

Asia Pacific builds a sustainable future.

Resilience in economy, environment and society

About ACCA.

We are ACCA (the Association of Chartered Certified Accountants), the only truly global professional accountancy body.

Since we were founded in 1904, we've been breaking down barriers to the accountancy profession. Today we proudly support a diverse community of over **266,100** members and **546,500** future members in **179** countries.

We're redefining accountancy. Our cutting-edge qualifications, continuous learning and insights are respected and valued by employers in every sector. They equip individuals with the business and finance expertise and ethical judgement to lead and drive sustainable value in organisations and economies worldwide.

Guided by our purpose and values, we're leading the accountancy profession for a changed world. Partnering with policymakers, standard setters, the donor community, educators and other accountancy bodies, we're strengthening and building a profession that focuses on people, planet and prosperity to create value for all.

Find out more at **accaglobal.com**

Contents.

Foreword 4

Executive summary 5

Key recommendations 7

1. Introduction 8

1.1 Purpose, scope and approach 8

1.2 Why resilience is important to a sustainable future in the region 9

1.3 Brief overview of Asia Pacific's economic landscape 10

1.4 Brief overview of Asia Pacific's landscape on climate, nature and social risks 11

2. Asia Pacific leads in the adoption of IFRS Sustainability Disclosure Standards 16

2.1 Region moving towards common baseline reporting 16

2.2 ISSB Standards adoption is creating a stronger foundation for business resilience 19

2.3 CFOs and finance functions need to be more active drivers in sustainability reporting 23

2.4 Weak internal control over sustainability data can lead to concrete assurance and reliability risks 24

2.5 Reporting requirements are driving the need to build unified data, control and governance systems 25

2.6 A strong ecosystem of preparers and assurance practitioners needs to be curated 26

2.7 Inadequate voice in global policymaking and standard-setting 27

Key reflections and recommendations 28

3. Decarbonisation and energy transition 29

3.1 Decarbonisation: Energy and economic resilience – not just CO_2 emission reductions 29

3.2 Guiding philosophies on sustainable governance – a China vs ASEAN contrast 31

3.3 Trillion dollar economic opportunity in Asia Pacific 32

3.4 Financing Asia Pacific's sustainable future 33

Key reflections and recommendations 36

4. Nature is fundamental to protecting and building resilience in Asia Pacific 37

4.1 Leading the adoption of Taskforce on Nature-related Financial Disclosures (TNFD) 38

4.2 Nature remains less understood and prioritised than carbon 40

4.3 Central banks and financial institutions are driving the agenda 40

4.4 Thematic focus: Water as a 21st century risk and opportunity 42

4.5 Extreme heat: Why should we pay heed 47

4.6 How are governments and businesses in Asia responding? 47

Key reflections and recommendations 48

5. Business and human rights 49

5.1 Importance of business and human rights in the context of Asia Pacific 49

5.2 A regional wave of National Action Plans on B+HR is reshaping the agenda 51

5.3 Implications of EU directives on Asia Pacific 52

5.4 Emerging developments on social and inequality-related disclosures 55

5.5 The importance of living wages in addressing human rights in business 56

Key reflections and recommendations 57

6. Artificial intelligence (AI) 58

6.1 The dual-use nature of AI 59

6.2 AI's impact on the environment may be influenced by Jevons paradox 60

6.3 AI-related skills in the finance function 61

6.4 AI governance 62

Key reflections and recommendations 63

Glossary 64

Acknowledgements 67

Resources 68

Appendix: 2024 GHG emissions from EDGAR **72**

Authors:



Sharath Martin
Senior Policy Consultant,
ACCA Asia Pacific



Sam Chen
Regional Lead,
ACCA China



Polly Lian (Lian Jinwen)
Senior Policy Manager,
ACCA China



Foreword.

There's been a shift in the economies of the Asia Pacific region that demands recognition before anything else.

More than **80%** of ASEAN economies by GDP have adopted or plan to adopt the International Sustainability Standards Board (ISSB) Standards. Including China, the Asia Pacific region represents **47%** of global GDP aligned with those standards – making it the clear world leader. This is not a region waiting to be shown good practice, it's building the architecture of sustainability reporting faster than anywhere else.

Adopting a standard, of course, is not the same as achieving a strong rate of decarbonisation or addressing other sustainability issues facing the region. But better information enables better decision-making – and, at macro level, builds trust in the ecosystem.

Our research shows that Asia Pacific – in accountancy language – sits on both sides of the ledger. The region carries disproportionate risks created by a worsening climate crisis, but the opportunities are equally enormous. This report shows that businesses and policymakers are actively driving a more sustainable future.

It remains clear, however, that finance leaders and policymakers must still do more – translating insight into action and finally impact, and implementing change across entire systems. The pattern emerging throughout this report is that decarbonisation must be pursued not only to reduce emissions, but to build greater resilience against geopolitical disruption and the rising cost of fossil fuels. Yet energy transition projects stay unfunded because they are not considered to be financially viable.

Water and heat may prove the defining risks of this century – yet remain the least understood, least reported and, consequently, the least acted on. On business and human rights, European due diligence requirements risk being passed down to Asia Pacific suppliers rather than shared with them. Responsibility cannot travel in one direction while the commercial benefits travel in the other.

Artificial intelligence (AI) is a major amplifier: it can reduce sustainability risk through the solutions it enables – or worsen it through the resources it consumes and the inequality it creates. The finance and accountancy profession has a strong role to play in making AI use responsible and accountable.

Professional accountants are trained to ask where a number came from, who prepared it, and what interest shaped it. Those questions are now being asked of climate data, nature dependencies, labour conditions, and algorithms. This is why we've further stepped up our longstanding focus on sustainability – with our redesigned ACCA Qualification being introduced in 2027 – and why it features strongly in the professional development of our members.

Policymakers also have a part to play. Accountability is easier to demand than to enable – it needs assurance capacity to grow, data comparability across borders, and requirements proportionate to the organisations expected to meet them. The recommendations in this report address policymakers as much as business leaders.

Asia Pacific matters enormously to ACCA. We've been operating in this region for 90 years and, as of July 2026, it's home to over **75,000** of our members and **285,000** of our future members. But what really resonates is the conversations with members and future members, learning providers, regulators, and employers – who all share the same energy, drive and determination to progress.

This inspires confidence. The accountancy profession can be a major force in building a more sustainable and resilient future for Asia Pacific, and what happens here will shape what happens everywhere else.



Helen Brand OBE
Chief Executive, ACCA

Executive summary.

Asia Pacific is a critical driver of the global economy.

From a relatively low base, the region's growth has been spectacular. More than four billion people rely on this continued growth to improve social mobility and standards of living.

Yet, much of this expansion has been powered by cheap fossil fuel sources, embedded in economies before climate change posed a more serious risk. This places Asia Pacific in a unique position: it is both the world's largest source of greenhouse gas (GHG) emissions as well as the leading region for new clean energy generation.

Asia Pacific remains committed to change despite economic headwinds from tariff wars and geopolitical conflicts that have escalated costs, constrained availability, and disrupted movement.

The region is also leading the adoption of the International Sustainability Standards Board's (ISSB) global baseline standards on sustainability reporting. More than **80%** of ASEAN economies measured by GDP are adopting or plan to adopt the standards. Including China (which is voluntary now but plans to move towards mandatory implementation in the future) – Asia Pacific economies that have adopted or plan to adopt ISSB Standards account for **47%** of global GDP.

Early progress in jurisdictions where adoption is mandatory suggests that disclosures are still viewed through a compliance lens. However, many early adopters have evolved to using sustainability-related insights to drive business value.



'This report should not be construed as regionalism – but how the region plays an important part in multilateralism.'



Decarbonisation and energy transition

Decarbonisation in Asia Pacific needs to accelerate – not only to reduce GHG emissions but to strengthen business and economic resilience. Yet funding for energy transition remains inadequate and is in urgent need of change. Financiers are challenged by poor bankability of projects – this is an opportunity for finance professionals to contribute their expertise towards effective solutions that strengthen risk management and improve project execution.



Nature

Water and heat could well be the defining issues of the 21st century. If these risks are not addressed, GDPs of high-income countries could shrink 8% by 2050 – while lower-income countries could face declines of 10 to 15%. Floods alone account for more than half of the 7.2 billion people who were affected by disasters in Asia Pacific between 1970-2024.

The Water-Energy-Food-Health Nexus needs to be better understood and managed – given its significant impact on both businesses and governments. The region needs to move from more conventional water risk management to water stewardship. China has set the standard by decoupling GDP growth from water usage, while ASEAN is seeking to reduce cooling demand. Asia Pacific should also be the leading voice for greater governance over the cryosphere, especially Antarctica.



Business and human rights

Businesses should conduct human rights due diligence to identify and address risks across their value chains. This is particularly important for Asia Pacific markets that are major trading partners with the EU – given the requirements arising from the Corporate Sustainability Reporting Directive (CSRD) and Corporate Sustainability Due Diligence Directive (CSDDD).

Advance preparation is key: it needs to begin early and recognise that responsibility is shared. Asia Pacific suppliers should not face risk-shifting – where adverse impacts are driven by unfair purchasing terms and practices by EU buyers.



Artificial intelligence

AI is moving rapidly from development to deployment across Asia Pacific – with its pace and scale accelerating significantly. It has considerable potential to support a more sustainable future, but its water and energy demands can cause great risks.

Effective AI governance will be critical to prioritise and manage the safety of these risks. Governments across the region have developed various governance models, but continued focus is still needed.

Key recommendations.

Asia Pacific's sustainable future is closely linked to the resilience of its economy, environment and societies. This report sets out key recommendations – on sustainability reporting, decarbonisation, nature, business and human rights, and AI – that are specifically tailored for two audiences:

To business and finance leaders:

- **Make decarbonisation, nature risks and impacts a board priority** – embed them into budgets, risk registers, and management dashboards.
- **Use sustainability information for value creation and risk management – not simply compliance.** Establish clear ownership and accountability for sustainability-related reporting through a RACI.
- **Understand and address salient human rights risks** – across the value chain.
- **Strengthen AI governance** and pair adoption with structured upskilling and transition plans. Measure and reduce AI's resource footprint.

To policymakers:

- **Prioritise decarbonisation for energy and economic resilience** – mobilise Asian capital and public sector funding to de-risk projects.
- **Strengthen the region's voice** on global policymaking and standard-setting.
- **Improve the availability and accessibility of accurate data** – particularly water, and raise cryosphere risks in intergovernmental policy dialogues.
- **Promote regional interoperability** through an ASEAN or Asia-Pacific AI governance framework.
- **Align AI growth with energy and climate goals** – ensuring water and low-carbon energy investment keeps pace with data centre expansion.
- **Ensure skills development aligns with AI deployment.**
- **Continue building sustainability reporting capacity** through roadmaps, sectoral data, calculation tools, assurance capability, and practitioner communities.
- **Negotiate with the EU at a national and/or regional level** (ASEAN, ASEAN +3) to secure reciprocal labour and human-rights chapters – with cost-sharing or technical-assistance obligations attached.

Key reflections and recommendations can be found at the end of each section in this report.

