governance and natural resource management, as well as in protected and conserved areas⁹².

For example, for more than 20 years, First Nations Traditional Owners in Australia have been partnering with the government to "integrate modern marine park management and traditional knowledge" in order to protect and sustainably manage the Great Barrier Reef. This has resulted in more than 43% of the Great Barrier Reef Marine Park being managed under Indigenous co-management agreements⁹³.

Inspiration could come from the Philippines, with the world's first Indigenous Peoples' Biodiversity Strategy and Action Plan, to develop Indigenous Peoples-led national climate plans⁹⁴.

Refer to [The role and rights of Indigenous Peoples](#) for more examples.

FINANCE FOR ADAPTATION

US\$102-431 BILLION

is needed for climate change adaptation in Asia-Pacific⁹⁵.

Only US\$34 billion was mobilized in the region in 2021-2022⁹⁶.

Adaptation finance met less than half of needs and will miss the 2030 target without major changes, underscoring the urgent need to scale it up⁹⁷.



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Climate financing in Asia-Pacific is rising each year – US\$519.9 billion was spent in 2018-2019. The public sector contributed the most (68%) to total climate finance flows in the region⁹⁸. The Pacific Resilience Facility is a key initiative aimed at mobilizing finance across the region to proactively help vulnerable groups exposed to climate change and disaster risks⁹⁹.

Adaptation finance grew by 31% from US\$17.7 billion to \$23.1 billion in 2018-2019, reflecting efforts to align with Article 9 of the Paris Agreement and balance mitigation and adaptation¹⁰⁰.



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“EVERY TIME THERE IS A HIGH TIDE, I AM WORRIED. I WAIT, READY TO PACK AND TAKE AS MUCH AS I CAN”

TRAN THANH TU

TAMING THE RISING TIDES

In Viet Nam's Mekong Delta, 55-year-old Tran Thanh Tu lives in constant fear of high tides eroding his land. Since moving to Dat Mui commune, Ca Mau province, three decades ago, the sea has claimed a kilometre of shoreline, swallowing homes and farmland. To combat this, Tu and his wife have constructed defences using coconut and bamboo fibres, which help reduce wave impact and trap sediment and encourage mangrove growth. However, such local efforts are temporary solutions. The delta faces severe threats from upstream hydropower dams, sand mining, land subsidence, and climate change-induced sea-level rise. Experts warn that without restoring natural sediment flows and implementing large-scale interventions, the delta – home to millions and vital ecosystems – could face catastrophic erosion and submersion in the coming decades.

Read more [here](#).

LOSS AND DAMAGE

Loss and damage occurs when the impacts of climate change surpass the capacities for adaptation and mitigation, resulting in irreversible or long-lasting effects on communities, economies and ecosystems¹⁰¹. Both slow onset climate impacts and extreme weather events can permanently and adversely alter natural and social environments, leading to economic and non-economic loss or damage. The Asia-Pacific region is particularly vulnerable to such impacts.

70%

of the global population susceptible to sea level rise live in Asia-Pacific¹⁰².

Among the countries most affected by extreme weather events between 1993 and 2022 are China, India, Myanmar, Philippines and Vanuatu¹⁰³.

Countries in Asia-Pacific experience, on average, six disasters per year – roughly double that of Latin America and the Caribbean and triple that of Sub-Saharan Africa¹⁰⁴.

1/3

of the Asia-Pacific region's total employment is tied to natural resources, economies and livelihoods that are highly sensitive to climate shifts¹⁰⁵.



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US\$1-2 TRILLION

estimated loss and damage costs for developing countries by 2050¹⁰⁶.



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The Philippines is hosting the Board of the Fund for Responding to Loss and Damage¹⁰⁷.

The concept of “loss and damage” in the context of international climate change negotiations was initially submitted by Vanuatu on behalf of the Alliance of Small Island States (AOSIS) in 1991. The term was first seen in a UNFCCC decision at COP13 in Bali, Indonesia¹⁰⁸. Given their high vulnerability, Asia-Pacific nations remain vocal and need to be central to global efforts to address loss and damage.

The major financing instruments of the UNFCCC – the Green Climate Fund (GCF), Global Environmental Facility (GEF) and Adaptation Fund – while geared toward mitigation and adaptation, also serve to avert and minimize loss and damage¹⁰⁹.

The institutional landscape for addressing loss and damage is still being developed through international dialogue. As this discourse evolves, financing mechanisms, processes, and conditions will emerge – making it essential that those already experiencing the adverse effects of climate change have a voice in shaping these conversations.

FINANCIAL SUPPORT FOR THE GLOBAL SOUTH

Climate finance in the Asia-Pacific region is growing. Public finance dominates, and a significant gap persists between developed and developing countries – many developing nations struggle to access sufficient, timely, predictable, and concessional finance. Greater private sector mobilisation and targeted support for adaptation are essential to meeting the region's diverse climate needs.

FINANCING FOR DEVELOPING COUNTRIES

31%

increase in climate finance in 2018-2019, but this is insufficient and disproportionate¹¹⁰.

Within the region, East Asia was the biggest provider and recipient, receiving 80% of total climate finance. Central and West Asia, Southeast Asia and the Pacific as a group received less than 8% of climate finance in the region¹¹¹.

Less than 1% of climate financing reaches Indigenous Peoples directly¹¹².

US\$1.699 BILLION

is needed annually in Asia-Pacific up to 2030 to meet Paris Agreement goals¹¹³.

590%

is the increase in annual climate financing needed globally to meet climate objectives set for 2030¹¹⁴.

US\$1.3 TRILLION

is the amount the New Collective Quantified Goal aims to mobilize annually in climate finance for developing countries by 2035, including a target of US\$300 billion from developed countries¹¹⁵. Since the Green Climate Fund was established, more than US\$600 million has been approved for grants in the Pacific¹¹⁶.



The Asia-Pacific region is advancing climate finance through innovative policies and institutional support. The Asian Development Bank, calling itself the “climate bank of Asia-Pacific,” launched the Nature Solutions Finance Hub in 2023 to mobilise at least US\$5 billion for nature-based solutions, of which at least 15% will come from the private sector¹¹⁷.

Altéra, the world's largest climate investment fund, was launched with a US\$30 billion commitment from the United Arab Emirates and aims to mobilise US\$250 billion for climate action by 2030¹¹⁸.

Since 2015, Kyrgyzstan has established policy frameworks to promote and track climate finance from diverse sources, resulting in increased investment across previously underserved sectors¹¹⁹. Pakistan launched its first national climate finance strategy at COP29 to serve as a roadmap to systematically access and secure climate finance from available funding channels¹²⁰.

Preliminary estimates indicate that Mongolia needs to spend an additional 18% of GDP annually from 2021 to 2030 in order to achieve its SDG targets¹²¹. A further \$US11.5 billion is required to finance climate mitigation and adaptation measures, according to Mongolia's 2022 Integrated National Financing Strategy¹²².

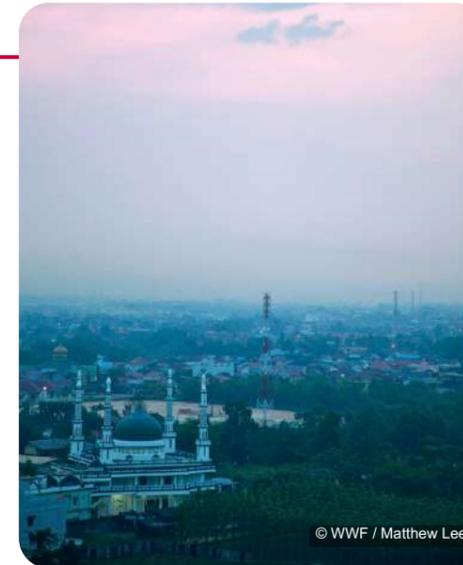
TAXES ON FOSSIL FUEL PROFITS

Imposing a tax specifically on the profits that companies earn from extracting, producing, or selling fossil fuels such as oil, coal and natural gas. Windfall profits tax is a common form of taxing fossil fuel profits, where tax is applied above a certain profit threshold.

1.5%

of total tax revenues in Asia-Pacific came from environmental taxes in 2021, measured as an equivalent of gross domestic product¹²³.

This includes excise, sales and import taxes for fossil fuels and other carbon-intensive products.



While Singapore does not have a windfall tax on fossil fuel profits, its carbon tax applies to facilities in the power and industry sectors with annual direct emissions exceeding 25 kilotons of CO2 equivalent. The tax rate was initially set at SGD5 (approx. US\$3.8) per ton of CO2 equivalent and is scheduled to increase to SGD50-80 (approx. US\$38-62) per ton by 2030¹²⁴.



FOSSIL FUEL SUBSIDIES

As economies in Asia-Pacific show growing interest in explicit carbon pricing instruments such as taxes and emissions trading schemes, it is important they align with two policy instruments: environmental taxes and fossil fuel subsidies.

12

of the top 25 economies providing the most fossil fuel subsidies were in Asia in 2022¹²⁵.

Asia-Pacific leads the world in fossil fuel subsidies, accounting for more than half¹²⁶.



Several countries in Asia are making significant strides in fossil fuel subsidy reform. In 2024, Indonesia announced new reforms aimed at improving air quality by upgrading the quality of subsidised fuels and limiting their availability to fewer vehicles¹²⁷. Malaysia has also taken steps toward more efficient subsidy use, ending blanket diesel subsidies in 2024 in favour of a targeted system¹²⁸. India, meanwhile, had reduced fiscal subsidies in the oil and gas sector by 85%¹²⁹, reflecting a broader shift towards more sustainable energy policies across the region. These reforms mark critical progress in aligning fiscal policy with climate and air quality goals.

FINANCIAL TRANSACTION LEVIES

Financial transaction levies, particularly those on stocks, bonds, and derivatives, are being explored as a way to generate new revenue for climate finance. Launched at COP28, the Global Solidarity Levies Task Force explores feasible, scalable and sensible options for levies or financial transaction taxes to raise additional resources for climate and development. The task force will conclude its work at COP30, with an announcement by its co-chairs on options for implementing progressive international levies¹³⁰.

FAIR DEBT RELIEF AND RESTRUCTURING FOR CLIMATE-VULNERABLE NATIONS

In many countries of the Global South, the debt burden weighs on public budgets and prevents investments to improve climate resilience¹³¹. Private creditors, holding nearly 60% of developing countries' debt¹³², currently do not participate in restructuring efforts. Many debtor countries do not openly acknowledge their debt distress, fearing credit downgrades and capital flight. Existing structures for debt restructuring and relief are limited in scope, and need urgent resets.

80

low- and middle-income countries are considered by international institutions as being in, or at risk of, debt distress¹³³.

Interest payments of external public debt by the same countries have increased sharply since 2010, relative to their export revenue. Sri Lanka, for example, paid 6-9% of their export revenue in interest payments alone¹³⁴.

3/4

of these countries have also been flagged by environmental experts as particularly vulnerable to the effects of climate change¹³⁵.



US\$650 BILLION

was allocated in "Special Drawing Rights" to developing countries in August 2021, providing support during the COVID-19 pandemic without creating more debt. Lessons learned from this experience could provide the blueprint for fair debt relief and restructuring for climate-vulnerable nations¹³⁶.



SHIFTING FROM DIALOGUE TO EFFECTIVE ACTION UNDER ARTICLE 2.1(C)

Article 2.1(c) of the Paris Agreement aims to align global capital flows with climate action. Formal negotiations on its implementation should begin at COP30, with agreement on a mandate.

High Climate Vulnerability

Article 2.1(c) is especially important for the Asia-Pacific region due to the high climate vulnerability of many countries, particularly Small Island Developing States and low-lying nations.

Rapid Development and Urbanisation

As one of the world's fastest-growing regions Asia-Pacific faces rising energy demand and infrastructure needs. Article 2.1(c) encourages sustainable investment now to avoid locking high-emission development pathways.

Finance Gap

Despite growing climate finance, adaptation remains underfunded in the region. Article 2.1(c) helps shift both public and private capital towards climate-aligned goals, closing this gap.

Private Sector Mobilisation

The article provides a mandate for governments and institutions to reform financial systems, enabling greater private sector involvement.

RENEWABLE ENERGY TECHNOLOGIES AND LOW CARBON SOLUTIONS

Renewable energy has the greatest potential to raise ambitions and narrow emission gaps and targets, and is the most affordable source of power in most parts of the world¹³⁷. Electrification powered by renewable energy offers the most effective and equitable pathway to decarbonize all sectors, while expanding energy access in developing countries and allowing them to leapfrog fossil gas dependence.