Download a full list PDF

1. Introduction

1.1 Purpose, scope and approach

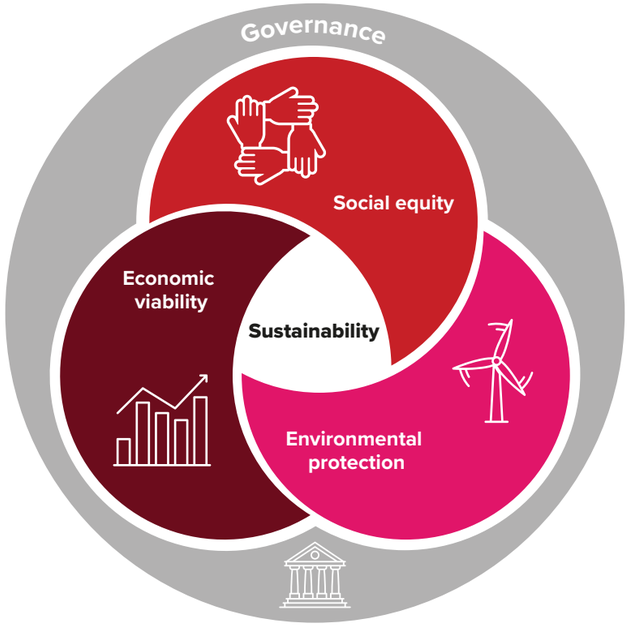
Asia Pacific is, in many ways, the epicentre of global growth. Its enterprising and dynamic populations are experiencing increasing prosperity – while the region has become both a global supply chain hub and an exciting arena for innovation and opportunity.

At the same time, Asia Pacific also faces disproportionate and growing climate, nature, social, and economic risks. ACCA's approach to sustainability is unique as it recognises that environmental protection and social equity are inseparable from economic viability (Figure 1.1).

Asia Pacific's sustainable future is therefore inextricably linked with the resilience of its economy, environment and social equity. The purpose of this research is twofold:

- Identify the challenges and opportunities facing Asia Pacific in building a more sustainable future.
- Consider how the profession in the region would be best suited to respond to them.

Figure 1.1 **Dimensions of sustainability**





Themes

Our research examines the landscape of adoption of sustainability reporting based on the ISSB Standards and explores four themes that are particularly relevant to the region:

- **decarbonisation and energy transition**
- **nature**
- **business and human rights**
- **artificial intelligence (AI).**

‘The report is intended for audiences in Asia Pacific – as well as from outside of the region – to better understand the distinct complexion of these issues so far.’

Approach

The insights are based on desktop research[1], past ACCA research, interviews, and roundtable discussions with 45 finance and accountancy professionals from across the world – many of whom are members of ACCA – as well as experts on the various themes mentioned above.

Scope

Our research broadly covers Asia Pacific, although certain sections focus more on China and ASEAN. This reflects the state of adoption of ISSB Standards, ACCA’s membership base and stakeholder relationships, and the relative development of public policy in addressing complex and challenging sustainability-related risks and opportunities in these markets.

Where possible – in the interest of inclusivity – insights from other parts of Asia Pacific have been incorporated. Progress across these issues remains dynamic, and the findings should not be considered an exhaustive account of sustainability developments in Asia Pacific.

1.2 Why resilience is important to a sustainable future in the region

For emerging and developing economies (EMDEs), economic resilience or viability is essential – not only to building a more sustainable future, but also exercising the right to development that’s consistent with the UN Declaration on the Right to Development.

Our research emphasises the need for greater economic or business resilience as climate change vulnerability increases. In July 2026, the UN Special Rapporteur on the right to development, Surya Deva, reported to the General Assembly on the:

‘Mutually reinforcing nexus between peace, human rights, development, gender equality, and the environment’.

Surya Deva, UN Special Rapporteur

This is particularly relevant to Asia Pacific, where peace is explicitly integral to the founding charter of ASEAN – while peaceful development is a consistent theme in Chinese policy through history.

These regional perspectives matter. Economic, environmental and social pressures can affect stability and, ultimately, peace. Policymakers and business leaders therefore need to consider resilience not in isolation – but as part of the wider conditions that enable sustainable development across the region.

1 This research includes insights from Generative AI-assisted analysis, reviewed by ACCA.

1.3 Brief overview of Asia Pacific's economic landscape

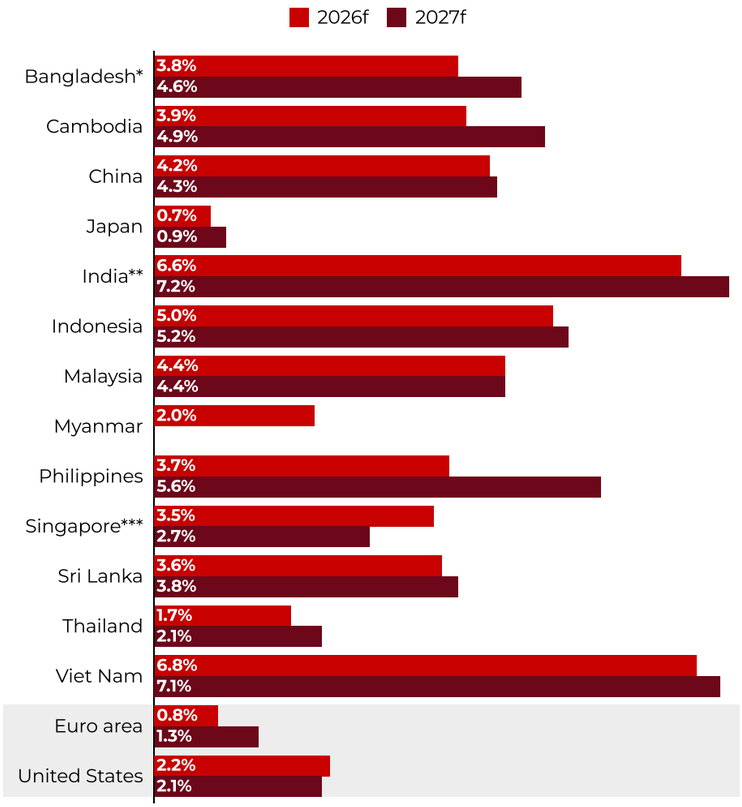
Asia Pacific remains a major engine of global economic growth. The World Bank's *Global Economic Prospects* report, June 2026, forecasts East Asia and Pacific's growth to be:

- 4.2% in 2026
- 4.4% in 2027
- 4.3% in 2028.

China and Indonesia are the main drivers with growth rates of 4.2%, 4.3% and 4.2% and 5.0%, 5.2%, 5.2% respectively. This is far higher than the global average of 2.5%, 2.8% and 2.8% respectively – as well as many other regions, except for South Asia.

Economic activity in most parts of the Asia Pacific region remained resilient in early 2026, although it's likely to be tested as the conflict in the Middle East continues or escalates.

Figure 1.2 **Economic growth prospects of certain Asia Pacific countries**



Source: Regional Outlooks, Global Economic Prospects, June 2026 (World Bank 2026).

* reported on a fiscal year basis (July-June); ** reported on a fiscal year basis (April-March); *** Singapore data sourced from *World Economic Outlook: Global Economy in the Shadow of War* (IMF 2026).

In ACCA's *Global economic conditions survey: Q1 2026*, it was reported:

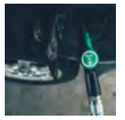
'As many countries in Western Europe, Asia Pacific, South Asia and Africa are large energy importers, these regions are likely to be the worst affected by higher energy prices, although the impacts will differ depending on country circumstances.

'The Strait of Hormuz is a very important source of energy imports for Asia, and some countries have already enacted measures to reduce and ration energy use among households and businesses.

'In general, higher energy and food prices disproportionately damage emerging and developing economies, given the higher share of household spending on such items. They will typically also have less fiscal space to help deal with shocks' (ACCA, IMA, 2026a).



In addition, **33%** of respondents in Asia Pacific ranked geopolitical instability as their top risk priority (25% globally) in *Q1, 2026* (ACCA, IMA, 2026a).



These cost increases were borne out during our *GECS Q2, 2026* survey, which found that: ***'the proportion of respondents from Asia Pacific reporting increased costs jumped by nine percentage points to 66%'*** (ACCA, IMA, 2026b).

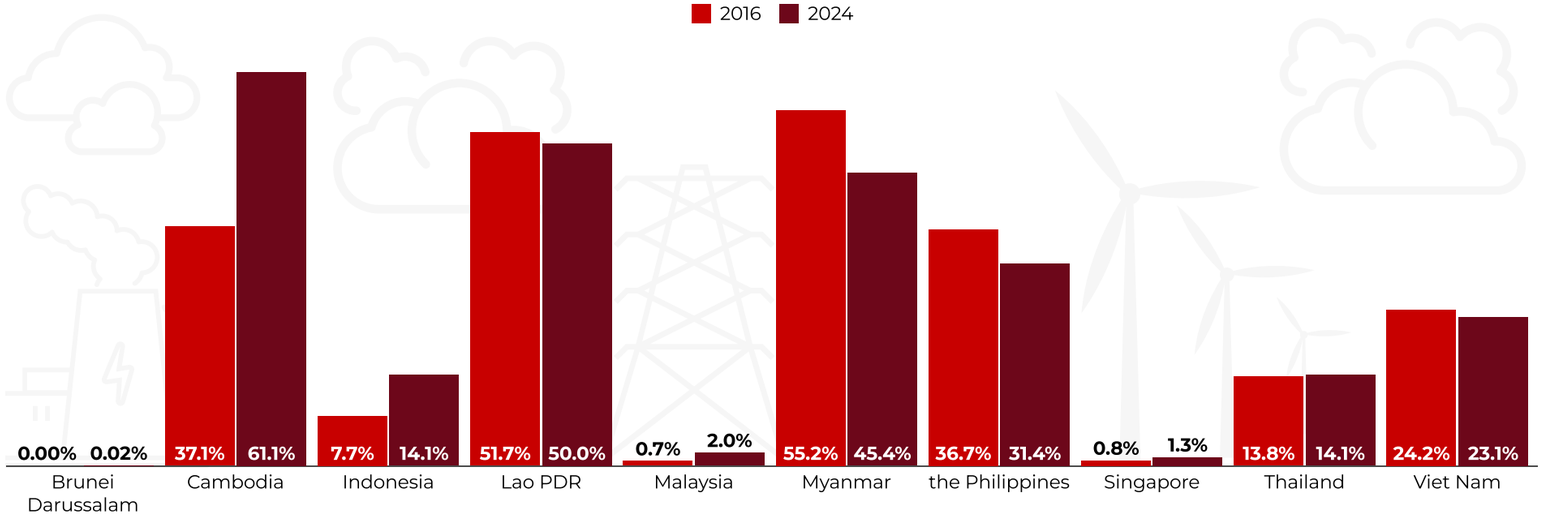
1.4 Brief overview of Asia Pacific's landscape on climate, nature and social risks

Table 1.1 **Climate risks and opportunities in the region**

RISKS	OPPORTUNITIES
■ **60.1%** of global GHG emissions in 2024 were from the Asia-Pacific region.	■ **70%** of new renewables capacity in 2024 was from the region. Asia is the only region that is broadly on track to triple renewables in line with 1.5°C by 2030.
■ **84%** of the world's coal-fired generation output in 2024 was from the region.	■ **15 countries** have Emissions Trading Schemes and carbon taxes implemented, under development, or are moving towards carbon pricing.
■ **Coal power plants are continuingly being expanded** – with over 270 GW under construction and 156.5 GW announced (as of July 2025), mainly in China, India, Indonesia, and Viet Nam.	■ In **absolute terms of renewable electricity generation**, Asia led the world in renewable electricity generation in 2023 – producing 4,008 TWh, a **6.9% annual increase**.