US\$1.5 TRILLION

is estimated to be needed annually in the Asia-Pacific region in order to achieve sustainable energy transitions¹³⁸.



Asia-Pacific is leading the world in renewable energy growth. Nearly 1,500 companies in the region have committed to the Science-Based Target Initiative (SBTi), ranking second only to Europe, and most corporate members in RE100, mandated to drive corporate renewable energy consumption, are from Asia-Pacific¹³⁹.

A NATURE PACKAGE: BIODIVERSITY AND ECOSYSTEMS

Integrating biodiversity and ecosystem considerations into national climate plans is essential due to the deep interconnection between climate change and biodiversity loss. Such alignment ensures that climate policies and actions do not unintentionally harm nature, while also harnessing nature-based solutions for climate mitigation and adaptation. For example, halting deforestation and restoring ecosystems prevents the release of stored carbon and allows forests to continue functioning as carbon sinks, absorbing and storing carbon dioxide. Restoring functional ecosystems also improves resilience to climate induced disasters. Likewise, national biodiversity plans should fully incorporate climate change considerations.

53%

of the Asia-Pacific economy is dependent on nature (includes a reliance on fertile soils, clean water, pollination and climate stability), which is at risk from the impacts of biodiversity loss. Sectors which have a higher dependency on nature include agriculture, construction, food and beverage, fisheries and aquaculture¹⁴⁰.

60%

decline in wildlife populations in Asia-Pacific over 50 years (1970-2020)¹⁴¹.



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17

of the world's 36 biodiversity hotspots are in Asia-Pacific¹⁴².

18.5%

of the world's total forest area is in Asia-Pacific¹⁴³.



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Wild tiger populations are rising in Thailand¹⁴⁴ and in India, home to the world's largest wild tiger population¹⁴⁵. Populations of snow leopards – found only in Asia – are rebounding in several countries, as is the Indus River dolphin¹⁴⁶

Populations of humpback whales are increasing in the western Pacific¹⁴⁷

Australia, Fiji and Palau have joined the [Blue NDC Challenge](#), committing to integrate ocean-based climate solutions into their NDCs¹⁴⁸

Efforts to restore degraded land in Asia-Pacific are accelerating, with FAO and 25 partners, including WWF, developing the 'RESULT Asia' framework to help countries restore at least 100 million hectares of landscapes¹⁴⁹

CONSERVING AND RESTORING ECOSYSTEMS

185 MILLION HECTARES

of degraded land have been identified in need of conservation and restoration in Asia-Pacific¹⁵⁰.

US\$1 TRILLION

is estimated to be needed globally to restore 1 billion hectares of degraded landscapes over 10 years¹⁵¹.



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Across the Asia-Pacific, nature-based solutions are restoring ecosystems and supporting communities. In the Philippines, thousands of hectares of mangroves have already been restored, strengthening coastal resilience and local livelihoods¹⁵², and a national nature-based solutions policy is currently being drafted¹⁵³. Nepal's Community Forestry Programme empowers local groups to ensure the sustainable use of forest resources to meet basic human needs, conserve ecosystems, prevent land degradation and support economic growth¹⁵⁴. Reef restoration in Indonesia's Raja Ampat has boosted coral cover, fish populations, and ecotourism¹⁵⁵. Wetland conservation in the Mekong Delta is restoring natural water flows, reducing flood risks, reviving fish habitats, and enhancing carbon storage¹⁵⁶.

HALTING AND REVERSING DEFORESTATION AND LAND CONVERSION

70%

of the global net loss of carbon stored in mangrove forests over the last 25 years, occurred in Asia-Pacific.

10 MILLION HECTARES

is the annual rate of deforestation in Asia-Pacific between 2015 and 2020 (down from 12 million hectares 2010-2015)¹⁵⁷.

Indonesia and Malaysia's primary forest loss decreased in 2024 due to forest protection and fire management practices. Indonesia decreased by 11% and Malaysia by 13% from 2023 to 2024¹⁵⁸.

More than 700,000 hectares of critical forest areas in the Asia-Pacific region have been conserved through one programme of private sector financing, with millions more hectares benefitting from improved forest management and Epson coming on board as the first Asian company¹⁵⁹. Most national climate plans in Southeast Asia feature policies or measures to encourage reforestation, reduce deforestation and promote sustainable forest management¹⁶⁰.



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FOOD SYSTEMS TRANSFORMATION

43%

of the world's agriculture-related greenhouse gas emissions occur in Asia¹⁶¹.



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In Myanmar, farming crabs among the mangroves is a climate solution. Find out how [here](#).

64 MILLION

more people in developing Asian states would be pushed into poverty by a 10% rise in domestic food price inflation¹⁶².



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In Asia and Oceania, the share of agrifood systems in total greenhouse gas emissions dropped by 16-18% between 2000 and 2020, at a greater rate than other regions of the world¹⁶³.

The Agroecology and Safe food System Transitions (ASSET) project is a regional initiative in Asia-Pacific that aims to harness agroecology to transform food and agricultural systems into more sustainable, safer, and more equitable models. It is being implemented over five years in three targeted countries: Cambodia, Laos and Viet Nam¹⁶⁴.



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TROPICAL FOREST FOREVER FACILITY

The TFFF, to be launched at COP30, is a new financing mechanism that aims to contribute to the conservation of tropical and subtropical rainforests in developing countries. In all, there are 1.2 billion hectares of these green areas spread over 76 countries, largely concentrated in the Amazon, the Congo Basin and Southeast Asia. The fund aims to raise US\$125 billion¹⁶⁵, and Indonesia has committed to match Brazil's contribution to the fund, potentially amounting to roughly US\$1 billion¹⁶⁶. These countries in Asia-Pacific would be eligible to benefit: Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Palau, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Thailand, Vanuatu, Viet Nam¹⁶⁷.

In order to be successful, the TFFF must recognise the central role of Indigenous Peoples, local communities, women and youth in protecting tropical forests. The [Global Alliance of Territorial Communities](#), which includes the [Indonesian Alliance of Indigenous Peoples of the Archipelago \(AMAN\)](#), is partnering with TFFF to ensure this.

TWO SPECIES AFFECTED BY CLIMATE CHANGE



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DUGONGS

Dugong dugon

Dugong populations in Thailand's Andaman Sea are plummeting, primarily due to the rapid decline of seagrass meadows – their main food source. Rising temperatures, ocean acidification and extreme weather events, all connected to climate change, directly affect seagrass.

Seagrasses, along with mangroves and salt marshes, are recognized by the Intergovernmental Panel on Climate Change (IPCC) as “blue carbon” ecosystems, which are vital for climate change mitigation. Seagrass meadows absorb carbon dioxide up to 35 times faster than tropical rainforests.

[More on this story.](#)



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PURPLE-CROWNED FAIRYWREN

Malurus coronatus

A 2°C rise in global temperatures could lead to a 62% loss of habitat for the purple-crowned fairy-wren, one of Australia's rarest and most colourful birds. This significant habitat reduction, coupled with other environmental

pressures, could result in the species' extinction. In contrast, limiting warming to 1.5°C would preserve 61% of its habitat, offering a better chance for survival.

[More on this story.](#)

CLIMATE JUSTICE AND THE SOCIAL IMPACTS OF CLIMATE CHANGE

Climate justice is a perspective that views climate change not only as an environmental issue but also one of human rights, emphasizing that the people least responsible for climate change are often the ones most affected by it. Applying a human rights-based approach to climate change calls for fair and just treatment of all people and the equitable distribution of the costs and benefits of climate action.



70-80%

of those already in vulnerable and marginalized situations in Asia-Pacific live in areas highly exposed to climate risks, such as flooding, extreme heat, droughts and storms.

Pacific Island nations like Tuvalu, Kiribati and Fiji are facing severe climate impacts¹⁶⁸, with **Indigenous communities leading adaptation efforts such as mangrove restoration and marine conservation.**

Across Asia-Pacific, there are many organizations advocating for climate justice, Indigenous rights, and gender equity. Leaders like Nepal's Pratima Gurung ensure that the voices of Indigenous women with disabilities are included in climate policy and that traditional knowledge informs adaptation strategies¹⁶⁹.



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JUST TRANSITION

6.7 MILLION

people are employed across coal value chains in Asia¹⁷⁰.

43%

of Asia-Pacific's workforce is employed in industries that are vulnerable to climate extremes and the economic transition to net zero¹⁷¹.

Failure to implement Just Transition principles could potentially affect hundreds of millions of people in Asia-Pacific through job losses without adequate retraining or alternative employment opportunities, or where environmental policies are applied without proper consultation or compensation.

180 million jobs could be created in Asia-Pacific by 2050 through a well-managed, inclusive net-zero transition, adding US\$47 trillion to the region's economies by 2070¹⁷². Ensuring no one is left behind¹⁷³ will require coordinated policies, investment in innovation, digitalisation, gender equality, and strong social dialogue¹⁷⁴.

Just Energy Transition Partnerships (JETPs) are emerging finance mechanisms that support coal-dependent developing countries in shifting to cleaner energy, emphasising locally led implementation and a fair transition for affected communities. They combine public and private finance to close funding gaps while tailoring solutions to national contexts.

The first was announced at COP26¹⁷⁵, and both Indonesia and Viet Nam committed to JETPs in 2022. Indonesia's involves all G7 partners, and Viet Nam's is with the International Partners Group¹⁷⁶.

The Asian Development Bank launched the Energy Transition Mechanism, a scalable, collaborative initiative developed in partnership with developing member countries, that will leverage a market-based approach to accelerate the transition from fossil fuels to clean energy¹⁷⁷. In 2024, ADB's ETM approved a US\$500 million policy-based loan to help Indonesia accelerate and deliver a just energy transition.

Efforts like South Korea implementing a local energy transition policy based on the Seoul Metropolitan Government's Basic Plan for Carbon Neutrality and Green Growth (2024-2033)¹⁷⁸, and Viet Nam's electric motorbikes policy experiment in Hue city¹⁷⁹, show how tailored, just transition strategies can align climate goals with social and economic development.

THE ROLE AND RIGHTS OF INDIGENOUS PEOPLES

Climate change is putting growing pressure on Indigenous Peoples and local communities, and specifically on women within these groups, who manage the world's healthiest ecosystems. These intact ecosystems are vital for climate change mitigation and adaptation¹⁸⁰, and Indigenous stewardship has proven essential to protecting nature. Securing and conserving the territories of Indigenous Peoples and local communities, and encouraging sustainable management, is a cost-effective, efficient strategy to slow climate change and advance sustainable development.

333 MILLION

Indigenous Peoples call Asia-Pacific home (approx. 7% of the region's population)¹⁸¹ – but they remain significantly underrepresented in decision-making processes. Many countries in the region do not formally recognise Indigenous status. While Indigenous Peoples are increasingly included in UNFCCC processes, they are often excluded from the design and implementation of national climate policies in Asia-Pacific.



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image © Aaron Gekoski / WWF-US

The Asia-Pacific region is home to the largest Indigenous population globally, comprising approximately 70.5% of the world's Indigenous Peoples¹⁸², and features diverse legal frameworks recognising their rights. The Philippines' Indigenous Peoples' Rights Act is widely recognised as among the region's most progressive, affirming rights to ancestral domains, self-governance, and cultural integrity¹⁸³. India recognises "scheduled tribes" through constitutional provisions for political and social protections¹⁸⁴. Nepal acknowledges Indigenous nationalities and their cultural rights, social justice and the right to participate¹⁸⁵. In Indonesia, a landmark 2013 constitutional court decision recognised customary forests or forests claimed, cared for, governed and managed by Indigenous Peoples, as distinct from state forests, advancing forest and land tenure reform for Indigenous communities¹⁸⁶.

FACILITATIVE WORKING GROUP OF THE LOCAL COMMUNITIES AND INDIGENOUS PEOPLES PLATFORM

The Facilitative Working Group (FWG) of the Local Communities and Indigenous Peoples Platform (LCIPP) was formed in 2018 and is a constituted body within the UNFCCC. It exists to further operationalize the Local Communities and Indigenous Peoples Platform, facilitating the implementation of its three functions: promoting exchanges of experiences and good practices for addressing climate change in a holistic way, building capacity for engagement, and bringing together diverse ways of knowing for designing and implementing climate policies and actions. It was set up to ensure that the rights of Indigenous Peoples and local communities are respected, promoted and considered. Current members of the group from the Asia-Pacific region include representatives from Iran, Kiribati and Thailand¹⁸⁷.