Source: UNESCAP 2025

Figure 1.3 **Renewable energy share in the total final consumption, ASEAN Member States, 2016 and 2024**



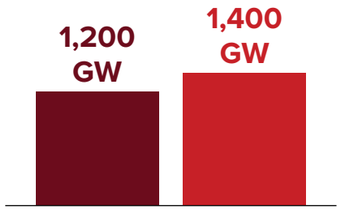
Source: ASEAN 2025

Note: The latest available data for Lao PDR is 2021, Cambodia, Malaysia, and Singapore is 2022, Thailand and Viet Nam is 2023.

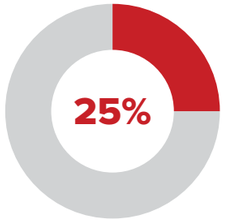
Figure 1.4 **Asia-Pacific's renewable energy momentum**

China.

Achieved wind and solar capacity targets six years early, and is on track for a **25%** share of non-fossil fuel energy by 2030.



Wind and solar capacity

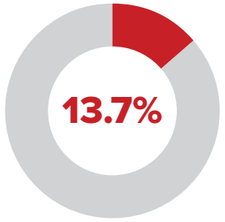


Non-fossil energy share **by 2030** (on track)

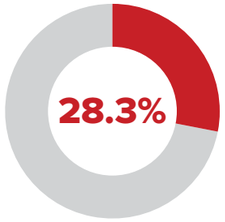
Japan.

Growing adoption of solar and energy-efficient systems saw the renewables share in power generation increase from **13.7%** (2013) to **28.3%** (2023).

Renewables share in power generation



2013



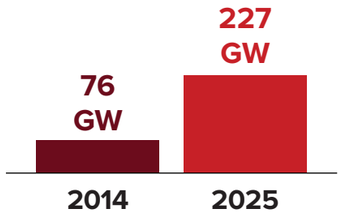
2023

India.

Renewables reached **49%** of total installed power while capacity grew from 76 GW (2014) to 227 GW (2025) – with a **57%** increase in first half of 2024-2025.

Renewables share of total installed power



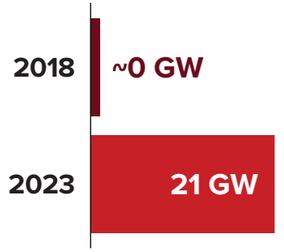


57%
increase in first half of 2024-2025

Viet Nam.

Expanded solar and wind capacity from near zero to 21 GW (2018–2023) through strong feed-in tariffs attracting major private investment.

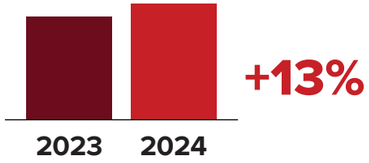
Wind and solar capacity



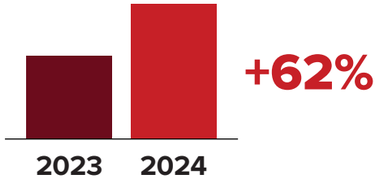
Australia.

Rooftop solar output up **13%** and home battery installations up **62%** in 2024 vs 2023 – reflecting rapid decarbonisation and decentralisation trends.

Rooftop solar output



Home battery installations



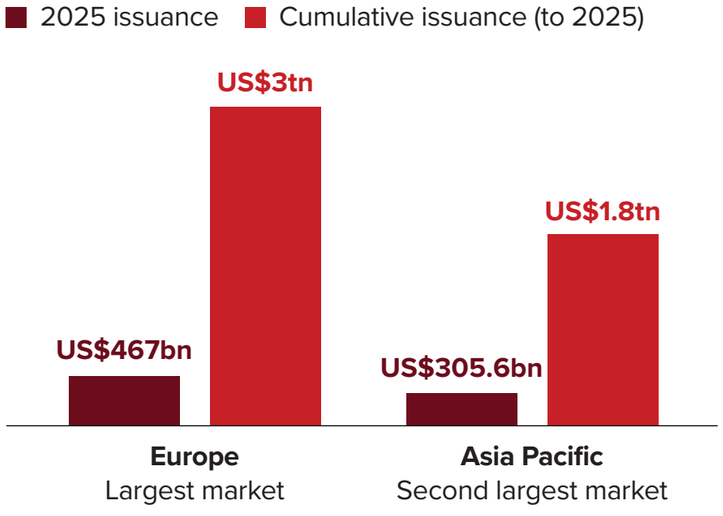
Source: IEA 2025

Figure 1.5 **Sustainable debt market in Asia Pacific**

Asia Pacific is the world's second largest market for aligned GSS+ bonds.

In 2025, US$305.6bn of aligned green, social, sustainability, and sustainability-linked bonds (GSS+) was issued in Asia Pacific, taking cumulative issuance to US$1.8 trillion. Europe, the largest market, issued US$467bn of total aligned annual GSS+ volume in 2025 and US$3 trillion cumulatively (CBI, 2026).

Aligned GSS+ bond issuance



Tokyo issues the world's first Climate Bonds Certified resilience bond.

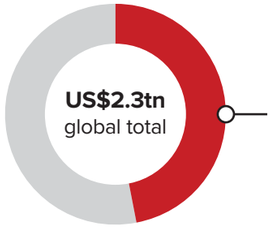
The Tokyo Metropolitan Government issued the world's first Climate Bonds Certified resilience bond in 2025 – demonstrating strong investor demand for credible climate adaptation investments (CBI, 2026).



Global investment into energy transition hit a record of US$2.3 trillion, with Asia Pacific the largest region.

Asia Pacific remained the largest region for investment, accounting for 47% of the global total in 2025. The largest drivers were electrified transport (US$893bn), renewable energy (US$690bn) and grid investment (US$483bn). China was the largest market with an overall investment of US$800bn in 2025, despite its first decline in funding renewables since 2013. India's investment climbed 15% to US$68bn (BloombergNEF, 2026).

Share of global investment, 2025



47%
Asia Pacific share of global investment

US$800bn
China's investment in 2025

US$68bn
India's investment in 2025 (+15% from 2024)

Global investment in energy transition, by sector 2025



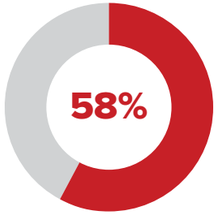
Figure 1.6 **Nature and biodiversity risks and opportunities**

Over half of Asia Pacific's economy is dependent on nature.

In APAC, 53% (US$18 trillion) of Gross Value Add (GVA) and 58% of regional stock market capitalisation are 'moderately or highly dependent' on nature. Agriculture, construction, and food and beverage alone account for 72% of the higher-dependency GVA segment (AIGCC, PwC, 2024). Sectors that have a higher dependence on nature generate 20% of Asia Pacific GVA, which is higher than the global figure of 16%, highlighting how important nature is to this region's economy.



of GVA



of stock market capitalisation



About 75% of GDP in APAC is directly or indirectly dependent on nature.

(ADB, 2025)



Ecosystem health has declined by 60% since 1970.

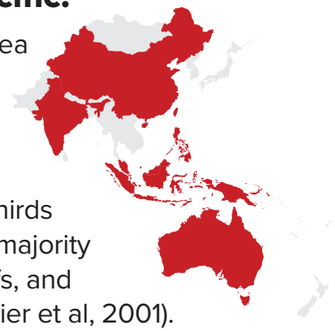
There's been a 60% decline in Asia Pacific ecosystem health since 1970 – with wildlife population decline providing an early warning indicator for the ecosystem services that underpin US$1 trillion of economic output in the region (WWF, 2024).

60%
decline in ecosystem health since 1970

US$1tn
of economic output in the region underpinned by ecosystem services

Seven of the world's 17 megadiverse countries are in Asia Pacific:

China
India
Indonesia
Malaysia
Papua New Guinea
the Philippines
Australia



Accounting for more than two-thirds of all life forms and for the vast majority of tropical rainforests, coral reefs, and other priority systems (Mittermeier et al, 2001).

Nine out of 15 countries most vulnerable to disaster risk are in Asia Pacific.

Of the top 15 countries most vulnerable to disaster risk, nine are in Asia Pacific: the Philippines (1), India (2), Indonesia (3), Myanmar (6), China (9), Pakistan (10), Bangladesh (11), Papua New Guinea (12), Viet Nam (13) (BEH, 2025).



9 in Asia Pacific
6 in other regions

Low and middle income countries are home to 89% of the world's flood-exposed people.

Of the 1.81 billion people globally directly exposed to 1 in 100 year floods, 1.24 billion are located in South and East Asia – with China (395 million) and India (390 million) accounting for over one-third of global exposure (Rentschler et al, 2022).

1.24bn
are located in South and East Asia

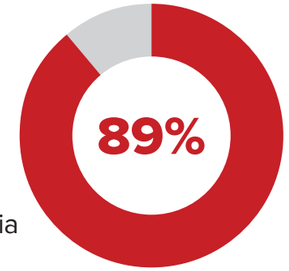
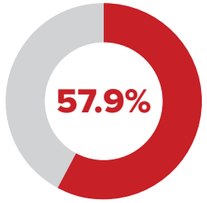


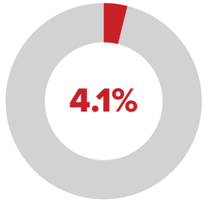
Figure 1.7 **Social and inequality related risks and opportunities**

Around 2.1 billion people are in employment in Asia Pacific.

In 2026, Asia Pacific has around 2.1 billion people in employment – almost 60% of the total population.
The overall unemployment rate was 4.1% in 2025 (ILO, 2025).



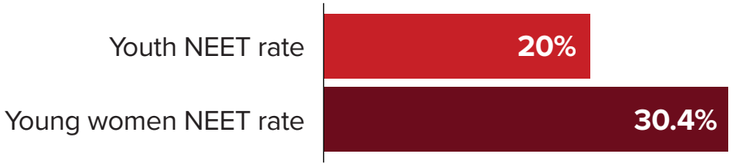
Employed **2026**



Unemployed **2025**

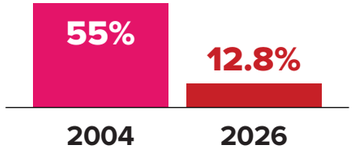
Youth unemployment in Eastern Asia is more than four times higher than that of adults.

Youth NEET (Not in Education, Employment or Training) rate in Asia Pacific is around 20% – rising to 30.4% for young women, suggesting they face greater challenges in accessing employment, education or training (ILO, 2025).



Working poverty remains significant.

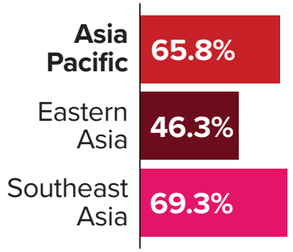
Working poverty remains at the moderate threshold of US$3.65 while Purchasing Power Parity (PPP) per day has fallen significantly from 55% in 2004 to 12.8% in 2026. Despite this substantial progress, it still represents approximately 260 million people (ILO, 2025).



260 million
people in working poverty

The informal employment rate is high at 65.8%.