“WE CAN DO SO MUCH TOGETHER... THAT’S THE REASON WHY I’M HERE.”

TALEI SILIBARAVI

© WWF-Pacific/Tom Vierus

PROTECTING FIJI’S GREAT SEA REEF: A COMMUNITY-LED MODEL

Fiji’s Great Sea Reef (*Cakaulevu*) is vital to over 70,000 Fijians, providing food, income, and cultural identity. But climate change, overfishing, and habitat loss threaten its future. On Kavewa Island, Talei Silibaravi and her community are restoring the reef through marine protected areas, traditional tabu practices, and inclusive conservation. With support from *Climate Resilient by Nature* (CRxN), an Australian Government initiative in partnership with WWF-Australia, women and youth now lead efforts, blending ancestral knowledge with science. Initiatives like sea cucumber farming offer sustainable income and reduce ecological pressure. This grassroots model shows that Indigenous-led conservation builds resilience, protects biodiversity, and sustains livelihoods – offering hope for Fiji and the wider Pacific.

Read more [here](#) and [here](#).



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CONCLUSION

ASIA-PACIFIC: A REGION OF CHALLENGE AND OPPORTUNITY

The Asia-Pacific region sits at the front line of the climate crisis, facing rising seas, extreme weather, and biodiversity loss. Home to 60% of the world’s population, two-thirds of Indigenous Peoples, and some of the planet’s richest biodiversity, it also contributes the largest share of greenhouse gas emissions. Yet it demonstrates innovation and resilience, with countries advancing renewable energy, phasing out fossil fuel subsidies, and integrating climate justice into policies.

Indigenous Peoples and local communities, often the most vulnerable, are leading effective and equitable responses, with women and children frequently the most affected yet central to solutions. Realising the region’s potential demands moving from dialogue to action: governments must use COP30 to strengthen Nationally Determined Contributions and implement bold, inclusive policies that cut emissions, conserve nature, and uplift communities. COP30’s emphasis on inclusiveness, concrete results, and accountability – captured through the concept of *mutirão*, or collective effort – must follow through into COP31.

Cooperation is essential. Many countries share river basins, forests, and energy grids, making collaboration on sustainable water management, cross-border energy trade, and landscape restoration vital. Asia-Pacific’s diversity – from small island states to major economies, and from fossil-fuel producers to renewable-energy leaders – requires strategies tailored to varied contexts while embracing nature-based solutions that restore ecosystems, reverse forest degradation, and build resilience.

Transformational finance is critical – bridging the nature-finance gap, restructuring debt, phasing out fossil fuel subsidies, and ensuring adaptation funds reach those most in need. Scaling renewable energy, halting deforestation, restoring degraded lands, and supporting just transitions align national priorities with global climate goals while delivering economic and social benefits.

For millennia, Indigenous Peoples have stewarded landscapes and lived in balance with nature, offering knowledge and practices urgently needed to tackle today’s climate and biodiversity challenges. Elevating this legacy and fostering regional collaboration are key to shaping sustainable pathways forward.

The region’s actions will define global climate efforts. With courage, cooperation, and sustained investment, Asia-Pacific can deliver a climate-safe, equitable, and thriving future, protecting its people and inspiring the world.



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REFERENCES

- [1] Economic and Social Commission for Asia Pacific, 2019, [Investing in biodiversity and ecosystems](#)
- [2] Forest Stewardship Council [website](#)
- [3] Food and Agriculture Organization of the United Nations website, [Indigenous Peoples](#)
- [4] Asian Development Bank, 2024, [Asia-Pacific Climate Report 2024: catalyzing finance and policy solutions](#)
- [5] United Nations Economic and Social Commission for Asia and the Pacific, 2024, [Review of Climate Ambition in Asia and the Pacific - From Ambitions to Results: Sectoral Solutions and Integrated Action](#)
- [6] World Meteorological Organization, 2024, [Climate change transforms Pacific Islands](#)
- [7] Asian Development Bank, 2024, [Nature-Based Solutions for Asia and the Pacific](#)
- [8] Asian Development Bank, 2024, [Asia-Pacific Climate Report 2024: Catalyzing finance and policy solutions](#)
- [9] Asian Development Bank, 2024, [Asia-Pacific Climate Report 2024: Catalyzing finance and policy solutions](#)
- [10] Carbon Brief, 2025, Analysis: Clean energy just put China's CO2 emissions into reverse for first time
- [11] Government of Pakistan, 2021, [Updated Nationally Determined Contributions](#)
- [12] United Arab Emirates Ministry of Climate Change & Environment, 2024, [The United Arab Emirates' Third Nationally Determined Contribution \(NDC 3.0\): Accelerating Action Towards Mission 1.5C](#)
- [13] [IDXCarbon website](#)
- [14] Malaysia Forest Fund, [Forest Conservation Certificate Protocol](#)
- [15] Singapore's [National Climate Change Secretariat website](#)
- [16] World Economic Forum, [First Movers Coalition](#)
- [17] Race to Zero website, [Race to Zero Progress Report 2023](#)
- [18] Business Recorder, 30 October 2023, [Net zero and Pakistan's energy system: no more business as usual](#)
- [19] Asian Development Bank, 2023, [Opportunities and Challenges During Low-Carbon Transition: A Perspective From Asia's Agriculture Sector](#)
- [20] Lamb, W.F., T. Wiedmann, J. Pongratz, R. Andrew, M. Crippa, J.G. Olivier, D. Wiedenhofer, G. Mattioli, A. Al Khourdajie, J. House, and S. Pachauri. 2021. [A review of trends and drivers of greenhouse gas emissions by sector from 1990 to 2018](#). Environmental Research Letters 16(7)
- [21] Association of Southeast Asian Nations, 2020, [Trashing it out: waste management in Asia](#)
- [22] Arai, H., 2022, Science of the Total Environment, [Increased rice yield and reduced greenhouse gas emissions through alternate wetting and drying in a triple-cropped rice field in the Mekong Delta](#)
- [23] Teo, H.C., Lamba, A., Ng, S.J.W. et al., 2025, Nature Sustainability, [Reduction of deforestation by agroforestry in high carbon stock forests of Southeast Asia](#)
- [24] Việt Nam News, 3 June 2025, [Việt Nam to export first batch of low-emission rice](#)
- [25] World Economic Forum, 2018, [Pakistan has planted over a billion trees](#)
- [26] United Nations Food and Agriculture Organization, 2018, [Papua New Guinea's REDD+ journey](#)
- [27] Government of Malaysia, 2018, [Malaysia: Third National Communication and Second Biennial Update Report to the UNFCCC](#)
- [28] Cambodian People's party, 2024, [Environment Minister Underscores Cambodia's Goal of Achieving 60% Forest Cover by 2050](#)
- [29] Bhutan for Life [website](#)
- [30] Republic of the Philippines Department of Environment and Natural Resources, Environmental Management Bureau website: [RA 11898 – Extended Producer Responsibility on Plastic Packaging Waste](#)
- [31] Government of Pakistan, Ministry of Climate Change, 2021, [National Climate Change Policy](#)
- [32] International Energy Agency website, [Asia Pacific - Electricity](#)
- [33] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [34] India Ministry of New and Renewable Energy, 2024, [India's Renewable Energy Capacity Hits New Milestone](#)
- [35] Asia-Pacific Economic Cooperation, 2025, [Investments for Renewable Energy in Viet Nam: State and Trends](#)
- [36] Malaysia Ministry of Economy, 2023, [National Energy Transition Roadmap: Energising the nation ,Powering our Future](#)
- [37] Government of Malaysia website, [MYenergyStats](#)
- [38] Government of Pakistan, 2021, [Updated Nationally Determined Contributions](#)
- [39] Global Wind Energy Council, 2024, [Global Offshore Wind Report](#)
- [40] Australia Clean Energy Regulator, 2025, [Quarterly Carbon Market Report December Quarter 2024](#)
- [41] Philippines Department of Energy website, [Philippine Energy Plan 2023-2050](#)
- [42] Climate Group, 2023, [Net zero steel in Asia: breaking down barriers and seizing opportunities](#)
- [43] Climate Group, 2023, [Net zero steel in Asia: breaking down barriers and seizing opportunities](#)
- [44] Gunung Raj Paksi website, 2023, [Indonesian Australian firms team up on zero-emission steel](#)
- [45] Government of Australia, 2025, [New fund will position Australia at the centre of the global green iron market](#)
- [46] Energy Transitions Commission, 2021, [Pursuing Zero-Carbon Steel in China: A Critical Pillar to Reach Carbon Neutrality](#)
- [47] China Daily, 18 April 2022, [Going Green: Steel group leads way as industry recasts itself](#)
- [48] WWF-India, 2025, [Role of green hydrogen in Indian steel sector](#)
- [49] Urban Land Institute, 26 November 2024, [ULI Greenprint in Asia Pacific Leads Initiative to Accelerate Low-Carbon Steel Adoption in China's Real Estate Sector](#)
- [50] World Bank, 2023, [Climate and Development in East Asia and Pacific Region](#)
- [51] Climate Analytics, 2024, [Dug up in Australia, burned around the world – exporting fossil fuels undermines climate targets](#)
- [52] PwC, 2023, [Asia Pacific Net Zero Economy Index 2023](#)
- [53] McKinsey Sustainability, 2022, [Playing offense to create value in the net-zero transition](#)
- [54] Reccessary, 21 February 2025, [Vietnam unveils coal phase-out plan, intends to stop 2 coal-power plants by 2030](#)
- [55] International Carbon Action Partnership, 2022, [Korea Emissions Trading System \(K-ETS\)](#)
- [56] The Government of the Republic of Korea, 2020, [2050 Carbon Neutral Strategy of the Republic of Korea: Towards a Sustainable and Green Society](#)
- [57] Renewable Energy Magazine, 29 January 2025, [India Achieves 850,000 Rooftop Solar Installations](#)
- [58] Energy Alternatives India, 1 March 2024, [Decarbonizing India's Energy Sector by Biomass and Biofuels](#)
- [59] Government of Pakistan, 2021, [Updated Nationally Determined Contributions](#)
- [60] Indonesia Kementerian Keuangan Direktorat Jenderal Pajak (Ministry of Finance Directorate General of Taxes), 2025, [The Future of Carbon Tax for Indonesia Emas 2045](#)
- [61] United Nations Economic and Social Commission for Asia and the Pacific, 2018, [Population dynamics, vulnerable groups and resilience to climate change and disasters](#)
- [62] World Economic Forum, 2025, [Sea level rise: Everything you need to know](#)