Especially in Eastern Asia (46.3%) and Southeast Asia (69.3%) – suggesting poor access to social protection or protected labour rights (ILO, 2025).



Two-thirds of the world's renewable energy jobs are in Asia Pacific.



46%
in China

7.4 million
jobs

Migration due to sea-level rise (SLR) is expected to be in the millions by 2100.

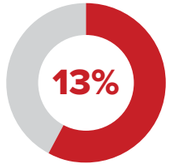
Worst affected:

India
Viet Nam
the Philippines
Indonesia

(Ballesteros et al, 2025).



Asia Pacific's combined annual wealth remains well below its share of the global population.



of global wealth in **2025**

East Asia accounted for 36% of global wealth in 2025 (up from 20% in 1995), while South and Southeast Asia's annual wealth grew by 6% over the last three decades (Chancel et al, 2026).

The top 10% control a disproportionate share of wealth (Chancel et al, 2026).





‘Together, these economies in Asia Pacific – that have either mandatorily or voluntarily adopted ISSB Standards – represent close to US$60 trillion in terms of GDP (approximately 47% of global GDP).’

ACCA workings based on GDP data in Our World in Data and IMF’s World Economic Outlook (April 2026)

2. Asia Pacific leads in the adoption of IFRS Sustainability Disclosure Standards

2.1 Region moving towards common baseline reporting

Sustainability-related disclosures – previously based on voluntary reporting, corporate social responsibility (CSR) narratives, and specific stock exchange disclosure requirements – are moving towards the use of a common global baseline: the International Financial Reporting Standards (IFRS) (ISSB Standards) (Figure 2.1).

The first wave of reporting has commenced in Australia, Malaysia, Pakistan, the Philippines, Singapore, and Sri Lanka – involving larger listed entities that will progressively move to all other listed entities following a phased timeline.[2]

Countries that have approved the adoption of ISSB Standards where reporting will commence in the near future include Indonesia, South Korea, Japan and Thailand. Collectively, these countries represent approximately US$24 trillion in terms of GDP – for ASEAN countries alone, this is over 80% of the region’s GDP (ACCA workings based on GDP data in Our World in Data and IMF’s World Economic Outlook (April 2026)).

2 Both Australia and Singapore however have chosen to only adopt climate-related disclosures in their national reporting regime, while in Bangladesh, only banks and financial institutions are in scope.

Figure 2.1 **ISSB adoption across selected Asia-Pacific markets**

Asia Pacific converging on a common baseline.

Sustainability-related reporting across the region is moving towards a common global baseline with growing adoption of ISSB Standards:



FIRST WAVE + APPROVED

These economies collectively represent:

US$24tn in GDP

>80% of ASEAN GDP

is represented by ASEAN countries in these groups.



ALL THREE GROUPS

Together, economies in Asia Pacific that have mandatorily or voluntarily adopted ISSB standards, represent close to:

US$60tn in GDP

47% of global GDP

These economies collectively account for approximately 47% of global GDP.



* Chinese mainland's national basic and climate standards may be applied voluntarily until the competent authorities specify mandatory scope and implementation requirements.

Source: *IFRS – Use of IFRS Sustainability Disclosure Standards by jurisdiction* – except for South Korea and Thailand (IAS Plus) – *Korean regulator finalises sustainability reporting requirements based on ISSB standards* and *Thai regulator finalises sustainability reporting requirements based on ISSB standards*.

Note: the information presented above is as of 16 July 2026. Readers can access the most current information from ISSB's website which tracks these developments – *IFRS – Use of IFRS Sustainability Disclosure Standards by jurisdiction*.

Chinese mainland has issued the Corporate Sustainability Disclosure Standards (CSDS) – Basic Standard (Trial) and Corporate Sustainability Disclosure Standard No. 1 – Climate (Trial). Both may be applied voluntarily until the competent authorities define mandatory scope and implementation requirements. Separate exchange-level sustainability reporting requirements already apply to selected listed companies.

In Hong Kong SAR, the Hong Kong Exchanges and Clearing Limited (HKEX)'s IFRS S2-based climate requirements took effect on 1 January 2025 on a phased basis. HKFRS S1 and HKFRS S2 – fully aligned with the ISSB Standards – became effective for voluntary application on 1 August 2025. Its roadmap targets full adoption by large publicly accountable entities no later than 2028.

This demonstrates that Asia Pacific is broadly converging on ISSB Standards as the common baseline of reporting – rather than building domestic or regional frameworks.

For investors allocating capital and businesses trading across Asia Pacific markets, or even within a particular market, this is more than just policy alignment. It facilitates a common language that promotes greater business trust, which is vital towards economic progress.

Asia Pacific's convergence is notable given developments elsewhere. The United States (US) has pulled out of the Paris Agreement, the US Securities and Exchange Commission (SEC) has proposed the rescission of climate-related disclosure rules, and the European Union (EU) has significantly scaled back the application of its CSRD.

Asia Pacific, by contrast, has remained committed towards adopting ISSB Standards. The policy coherence shows clear intent and maturity from policymakers and regulators in adopting ISSB Standards as the global baseline for sustainability reporting – satisfying international investors, reducing fragmentation, and promoting greater accountability and transparency.

Given how wide the adoption of ISSB standards as the global baseline is in Asia Pacific – collectively representing 47% of global GDP (ACCA workings based on GDP data in Our World in Data) – it will be an administrative burden for the region's businesses that fall under CSRD's scope to also have to report on the European Sustainability Reporting Standards (ESRS).

Deemed equivalence between European Sustainability Reporting Standards (ESRS) and ISSB Standards will ease the reporting burden in Asia Pacific – the same reasons EU regulators were sensitive to when passing the Omnibus legislation.



2.2 ISSB Standards adoption is creating a stronger foundation for business resilience

Progress towards adoption and implementation of ISSB Standards in Asia Pacific is continuing despite geopolitical instability that's severely testing business resilience in the region.

This suggests that sustainability reporting can serve a greater purpose than compliance – becoming a part of how organisations build market trust, supply chain resilience, risk management, and technological transformation. At a more macro level, this raises trust and integrity in the capital market.

The interviewees and roundtable participants generally viewed alignment with the ISSB Standards positively – it reduces fragmentation and gives companies a recognised basis for reporting. However, concerns were expressed about the disconnect between merely reporting sustainability data and using it to inform investment, budgeting, risk management and operational decisions. Participants stressed that sustainability-related information should be treated as core to improving business resilience – not merely as a disclosure exercise.

'Sustainability reporting is a process of strengthening our internal capabilities and competitiveness.'

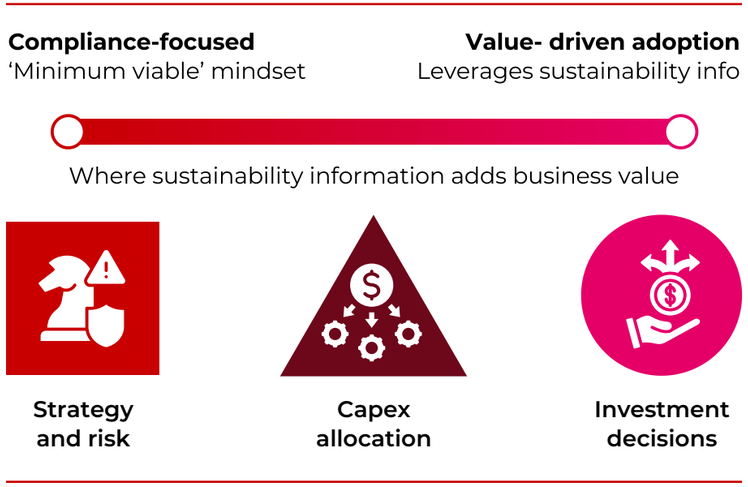
'I decided to read the standards and internalise it differently. And I was successful in advocating it as a management tool rather than a disclosure framework.'

Anonymised comments from roundtables

2.2.1 Continuum from compliance-focused to value driven among first wave of adopters

The qualitative evidence also found that first time adopters of the ISSB Standards range from organisations taking a compliance-focused 'minimum viable' mindset to those who leverage sustainability-related information for business value – including strategy and risk management deliberations, capital expenditure allocation and investment, and operational decisions.

Figure 2.2 **Compliance-focused to value driven adoption**



It's important to highlight though that many first wave of reporters in Asia Pacific are larger listed companies that previously prepared sustainability reports under various other regimes – including the Global Reporting Initiative (GRI), Task Force on Climate-related Financial Disclosures (TCFD), local stock exchange requirements, Carbon Disclosure Project (CDP), Sustainability Accounting Standards Board (SASB), and utilised frameworks – such as the Greenhouse Gas Protocol (GHG Protocol), Science Based Targets initiative (SBTi).



Our *Sustainability reporting: Track your progress to create decision-useful information* report found that **53%** of Asia Pacific and South Asia (excluding China) respondents said their organisations had started creating or using sustainability-related information, compared with **55%** in China. China also has a larger share of respondents with more than two years of experience (**37%**), compared with **26%** across the rest of Asia Pacific (ACCA, 2025).

Roundtable participants and interviewees who were early adopters of sustainability reporting before it was made mandatory found that their organisations had evolved from a compliance-focused mindset to leveraging sustainability-related information for decision-useful purposes – in strategy and risk management deliberations, capital expenditure allocation in budgets, and operational decision-making.

These organisations made earlier investments in information architecture, established governance mechanisms, and raised board awareness.

Several participants from Australia and ASEAN were concerned that companies with far less sustainability reporting experience were taking a more compliance-focused approach and mindset – largely limiting disclosures to the 'minimum viable' level needed to avoid regulatory scrutiny.

Interestingly, participants in China – where ISSB-based sustainability reporting remains voluntary – highlighted a different approach. For them, sustainability reporting was also about supporting alignment with state policy development agenda, pursuing industrial modernisation and technological innovation, adhering to capital market disclosure rules, and responding to pressures to globalise.



These comments echo ACCA's *Understanding responsible investment: Investors' perspectives*, which identifies sustainability integration, regulatory compliance, and strategic advantage as interconnected considerations in investment decision-making (ACCA, 2025b).

CASE STUDY:

Partnership for Early Awareness of Sustainability Disclosure Today (P4EAST) – moving from compliance to strategy.

NaaS Technology Inc. (NaaS) is a leading electric vehicle (EV) charging service provider in China – serving domestic and international clients – including BYD, NIO, Xpeng, AITO, BMW, and Audi.

In November 2023, the company became an ISSB early adopter, deeply integrating sustainability disclosure requirements into its corporate strategy. NaaS has set a goal to achieve carbon neutrality at operational level by 2028 – innovatively introducing a carbon credit mechanism to incentivise user emissions reductions.

In terms of execution and assessment, NaaS has translated ISSB standards into concrete actions – by establishing a three-tier ESG governance structure spanning the board, management, and execution levels. It has also incorporated core quantitative metrics – such as total GHG emissions, Scope 3 supply chain emission intensity, and carbon inclusion conversion volume – into its performance evaluation system to comprehensively drive its green and low-carbon transition.

One roundtable participant noted:

'For financial institutions in China, sustainability is not only a regulatory pressure – their core business is inherently linked to serving social development, managing risk and allocating resources.'

The participant also noted that China's policy direction on ecological civilisation, green finance, and the 'five key areas of finance' is mutually reinforcing with the development of ESG in the financial sector.