- [63] Associated Press, 15 February 2023, [UN chief: Rising seas risk 'death sentence' for some nations](#)
- [64] Kondolf, G.M. et al., 2022, Science, [Save the Mekong Delta from drowning](#)
- [65] Channel News Asia, 2 January 2025, [Climate change: Parts of Asia record hottest years in 2024](#)
- [66] World Meteorological Organization, 2025, [State of the Climate in the South-West Pacific 2024 Report](#)
- [67] Government of Fiji, 2021, [Climate Change Act 2021, Act no. 43 of 2021](#)
- [68] REDD+Fiji website, [Fiji's REDD+ Journey](#)
- [69] Government of Papua New Guinea, Climate Change and Development Authority, 2023, [National REDD+ Safeguards Guidelines Launched](#)
- [70] WWF-Malaysia, 2023, [SEACAR Alliance: Addressing climate change challenges in Southeast Asia](#)
- [71] The Philippines Climate Change Commission website, [Programs and Projects](#)
- [72] Government of Pakistan, Ministry of Climate Change, 2023, [National Adaptation Plan](#)
- [73] Unicef, 2023, [Climate Change's greatest victims are women and girls](#)
- [74] United Nations Economic and Social Commission for Asia and the Pacific, 2023, [Advancing Gender Equality in Asia and the Pacific in the Context of Climate Change](#)
- [75] Earth.org, 2022, [Gender and Indigenous Climate Justice at the United Nations](#)
- [76] International Institute for Environment and Development, 2025, [Interview: Improving women's participation in global climate talks](#)
- [77] International Institute for Environment and Development, 2025, [Climate change and the gender justice backlash](#)
- [78] UNFCCC, 2024, [Implementation of gender-responsive climate policies, plans, strategies and action as reported by Parties in regular reports and communications under the UNFCCC](#)
- [79] NAP Global Network, 2024, [Advancing Gender-Responsive National Adaptation Plan \(NAP\) Processes: State of play and promising examples](#)
- [80] NAP Global Network, 2021, [Gender and Human Rights Analysis: Ensuring a gender-responsive National Adaptation Plan in the Republic of the Marshall Islands](#)
- [81] UNFCCC, 2025, [The Gender Action Plan](#)
- [82] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [83] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [84] Asia-Pacific Climate Change Adaptation Information Platform [website](#)
- [85] International Institute for Environment and Development, 2018, [The Bangladesh National Climate Funds: A brief history and description of the Bangladesh Climate Change Trust Fund and the Bangladesh Climate Change Resilience Fund](#)
- [86] United Nations in Bangladesh, 2024, [Bangladesh's energy transition journey so far](#)
- [87] Government of the People's Republic of Bangladesh Finance Division, Ministry of Finance, 2020, [Bangladesh Climate Fiscal Framework](#)
- [88] Rainforest Foundation Norway, 2021, [Falling short: Donor funding for Indigenous Peoples and local communities to secure tenure rights and manage forests in tropical countries \(2011–2020\)](#)
- [89] Asia Indigenous Peoples Pact, 2022, [Nationally Determined Contributions in Asia: Are governments recognizing the rights, roles and contributions of Indigenous Peoples?](#)
- [90] Rights and Resources Initiative & Rainforest Foundation Norway, 2022, [Funding with Purpose: A Study to Inform Donor Support for Indigenous and Local Community Rights, Climate, and Conservation](#)
- [91] Mongabay, 2 November 2021, [\\$1.7 billion pledged in support of Indigenous and local communities' land tenure](#)
- [92] International Union for Conservation of Nature and Natural Resources (IUCN) [website](#), [Our philosophy on Protected and Conserved Areas](#)
- [93] Government of Australia, [Great Barrier Reef Marine Park Authority website](#), [Traditional Use of Marine Resources Agreements](#)
- [94] Transformative Pathways, 2024, [The Philippine Indigenous Peoples Biodiversity Strategy and Action Plan](#)
- [95] Asian Development Bank, 2024, [Asia-Pacific Climate Report 2024: Catalyzing Finance and Policy Solutions](#)
- [96] Asian Development Bank, 2024, [Asia-Pacific Climate Report 2024: Catalyzing Finance and Policy Solutions](#)
- [97] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [98] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [99] Pacific Islands Forum website, [Pacific Resilience Facility](#)
- [100] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [101] Intergovernmental Panel on Climate Change (IPCC), 2023, [Sixth Assessment Report, AR6. Annex](#)
- [102] UN-Habitat Regional Office for Asia and the Pacific, 2024, [Urban Loss and Damage](#)
- [103] Germanwatch, 2025, [Climate Risk Index](#)
- [104] UN-Habitat Regional Office for Asia and the Pacific (2024) [Urban Loss and Damage](#)
- [105] UN-Habitat Regional Office for Asia and the Pacific (2024) [Urban Loss and Damage](#)
- [106] Mechler, R., Bouwer, L.M., Schinko, T., Surminski, S., Linnerooth-Bayer, J., 2018, [Loss and Damage from Climate Change: Concepts, Methods and Policy Options](#)
- [107] UNFCCC, 2024, [Philippines Selected to Host the Board of the Fund for Responding to Loss and Damage](#)
- [108] The Loss & Damage Collaboration website, [What is loss and damage?](#)
- [109] UN-Habitat Regional Office for Asia and the Pacific (2024) [Urban Loss and Damage](#)
- [110] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [111] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [112] United Nations, 2025, [Indigenous Peoples sidelined in global climate fight, UN warns](#)
- [113] CDP, 2023, [Financing for Sustainable Infrastructure: A Guide for Asia Pacific Cities](#)
- [114] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [115] UNFCCC, 2024, [COP29 UN Climate Conference Agrees to Triple Finance to Developing Countries, Protecting Lives and Livelihoods](#)
- [116] Secretariat of the Pacific Regional Environment Programme, 2021, [Securing Climate Financing to build Resilience to Climate Change in the Pacific Region: SPREP Council Meeting](#)
- [117] Asian Development Bank, 2024, [Nature Climate Solutions Finance Hub for climate and the environment](#)
- [118] [Altéra website](#)
- [119] Asian Development Bank, 2023, [Climate Finance Landscape of Asia and the Pacific](#)
- [120] Government of Pakistan, 14 November 2024, [Pakistan unveils first climate finance strategy to mobilise funds for national climate action](#)
- [121] United Nations Development Programme, 2022, [Current Status of Sustainable Development Goals Implementation and Future Issues, Mongolia: Spending Needs for Reaching the Sustainable Development Goals](#)
- [122] Government of Mongolia, 2022, [Mongolia's Integrated National Financing Strategy 2022](#)
- [123] Asian Development Bank, 2024, [The Governance Brief: Carbon Taxes and Fossil Fuel Subsidies](#)
- [124] Singapore National Climate Change Secretariat website, [Carbon tax](#)
- [125] Asian Development Bank, 2024, [Carbon taxes and fossil fuel subsidies](#)