Ping An: A public-interest risk reduction initiative moving from post-incident compensation to pre-incident prevention.

Ping An's Traffic Light Road Safety Risk Reduction Public-Interest Initiative combines insurance expertise, risk data, and public-safety governance to reduce road-safety risks in counties and rural areas. It extends the role of insurance beyond compensating losses after an accident to identifying, addressing and reducing risks before accidents occur.

The initiative reflects China's shift in public-safety governance from post-incident response to pre-incident prevention. It also responds to the need to improve rural road safety as the traffic system develops. Ping An uses historical motor-insurance claims data, AI and risk analytics to identify accident hotspots. High-risk intersections and road sections are then assessed and prioritised according to accident frequency, traffic conditions, and terrain.

At the ACCA China roundtable, Ping An explained that financial institutions have committed to create environmental and social value through their core businesses, public-interest programmes, and technology.

In practice, Ping An works with traffic police, local authorities, and other stakeholders to develop road safety improvement programmes tailored to the risks identified in each location. The initiative's practical 'Four Ones' approach comprises one set of traffic lights, one speed bump, one row of guardrails and a series of traffic-safety awareness activities. In this way, risk information is translated into improvements in road infrastructure and public education.

By August 2026, the initiative had reached 610 counties across all 31 provincial-level regions in Chinese mainland. It addressed 4,903 high-risk road sections, donated more than 53,000 sets of traffic lights, flashing warning lights, speed bumps and other safety equipment, and delivered 2,536 traffic-safety awareness activities, achieving an estimated cumulative public reach of approximately 690 million people.

Its risk-reduction impact became particularly evident during the 2026 Spring Festival travel period and Labour Day holiday. Across 1,620 high-risk intersections covered by the initiative, claim volumes fell by 50.4% and 32.1% year on year respectively, while average property loss per claim declined by 19.3% and 20.4%. At these 1,620 project locations, both claim frequency and average loss therefore decreased despite substantially higher traffic volumes.

These measurable outcomes also show why sustainability information can matter for financial decision-making: lower claim frequency and average property losses may reduce claims costs and risk exposure – linking social risk reduction with an insurer's financial performance and resilience.

Another case study showcasing how IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information (IFRS S1) and IFRS S2 Climate-related Disclosures (IFRS S2) disclosures were used in assessing material information relating to decarbonisation can be found in Section 3 of this report.

2.2.2 Maturity gaps are not size determinant

Organisation size is not necessarily a determinant of reporting maturity. Our interviews found that smaller or mid-sized export-oriented companies within global supply chains may embed sustainability requirements into strategy earlier as market access depends on decarbonisation plans or product-level carbon footprints. Conversely, larger companies serving mainly domestic markets may face weaker immediate pressure.

Reporting maturity therefore develops where external expectations create urgency and internal capability turns that urgency into strategic action.

Companies that will fall within future waves of implementation in their respective jurisdictions should start developing a plan towards ISSB Standards-related disclosures readiness now – drawing on the experiences of large listed companies.

Disclosure for its own sake – without investing in governance, data, risk management and measurement processes – may relieve short-term reporting pressure but leave businesses less prepared for future risks, regulation or customer requests.

'The companies which are export-oriented are very progressive in embedding sustainability as a strategy rather than just a reporting obligation... in certain industries, you can't even quote for a particular sale without having a decarbonisation plan or product-level carbon footprint.'

ASEAN Roundtable participant



2.3 CFOs and finance functions need to be more active drivers in sustainability reporting

Feedback from interviews and roundtables has been largely consistent – CFOs and finance functions are generally seen as relatively passive in the sustainability reporting process.

For many years – when sustainability reporting was voluntary or driven by stock exchange disclosure requirements – sustainability disclosures were largely led by sustainability teams and the Chief Sustainability Officer (CSO).

'These CFOs are not seeing sustainability as a strategic business driver. Disappointingly, they see it as another thing to do and very much want to do the "minimum viable compliance".'

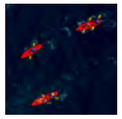
Roundtable participant

As financial and sustainability information are interconnected, professional accountants have the transferable skills and experience to ensure better connectivity in reporting – while being bound by the International Ethics Standards Board for Accountants (IESBA)'s ethical principles.

Additionally, IFRS S1 prescribes how an entity prepares and reports its sustainability-related financial disclosures – and financial disclosures are very much the domain of finance and accountancy professionals.

Yet, findings from our interviews and roundtable point to limited knowledge and involvement of finance teams over sustainability in general, and reporting in particular. Cooperation between finance and sustainability teams was also seen as weak.

ACCA has highlighted the need for CFOs to be involved in this process since 2023:



In our joint report with BDO – *Chief value officer: Enhancing strategic finance and leadership* – we stated: 'As many aspects of the reporting of value are covered by the financial and non-financial reporting standards, in reality the CFO is accountable for these aspects of value. Creating a separate CVO role would not remove that responsibility from the CFO' (ACCA, BDO, 2023).



In *Sustainability reporting: The guide to preparation*, we noted that the 'responsibility for producing the sustainability report is likely to become an increasing part of the professional accountant's role – given the increasing need to present a holistic story of sustainability-related and financial performance, position, and future prospects. The provision of sustainability-related information is not limited to large or complex organisations – in smaller organisations, resource constraints are likely to make the finance function responsible for sustainability-related information' (ACCA, 2023).

'Placing sustainability under the CFO improved integrity of data, accuracy and credibility, because finance teams bring discipline to measurement. Another CSO similarly argued that carbon data should be embedded in enterprise systems – rather than managed through disconnected spreadsheets.'

Chief sustainability officer

2.3.1 Discomfort with uncertainty and long-term risk

According to one interviewee: 'CFOs are uncomfortable with climate scenarios because they cannot be validated with the certainty expected in conventional financial reporting. They may fear what the analysis will reveal about business viability, particularly under severe warming scenarios and going concern assessments.

'Climate reporting therefore needs to be reframed as a question of business resilience, future cash flows, and balance sheet viability – not as environmental advocacy or a standalone disclosure exercise'.

'It's about changing the narrative. This is not financial disclosures. This is not green tree hugging. This is not ESG. This is [about] how resilient is my business – and that is the CFO's job.'

ASEAN roundtable participant

2.3.2 Ownership and capability over sustainability reporting

To be clear, we are not suggesting that CFOs and finance functions are primarily responsible for sustainability-related financial disclosures. Sustainability permeates across the organisation and involves multiple functions in mitigating the risks and optimising opportunities.

Sustainability teams may own parts of the narrative; finance teams may be more familiar with governance, control over data quality, and reporting discipline; risk teams may own risk registers; and business units may hold the operational information. The board therefore needs to make clear who is accountable for the quality of sustainability-related financial disclosures, and how responsibility is shared across finance, sustainability, risk, and business functions.



In *Sustainability reporting: The guide to preparation*, we stated that organisations should identify not only who is responsible, but also who is accountable, consulted and kept informed throughout the reporting process.

Having a sufficiently detailed Responsibility Assignment Matrix (or RACI Chart) can improve communication and clarify responsibilities across the organisation, including how oversight is exercised when responsibilities are delegated. Organisations can then update terms of reference, mandates and other policies as necessary (ACCA, 2023). The RACI should also extend to internal controls over sustainability data.

2.4 Weak internal control over sustainability data can lead to concrete assurance and reliability risks

Concerns about internal controls over sustainability data were a recurring and explicit theme raised during interviews and roundtables – identifying several risks:

- unclear data ownership
- weak traceability of changes
- inconsistent definitions across business units
- poor integration between sustainability and finance systems
- uncertainty over whether technology vendors can deliver reliable controls.

'Sustainability data may need to be extracted from SAP, Oracle and Excel, while system upgrades can break existing connections.'

'I did an RFP and, seriously, I've gone through 20 platforms and it's flabbergasting. It's incomplete and it's inaccurate – and I have to spend [more] money to make it ISSB ready.'

Anonymised comments from a roundtable participant

Assurance requirements will increase the importance of controls to ensure the integrity of disclosures required. These concerns will be particularly important in Malaysia, which aims to introduce reasonable assurance on Scope 1 and Scope 2 GHG emissions for Group 1[3] entities – from annual reporting periods beginning on or after 1 January 2028 (SC, 2026).

As sustainability data feeds into both management decision-making and eventual external assurance, companies need an end-to-end control environment that can produce information that is sufficiently accurate, complete and traceable, and trusted by senior management, boards, investors, and customers. This turns sustainability reporting from a periodic disclosure exercise into an organisational capability.



In our joint research with ACCA and the Institute of Internal Auditors (IIA) – *Internal control over sustainability data* – the framework on 'Components of effective internal control over sustainability data' highlights the critical importance of data accuracy and completeness. However, reliable and accurate information also depends on a wider, interconnected architecture comprising: governance and accountability; documented processes and robust IT and data-management systems; regulatory alignment; risk management; stakeholder communication and transparency; third-party assurance; continuous improvement; and integration with financial controls (ACCA, IIA, 2025).

3 Group 1 entities are defined in the National Sustainability Reporting Framework as 'Main Market listed issuers with market capitalisation (excluding treasury shares) of RM 2bn and above as of 31 December 2024, or as at the date of its listing after 31 December 2024'.

2.5 Reporting requirements are driving the need to build unified data, control and governance systems

For Asia Pacific companies that have begun their sustainability reporting journey, fragmented or disconnected systems, templates or controls are insufficient. The system must connect people, processes, technology, and oversight. ACCA and the IIA's joint report on internal control over sustainability data sets out the components of effective internal control over sustainability data as shown in Figure 2.3 (ACCA, IIA, 2025).

One participant at the China roundtable illustrated how this architecture can operate across a multinational group setting through a four-level governance structure that establishes common sustainability principles and responsibilities.

These principles are translated into common indicator definitions and an IT-enabled group-wide system – allowing data to be reviewed and aggregated from the bottom up. The resulting information feeds into a management-improvement process in which material sustainability issues are translated into business-level risks, opportunities and actions.

Overseas entities retain flexibility to meet jurisdiction-specific requirements while operating within the same governance and control framework. In this way, reporting requirements strengthen cross-regional coordination and global operating capability while continuing to fulfil compliance needs.

Figure 2.3 **Components of effective internal control over sustainability data**



Source: ACCA and The IIA 2025 – *Internal control over sustainability data*.

'The resulting information feeds into a management-improvement process in which material sustainability issues are translated into business-level risks, opportunities and actions.'

2.6 A strong ecosystem of preparers and assurance practitioners needs to be curated

As Asia Pacific leads implementation of sustainability reporting aligned with ISSB Standards, a strong ecosystem of sustainability reporting practitioners and assurance providers is essential to creating and assuring high-quality information and disclosures – fostering trust in capital markets and supporting business resilience.





As highlighted in ACCA's *Sustainability reporting: Track your progress to create decision-useful information* and *Principles of good corporate reporting* – this requires collaboration and coordination:

- **within jurisdictions** – across disciplines such as sustainability and finance professionals, technical experts, relevant professional bodies, education providers, lawyers, and across industries etc
- **across jurisdictions** – to share lessons learnt from other jurisdictions that have begun their sustainability reporting journey and accelerate the process (ACCA, 2024a) (ACCA, 2025a).

Leading practice depends on connecting these capabilities – rather than assigning the task to one function in isolation. Building communities of practitioners and assurers will help to create a space to learn and transfer knowledge and experience.

In addition, practical guidance, sectoral data, calculation tools, reporting platforms, internal control frameworks, assurance capabilities and capacity, and learning and development programmes are also important.



This ecosystem matters because sustainability reporting is not a linear publication exercise. In *Sustainability reporting: The guide to preparation*, reporting is presented as an eight-stage cycle involving processes, technology and people – rather than a one-off report production activity (Figure 2.4) (ACCA, 2023).

'Building communities of practitioners and assurers will help to create a space to learn and transfer knowledge and experience.'

Figure 2.4 **Sustainability reporting cycle**



Source: ACCA 2023 – *Sustainability reporting: The guide to preparation*.

2.7 Inadequate voice in global policymaking and standard-setting

As set out in Sections 1.3 and 1.4, given the size of Asian economies, its progress in driving a more sustainable future as well as how vulnerable it is to climate, nature and social risks – the region's share of voice in shaping related policy developments is inadequate.

On ISSB's Board, only three of its twelve board members are from Asia Pacific, with no representation from ASEAN (which as mentioned in Section 2.1, 80% of ASEAN's GDP is aligned with ISSB Standards) while on TNFD's Taskforce, only six out of 40 its members are from organisations in Asia Pacific (as of 30 September 2026).

In its report on the 2025 Shareholding Review, the Development Committee (a joint ministerial committee of the Boards of Governors of the World Bank and IMF) acknowledges that 45 countries are under-represented in the International Bank for Reconstruction and Development (the primary lending institution of the World Bank Group) – these include Viet Nam, China, Cambodia, Lao PDR, Singapore, Indonesia, and several other countries in the region.

Similarly, at the Financial Stability Board (FSB), which monitors and makes recommendations about the global financial system, as of 30 September 2026 – only nine out of 73 members of its Plenary are from Asia Pacific, with only one from ASEAN.

These examples are not exhaustive nor are they intended as criticism of the institutions themselves. Rather, they are indicative of a systemic under-representation of Asia Pacific in shaping policies that will affect its future. Global policymaking and standard-setting bodies should however consider how they represent not just economic interests – but areas most vulnerable to climate change and disaster risks.

'Global policymaking and standard-setting bodies should however consider how they represent not just economic interests but areas most vulnerable to climate change and disaster risks.'



Key reflections.

- Asia Pacific is playing a critical role in leading adoption of ISSB Standards – demonstrating leadership and responsibility as climate risks escalate.
- If sustainability is about building greater resilience – sustainability reporting shows how organisations can respond through both the risks and opportunities it identifies.
- Companies that begin the mandatory reporting journey with a compliance mindset can, over time, evolve towards embedding sustainability into strategy, governance, risk management, capital allocation, and operations.
- The maturity gap in Asia Pacific will increasingly appear as a capability and ownership gap – rather than an institutional gap. Board clarity over responsibility and accountability, CFO capability, cross-functional collaboration, data controls, assurance readiness, and practitioner communities will determine whether sustainability reporting can be transformed from a compliance cost into business resilience and competitiveness.

Recommendations.

To boards:

- Explicitly decide ownership of sustainability reporting and approve a RACI that sets clear lines of responsibility and accountability for sustainability-related information.

To CFOs and finance professionals:

- Translate sustainability matters into the language of finance and value, including risk exposure, revenue opportunities, asset resilience, capital allocation and long-term value. Finance functions should use insights from sustainability-related information to support business transformation and performance.

To policymakers, regulators and standard setters:

- Evolve support from requiring companies to report towards helping them report well. This includes clearer road maps, phased implementation, practical guidance, sectoral data, calculation tools, assurance capability building, and practitioner communities.
- Asia Pacific regulators and standard setters should strongly advocate to EU regulators and standard setters for transition relief for Asia Pacific businesses in jurisdictions adopting ISSB Standards from the obligation to report on the ESRS – until a single set of global sustainability reporting standards is formally recognised. EU regulators and standard setters should also specify the standards that will be recognised as ‘equivalent’ to the ESRS as soon as possible. This will ease the reporting burden of not having to prepare separate reports purely for ESRS compliance purposes.
- Asian representation in global policymaking bodies and institutions is a structural problem – ASEAN, in particular, is significantly underrepresented. This extends beyond sustainability reporting and needs to be addressed.
- Asia Pacific countries should better coordinate positions, use regional platforms more strategically, and participate collectively in global standard setting over the entire financial and economic architecture.



3. Decarbonisation and energy transition

3.1 Decarbonisation: Energy and economic resilience – not just CO_2 emission reductions

In this decade alone, two major conflicts (in Russia-Ukraine and the Middle East) have caused Asia Pacific's fossil fuel dependence to result in major energy security and affordability issues. Indeed, during the Russian-Ukraine war, as liquified natural gas (LNG) imports were redirected to Europe – price increases in emerging economies in Asia Pacific and elsewhere negatively affected its economies and peoples (BS, 2022).

'The conversation around this has started since the Middle East conflict, the narrative shifted... renewables will help hedge that risk of volatility in energy prices.'
Interviewee from Singapore

The conflict in the Middle East and closure of the Strait of Hormuz in 2026 has impacted Asia Pacific more severely. As reported in an article *The Iran War is Causing Energy Chaos in Asia | Council on Foreign Relations*: in 2024, 84% of the oil and 83% of the LNG shipped through the Strait was bound for Asia.

Several governments in Asia Pacific have had to take drastic measures to deal with the energy shock – including 'a four-day week to reduce air-conditioning, work from home, and releasing strategic reserves'.

While many governments have sought to shield their citizens from oil price increases through subsidies and cash handouts, or risk social stability issues – these interventions are not sustainable economically in the long-term.

Absorbing subsidies and cash handouts into national operating expenditure (OE) creates a transition paradox. It reduces the funds available to accelerate energy transition through development expenditure (DE) allocation.

Lower DE allocation can compromise necessary improvements in education, healthcare and infrastructure – which are vital for its citizens' wellbeing and social mobility. Countries in Asia Pacific that have not already made significant progress in decarbonising may therefore have insufficient funds – especially during times of high fossil fuel prices – to address the energy transition it so desperately needs.

'Renewable investment simultaneously supports economics, environmental performance and resilience.'

Interviewee from Singapore

Many interviewees repeatedly stressed that Asia Pacific's decarbonisation journey isn't only about reducing emissions (though it is important). There is a growing recognition – at government and business levels – that decarbonisation is also an issue of resilience. This further validates ACCA's model of the dimensions of sustainability (Figure 1.1), in which economic viability is equally important.

Figure 3.1 **Transition paradox**

transition paradox.

Short-term relief today can crowd out the investments that secure a sustainable tomorrow.

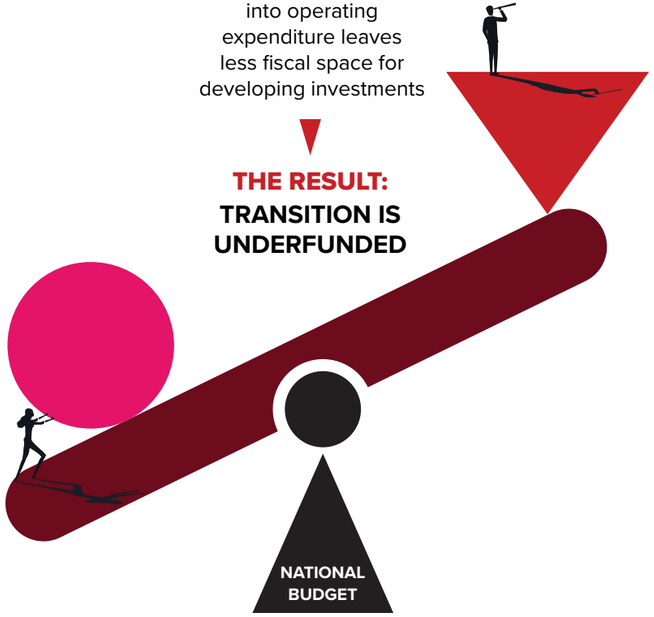
TODAY:
SHORT-TERM RELIEF
Operating expenditure (OE)

- Energy subsidies
- Cash handouts
- Fossil fuel price support
- Other recurring support

IMMEDITE IMPACT
Eases cost of living and political pressue

Absorbing subsidies and cash handouts into operating expenditure leaves less fiscal space for developing investments

THE RESULT:
TRANSITION IS UNDERFUNDED



TOMORROW:
LONG-TERM PROGRESS
Development expenditure (DE)

- Clean energy and grids
- Infrastructure and transport
- Education and skills
- Healthcare and resilience

LONG-TERM IMPACT
Enables decarbonisation, inclusive growth and future resilience

THE CONSEQUENCE
Countries in Asia Pacific that have not yet decarbonised will not have sufficient funds to finance the energy transition when fossil fuel prices are high – slowing progress, deepening vulnerability and widening inequality.

3.2 Guiding philosophies on sustainable governance – a China vs ASEAN contrast

In China, decarbonisation isn't pursued solely to strengthen resilience or to meet its Nationally Determined Contributions under the Paris Agreement. Values and culture play an important role too and act not just as a foundation but catalyst of sustainable governance.

China's 'Two Mountains' framework provides an example. The two mountains – 'lucid waters and lush mountains' – are regarded as invaluable assets that mutually support and reinforce each other.

The concept was introduced in 2005 and promotes the idea that environmental protection and economic development are not at odds with each other, but interdependent and mutually reinforcing. It envisions a structural transition that moves from traditional industrial civilisation to a more harmonious relationship between humans and nature, and business and nature.

It can be argued that the Two Mountains concept, and its subsequent formulation as Ecological Civilisation, have served as guiding philosophies and an effective sustainable governance framework that has driven China's national strategies and impressive renewable energy expansion (Figure 1.4).

Importantly, this has also benefited countries in Asia Pacific and beyond as part of its Belt & Road Initiative from rapid investments in clean energy.

By comparison, ASEAN lacks a distinct and unifying framework that's closely tied with its common culture, values and ethos that can serve as its sustainable governance model and a *raison d'etre* for accelerating sustainability. Instead, ASEAN relies on more market-based interventions, which are often affected by related challenges – short-termism, profit-driven focus, geopolitical conflicts, tariff wars, etc.



3.3 Trillion dollar economic opportunity in Asia Pacific

China and ASEAN are among the top emitters of GHG in the world – whether calculated on a production or demand (consumption) basis (see Appendix 1). Asia Pacific's decarbonisation therefore matters globally: failure to decarbonise at sufficient scale and speed will affect efforts to limit GHG emissions and global temperature rise.

Asia Pacific's high emissions reflect its role as the world's de facto manufacturing hub, the size of its populations, and its right to development – given its historically low base following centuries of colonisation in many parts of the region. Recent tariff wars and geopolitical conflicts have, however, only heightened Asia Pacific's focus on short- termism – rather than the progress needed to achieve just transition.

Several reports have highlighted the tremendous investment opportunities in Asia Pacific associated with decarbonisation, the challenges, and even the policy interventions required.

BloombergNEF's *Asia Pacific's Energy Transition Outlook*, commissioned by GenZero in 2024, estimates that US$88.7 trillion is required in the region's energy sector from 2024 to 2050 (BNEF 2024).