- [126] Asian Development Bank, 2024, [Fossil Fuel Subsidy Reform](#)
- [127] Jakarta Globe, 24 May 2024, [Government proposes cuts to fuel subsidies in 2025](#)
- [128] AMRO, 7 April 2025, [A Phased Fuel Subsidy Reform Makes Better Sense](#)
- [129] Government of India, 2024, [India's Green Leap: A Shift from Fossil Fuels to Clean Energy](#)
- [130] Global Solidarity Levies Task Force [website](#)
- [131] German Watch, 2025, [Restructure Debt, Fund Climate Action](#)
- [132] Centre for Economic and Policy Research, 2023, [The Growing Debt Burdens of Global South Countries: Standing in the Way of Climate and Development Goals](#)
- [133] Centre for Economic and Policy Research, 2023, [The Growing Debt Burdens of Global South Countries: Standing in the Way of Climate and Development Goals](#)
- [134] Centre for Economic and Policy Research, 2023, [The Growing Debt Burdens of Global South Countries: Standing in the Way of Climate and Development Goals](#)
- [135] Centre for Economic and Policy Research, 2023, [The Growing Debt Burdens of Global South Countries: Standing in the Way of Climate and Development Goals](#)
- [136] Centre for Economic and Policy Research, 2023, [The Growing Debt Burdens of Global South Countries: Standing in the Way of Climate and Development Goals](#)
- [137] United Nations, [Renewable energy – powering a safer and prosperous future](#)
- [138] United Nations Economic and Social Commission for Asia and the Pacific, 2024, [Review of Climate Ambition in Asia and the Pacific - From Ambitions to Results: Sectoral Solutions and Integrated Action](#)
- [139] JLL website, [Asia's green transition: Renewables in the built environment](#)
- [140] Asia Investor Group on Climate Change and PwC, 2024, [Nature Risk in Asia Pacific Economies](#)
- [141] WWF, 2024, [Living Planet Report](#)
- [142] United Nations Environment Programme, 2018, [Scientists warn of dangerous decline in Asia-Pacific's biodiversity](#)
- [143] Forest Stewardship Council website, [Forests and ECS in Asia Pacific](#)
- [144] WWF, 2024, [Thailand first country in Southeast Asia to increase its wild tiger population](#)
- [145] Yadvendraev V. Jhala et al., 2025, [Tiger recovery amid people and poverty, Science 387, 505-510](#)
- [146] Al Jazeera, 7 January 2024, [Can Pakistan's Indus River dolphins be saved?](#)
- [147] Australian Wildlife Journeys, 2024, [Australia's Great Humpback Whale Migration](#)
- [148] UNFCCC, [The Blue NDC Challenge](#)
- [149] Food and Agriculture Organization of the United Nations, 2024, [Forest and landscape restoration at the forefront of tackling rising environmental challenges in Asia-Pacific](#)
- [150] FLR Asia Investment Forum [website](#)
- [151] United Nations Environment Programme, 2020, [Countries commit to restore global land area the size of China](#)
- [152] Blue Natural Capital website, [Restoring 1,700 hectares of mangroves to enhance disaster resilience in the Visayas and Palawan, Philippines](#)
- [153] UNDP Philippines, 2024, [Canada, DENR, and UNDP push for Nature-based Solutions in PH climate action, biodiversity policies](#)
- [154] The Kathmandu Post, 2024, [Revitalising Nepal's community forestry](#)
- [155] The SEA People website, [Healthy Reefs for Healthy Communities & Secure Livelihoods](#)
- [156] Mekong River Commission, 2021, [Mekong Strategy for basin-wide environmental management for environmental assets of regional importance, 2021-2025](#)
- [157] Food and Agriculture Organization of the United Nations, 2022, [Global forest resources assessment 2020: state of forestry in Asia and the Pacific](#)
- [158] World Resources Institute, 2025, [Fires Drove Record-breaking Tropical Forest Loss in 2024](#)
- [159] WWF, 2025, [Four million hectares of forest benefit from voluntary corporate action through WWF's Forests Forward programme](#)
- [160] UN-REDD Programme, 2022, [Technical assistance for REDD+ implementation: Climate change through social forestry in ASEAN countries](#)
- [161] Asian Development Bank, 2023, [Asia's transition to net zero: opportunities and challenges in agriculture](#)
- [162] Asian Development Bank website, [Agriculture and Food Security](#)
- [163] Food and Agriculture Organization of the United Nations, 2024, [Greenhouse gas emissions from agrifood systems: Global, regional and country trends, 2000–2022](#)
- [164] Agroecology and Safe Food System Transitions website, [About ASSET](#)
- [165] Eco-Business, 2025, [What is the 'Tropical Forest Forever' fund and will it work?](#)
- [166] Jakarta Globe, 23 October 2025, [Indonesia Vows to Invest in Brazil-Led \\$125 Billion Forestry Fund](#)
- [167] Government of Brazil, 2005, [Tropical Forest Forever Facility \(TFFF\)](#)
- [168] Asian Development Bank, [Climate Change in the Pacific: Stepping Up Responses in the Face of Rising Impacts](#)
- [169] World Justice Project, 2022, [Pratima Gurung](#)
- [170] Monetary Authority of Singapore, 2023, [Developing the Ecosystem for Energy Transition](#)
- [171] Deloitte, 2023, [Work toward net zero in Asia Pacific: The rise of the Green Collar workforce in a just transition](#)
- [172] Deloitte, 2023, [Work toward net zero in Asia Pacific: The rise of the Green Collar workforce in a just transition](#)
- [173] International Labour Organization website, [Just Transition in Asia and the Pacific](#)
- [174] Asia-Pacific SDG Partnership, 2025, [Delivering a Just Transition: Advancing Decent Work, Gender Equality and Social Protection](#)
- [175] International Institute for Sustainable Development, 2022, [Just Energy Transition Partnerships: An opportunity to leapfrog from coal to clean energy](#)
- [176] Futcrum, 2024, [Just Energy Transition Partnerships \(JETPs\) in Indonesia and Vietnam: Implications for Southeast Asia](#)
- [177] Asian Development Bank website, [Energy Transition Mechanism](#)
- [178] Seoul Metropolitan Government, 2024, [Achieving Carbon Neutrality in Response to Climate Change](#)
- [179] UNDP, 2023, [Transitioning from Fuel to Charge: A Policy Experiment Driving Green Mobility in Viet Nam's Last-Mile Delivery](#)
- [180] WWF, UNEP-WCMC, SGP/ICCA-GSI, LM, TNC, CI, WCS, EP, ILC-S, CM, IUCN, 2021, [The State of Indigenous Peoples' and Local Communities' Lands and Territories](#)
- [181] World Health Organization, 2024, [International Day of the World's Indigenous Peoples](#)
- [182] Food and Agriculture Organization of the United Nations website, [Indigenous Peoples](#)
- [183] International Work Group for Indigenous Affairs, 2024, [The Indigenous World 2024: Philippines](#)
- [184] India Ministry of Tribal Affairs, 2018, [Legal Safeguards for Scheduled Tribes](#)
- [185] Indigenous Voice website, [Indigenous Peoples of Nepal](#)
- [186] WWF, [Forest Pathways Report 2023](#), p. 117
- [187] United Nations Framework Convention on Climate Change website, [LCIPP Facilitative Working Group](#)



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