The World Economic Forum, in collaboration with the State Grid Corporation of China, found in its 2025 white paper *Accelerating Value Chain Decarbonization for Corporate Growth: Perspectives from Asia* that value chain accounts for 65-95% of corporate carbon footprints in Asia. It identifies decarbonisation as a US$3 trillion opportunity that can lower costs and risks, open access to premium market segments, and strengthen resilience – although it does not provide a breakdown of this estimate (WEF, 2025).

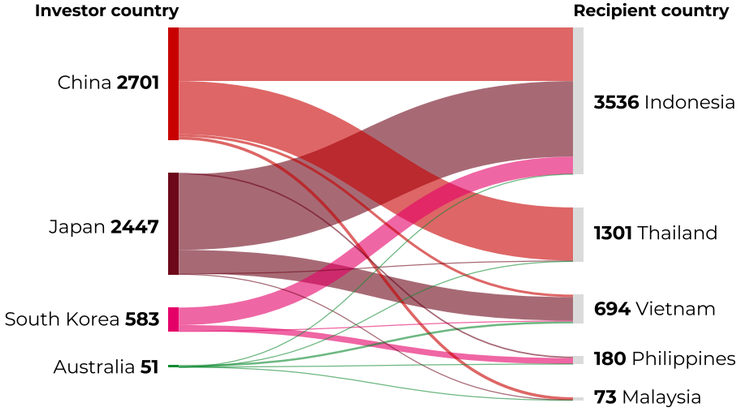
Deloitte's 2025 report, *Accelerating Net-Zero: Critical Opportunities in Asia Pacific's Climate Policy*, found that achieving net-zero ambitions could grow the Asia Pacific economy by almost US$50 trillion by 2070 on the back of a US$80-90 trillion investment opportunity by 2050 to scale up emerging technologies and build new industries (Deloitte, 2025).

'Recent tariff wars and geopolitical conflicts have, however, only heightened Asia Pacific's focus on short- termism – rather than the progress needed to achieve just transition.'

3.3.1 China is ASEAN's biggest investor of clean energy

A 2025 report by climate and energy research group Zero Carbon Analytics found that in the 10-year period from 2013, China and Japan were the two largest investors in ASEAN's clean energy projects. International investment in ASEAN clean energy has increased by an average of about 15% per year since 2020 – higher than the global average of 11%.

Figure 3.2 **Bilateral public financing for clean energy from Australia, Japan, South Korea and China to selected ASEAN countries** (2013-2023) US$million



Source: Recreated from original, Zero Carbon Analytics, 2025 – *The race to invest in Southeast Asia's green economy*.

3.3.2 EU investments and partnerships with ASEAN

EU investment in clean energy in ASEAN has recently gained momentum, particularly with Viet Nam. Key projects announced in 2026 include:

- a €560m package to support sustainable modern transport and advance clean energy
- a €200m agreement between the European Investment Bank and Techcombank to finance private investments in renewable energy, energy efficiency, and electric mobility
- a €40m Sustainable Transport Facility to support major infrastructure projects in the transport sector – notably railways like the Hanoi-Ho Chi Minh City high speed line, inland waterways, and urban mobility.

3.4 Financing Asia Pacific's sustainable future

The IMF's 2024 report – *Unlocking Climate Finance in Asia-Pacific: Transitioning to a Sustainable Future* – highlights that EMDEs need at least US$1.1 trillion annually to address climate mitigation and adaptation needs. However, actual investment falls short by about US$800bn.

This financing gap is not only a problem for Asia Pacific economies and their people – it is a structural barrier to global progress and the interest of future generations. If Asia Pacific economies fund their future growth from fossil-fuel sources, because of limited financing opportunities – despite the decarbonisation opportunities highlighted in this section – coupled with the availability of cheap energy sources like coal, the outlook for global warming and its consequences will deteriorate even further and faster.

'Asia requires at least US$1.1 trillion annually to address climate mitigation and adaptation needs. However, actual investment falls short by about US$800bn.'

IMF, 2024

The financing gap is, of course, not unique to Asia Pacific. Climate Policy Initiative (CPI) data indicates that global climate finance flows reached US$2 trillion in 2024. 'While this is an increase compared to previous years, the climate finance gap remains significant. An average of US$7.8 trillion in annual climate finance will be needed from 2025 through to 2030 to avoid the worst impacts of climate change – rising to US$9 trillion annually from 2031 to 2035.' (CPI, nd). CPI's data dashboard on global climate finance, which provides disaggregated data, reveals several interesting observations:

- China (US$737.3bn) dominates the bulk of finance raised in East Asia and Pacific (US$841.1bn) in 2024.
- Most of the funds (96%) raised in Asia Pacific are from domestic sources –demonstrating very low take-up from international investors. This pattern is also evident globally (85%).

The Independent High-Level Expert Group on Climate Finance (IHLEG), however, has a lower estimate of the amount of financing needed. 'EMDEs globally other than China will need to invest US$3.2 trillion per year by 2035 to meet the goals of the Paris Agreement and to accelerate progress towards the Sustainable Development Goals. Of this amount, US$1.9 trillion is expected to be financed from domestic sources and US$1.3 trillion from external sources,' (LSE, 2025).

Development of a carbon market

Several interviews highlighted the importance of carbon markets in financing transition, particularly in hard-to-abate sectors. However, they also raised concerns over credit integrity, double counting, claims, and the relationship between voluntary and compliance markets. They stressed that credits cannot substitute for direct emissions reductions. This was also highlighted in ACCA's *Ethical dilemmas in sustainability reporting*.



'We want to get more carbon projects developed in ASEAN and, at the same time, they need to be of high integrity... additionality, no double counting, the governance structure needs to all be in there.'

Dr. Renard Siew, President of Malaysia Carbon Market Association

Asia Pacific does not yet have a single regional carbon market. National approaches range, from Singapore's carbon tax and permitted use of eligible credits to Thailand's more developed voluntary market and emerging ETS discussions in Indonesia, Viet Nam and Malaysia. Interviews indicated limited appetite for an ASEAN-wide compliance market.

The ASEAN Common Carbon Framework, an industry-led initiative, is a notable advancement that aims to support the development of high-integrity and interoperable carbon markets across ASEAN.

Interviews also highlighted several other challenges towards decarbonisation, including insufficient renewable energy access and grid capacity, uncertainties of tariff prices over project duration, land access, pressures on water, and other minerals use, etc.

These financing challenges and potential solutions have been covered extensively by other reports and are therefore not examined in detail here. Rather, it's to highlight that the financing gap remains intractable and represents a core impediment towards successfully decarbonising the region while allowing for its continued growth.

'There is no shortage of projects. There is, however, a definite shortage of projects that are in a fit enough state to be commercially viable for funding.'

Anonymised quote from interviewee



CASE STUDY:



Treating sustainability as a business discipline – leveraging IFRS S1 and IFRS S2 requirements in the context of decarbonisation.

The following case study examines how Tenaga Nasional Berhad (TNB), Malaysia's listed national energy provider, leverages sustainability-related information to drive the transformation of the energy sector in Malaysia.

Sustainability is embedded in how TNB identifies opportunities arising from the energy transition, manages risk, allocates capital, and builds business resilience. Despite challenges arising from global fuel market volatility and evolving operating conditions, TNB's commitment to sustainability remains steadfast – guided by the conviction that it is fundamental to long-term value creation and the only viable pathway forward.

As Malaysia's national electricity utility provider, TNB operates within the realities of the energy trilemma – where decarbonisation must be pursued alongside energy security and affordability. The transition will not be linear: external developments, evolving system requirements, and operational considerations may affect emissions performance in some periods.

Geopolitical developments in the Middle East and the resulting volatility in global energy markets further reinforce the need for vigilance, system readiness, and a diversified generation portfolio. Against this backdrop, TNB will continue to balance system reliability, affordability, and near-term operational requirements – while advancing the longer-term transition towards cleaner energy.

TNB is focused on accelerating Malaysia's transition towards net zero emissions by 2050, including the national target of achieving 70% renewable energy. This requires strengthening the grid and enabling higher integration of renewable energy while ensuring that the electricity system continues to serve the needs of households, businesses and the wider economy. TNB will continue advancing its Carbon Management Strategy, including the Renewable Energy Expansion Plan to move towards the low-carbon economy.

TNB's Sustainability Report showcases the application of ISSB S1 and S2 disclosures in assessing material sustainability and climate-related risks and opportunities. These include energy transition and grid resiliency, GHG emissions and energy resource planning, climate resiliency, water and biodiversity, and customer experience and energy efficiency. Each area was further assessed based on its potential financial impacts, including revenue, costs and capital expenditure, as well as the associated time horizon of the impacts.

The assessment of these risks and opportunities is translated into strategic investments and actions to accelerate TNB's energy transition commitments. Among the opportunities identified is supporting Malaysia's energy transition by enhancing grid flexibility to enable higher penetration of Variable Renewable Energy (VRE). As the national grid accommodates more solar resources – flexible system operations become essential to maintain reliability, stability and affordability.

A highlight of TNB's energy transition initiatives was the successful deployment of two large-scale Battery Energy Storage Systems (BESS) in Santong, Terengganu, ahead of schedule in April 2026, described as Peninsular Malaysia's first 'smart energy bank', and the Lahad Datu BESS in Sabah in August 2025.

Investments to further enhance grid flexibility in enabling higher renewable energy integration are expected to range from RM1.4bn in the short-term to over RM5bn in the long-term – as part of the Grid Modernisation Programme, under Malaysia's Incentive-Based Regulation (IBR) framework. These investments demonstrate how ISSB-aligned disclosures can support decision-useful information for strategic decision-making, investment planning, and operational resilience.

Excerpt from TNB's Sustainability Report 2025 Delivering Tomorrow's Energy Transition, with additional inputs from TNB.

Key reflections.

- Decarbonisation is not just about reducing GHG emissions – it is fundamental to energy and economic resilience in Asia Pacific. This is also critical towards maintaining or improving trust in businesses and governments, and ensuring social stability.
- Decarbonising opens market access opportunities. For SMEs, this should be the main driver for decarbonisation – rather than mandatory sustainability reporting being forced on to value chain.
- Decarbonisation projects should not be evaluated purely on financial returns – both financial and non-financial returns should be considered.
- Decarbonisation of the value chain should be built into procurement criteria, with supporting mechanisms for SMEs.
- An overarching framework drawn from local values and culture can help accelerate and embed the sustainability shift that is needed in Asia Pacific. China holds the advantage from its 'Two Mountains' and ecological civilisation frameworks – ASEAN and other economies need to do this better.
- Navigating this change requires finance and accountancy leaders who strategically understand decarbonisation, carbon markets, and how to ensure projects are bankable.

Recommendations.

To CFOs and business leaders:

- **Frame decarbonisation as a business priority for emissions and resilience**. Boards and senior management should make decarbonisation a business priority not only for emissions reduction, but also for greater business resilience – protecting against fuel price volatility, geopolitical disruption, supply insecurity, and loss of market access
- **Put decarbonisation into budgets, capital expenditure, and risk registers**. A decarbonisation ambition or target has limited credibility unless it's reflected in budgets and risk management frameworks. CFOs should test whether transition commitments are reflected in operating budgets, capital expenditure plans, procurement decisions, and risk registers. Ultimately, if a company states in its external disclosures that it is mitigating a risk that's a material topic – the board should ask where the corresponding budget is.
- **Build bankable projects**. Bankability of decarbonisation projects should be assessed as core to the transition strategy – rather than left solely to project developers or governments.

To policymakers, public sector bodies:

(and other relevant stakeholders)

- **Prioritise decarbonisation for energy and economic resilience**. Governments should treat renewable energy generation and storage as a top economic priority. Decarbonisation builds greater energy and economic resilience – mitigating future shocks arising from geopolitical conflicts, supply chain disruptions from fossil based energy, and unilateral tariff impositions. This can reduce the burden on national OE and allows greater reallocation towards DE. Spending on education, healthcare and infrastructure, including grid expansion, will lend to a brighter future for people across Asia Pacific.
- **Mobilise Asian capital and strengthen public-sector de-risking**. 'Asia funds Asia' – governments and businesses should harness the opportunity for capital raising and access in Asia Pacific towards addressing decarbonisation.
- **Encourage greater industry or sectoral collaboration to innovate and deploy technological solutions at scale**. Sector-based collaboration to decarbonise can be more practical than asking every company in the industry to solve the same problems independently.



4. Nature is fundamental to protecting and building resilience in Asia Pacific

As set out in Figure 1.6, Asia Pacific is home to seven out of 17 countries that are regarded as megadiverse. In other words, it holds a disproportionate amount of all life forms, tropical rainforests, coral reefs, and priority systems on Earth (Mittermeier et al, 2001).

- Nine out of the top 15 countries most vulnerable to disaster risk – many of which are megadiverse – are in Asia Pacific (BEH 2025).
- More than one billion people in Asia Pacific are susceptible to a 1-in-100 year flood risk – most of whom are in low and middle-income countries (Rentschler et al 2022).
- Economically, nature contributes almost three quarters of Asia Pacific's GDP directly or indirectly (ADB, 2025). It's been reported that 58% of regional equity markets capitalisation are moderately or highly dependent on nature, primarily in the agriculture, construction and food and beverage sectors (AIGCC, PwC, 2024).

Nature is therefore our ‘breadbasket’ – not just in Asia Pacific but globally. Yet, how well nature is being preserved and nurtured is concerning. WWF’s *Living Planet* report states that the average population of wildlife in Asia Pacific declined by 60% from 1970 to 2020; wildlife population changes are indicative of the overall health of nature’s ecosystem (WWF, 2024).

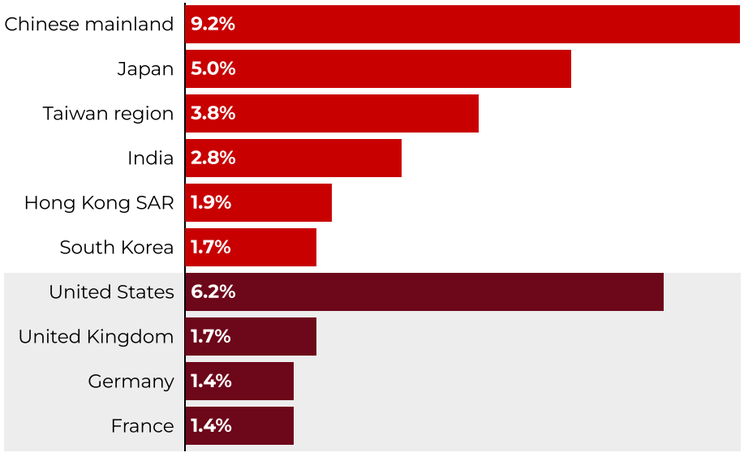
Ultimately, this puts not only economic value creation at risk but the critical ecosystem services that nature provides – including food and freshwater, carbon absorption, pollutant filtering, protecting against stormwater and rising sea levels – are being threatened. These ecosystem services are either not priced or inadequately priced by markets and in financial statements.

4.1 Leading the adoption of Taskforce on Nature-related Financial Disclosures (TNFD)

TNFD began in 2021, ‘built on the work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the Dasgupta Review on the Economics of Biodiversity, the Natural Capital Protocol, the Taskforce on Climate-related Financial Disclosures (TCFD), and others to mobilise market participants to embrace an integrated approach to nature-related issues beyond climate change’ (TNFD, 2025).

In its 2025 Status Report, TNFD highlights that 620 companies – representing US$20 trillion in Asset Under Management (AUM) across over 50 countries or areas – have publicly committed to begin reporting aligned with the TNFD recommendations. The report also cites a Bloomberg survey in which seven out of the top 10 countries with global companies reporting against a nature metric are from Asia Pacific – demonstrating the region’s leading role in nature-related reporting. However, this should not mask the adoption rate of TNFD disclosures, which is still low, both globally and in Asia Pacific.

Figure 4.1 **Global companies reporting against a nature metric, split by country or territory** (Top 10, Bloomberg)



Source: Bloomberg, n = 16,885 companies

A 2025 study by the Centre for Governance and Sustainability (CGS) at the National University of Singapore (NUS) Business School and Kering examined 700 listed companies in Asia Pacific. Only 13% disclosed their alignment with the TNFD framework.

While 72% identified topics, such as water and biodiversity protection in their sustainability or annual reports, only 35% considered nature-related issues material to their businesses – and only 39% integrated nature-related issues into their overall risk management frameworks.

This demonstrates a substantial lag between adoption and substantive impact on organisations’ strategy, risk management, and governance over nature-related issues.

Status of ISSB’s work on nature-related disclosures

ISSB’s work on nature – biodiversity, ecosystems and ecosystem services (BEES) – has moved from research towards standard-setting. It plans to release an exposure draft for public comment ahead of COP17 in Yerevan in October 2026, focusing on financial materiality (UNEP, 2026).

ISSB will propose requirements for nature-related disclosures in the form of an IFRS Practice Statement. This will complement IFRS S1 and IFRS S2 without changing the requirements in the Standards (ISSB, 2026), and intends to draw on the TNFD framework.

Given Asia Pacific’s substantial progress in adopting ISSB Standards and early progress on TNFD disclosures, the region is well placed to play a leading role in advancing financial-related disclosures on nature-related risks and opportunities. This is important in driving the right investments and financing towards protecting and enhancing nature’s ecosystem.

Yinson – moving from compliance to embedding nature into strategy and long-term value creation.

Yinson Holdings Berhad (Yinson) – a listed Malaysian energy infrastructure and technology company – provides an example of moving beyond a compliance and a corporate social responsibility (CSR) mindset towards a sustainability-informed strategy and long-term value creation.

In 2025, Yinson conducted a nature-related assessment using TNFD's *Locate, Evaluate, Assess, Prepare* (LEAP) approach and WWF's Biodiversity Risk Filter across its 26 global assets. The information generated helped Yinson understand its dependencies, impacts, risks and opportunities – rather than simply satisfy disclosure requirements.

Through the assessment, Yinson identified dependencies on regulating ecosystem services and exposure to nature-related physical risks, including sea-level rise (SLR), extreme weather events, and coastal degradation.

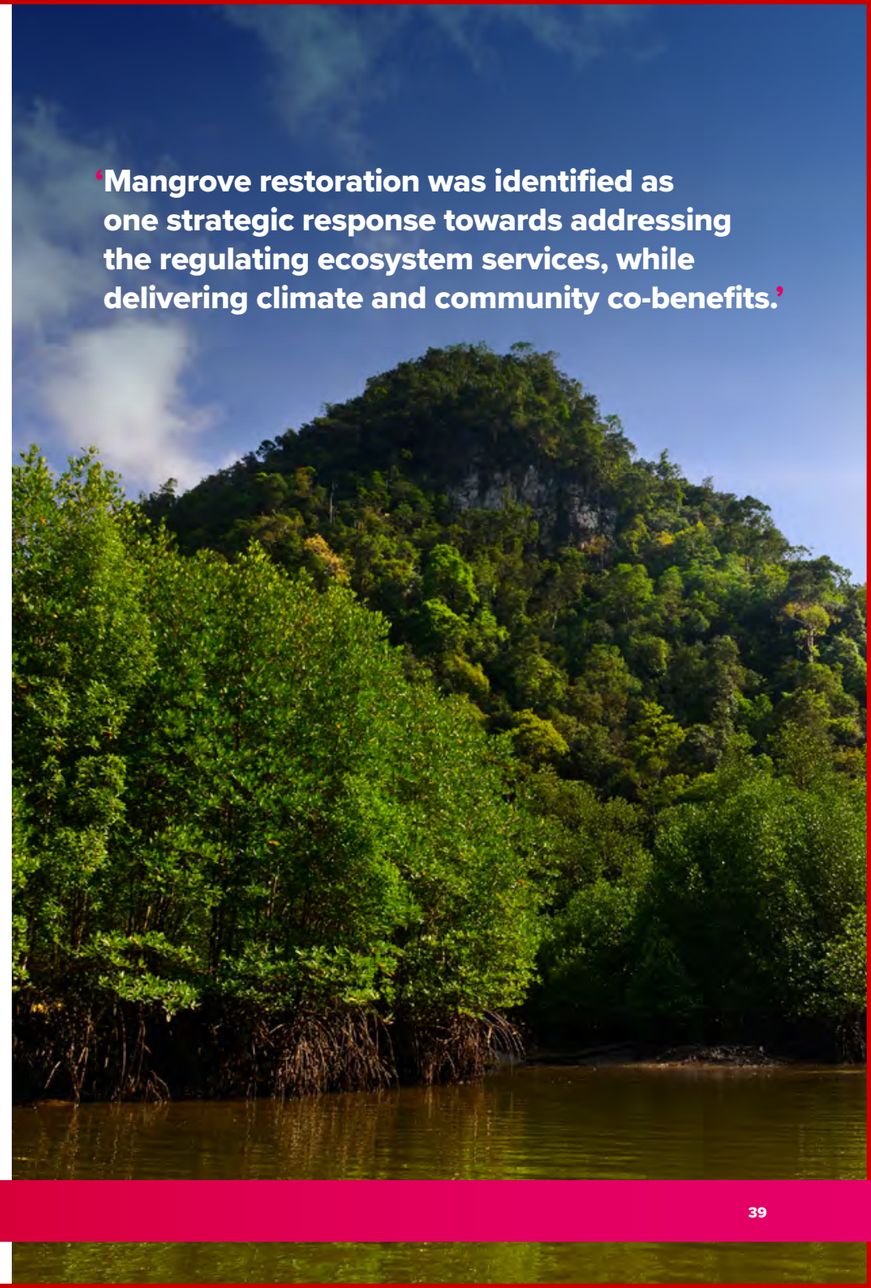
These findings made clear that nature degradation is material to Yinson's long-term operational resilience – rather than just a sustainability reporting item. This elevated nature from a peripheral CSR activity into a strategic priority that is governance-integrated and board-overseen, while informing risk management, stakeholder engagement, and long-term strategic positioning.

Mangrove restoration was identified as one strategic response towards addressing the regulating ecosystem services, while delivering climate and community co-benefits. This shaped a strategic action plan – involving mangrove conservation in Malaysia and Angola – with over 18,000 mangrove seedlings planted across five species, working with more than 1,000 volunteers.

As a nature-based solution, mangrove restoration enhances the climate resilience of vulnerable coastal ecosystems and communities. It delivers measurable climate mitigation (blue carbon sequestration) and adaptation (coastal protection, disaster risk reduction) co-benefits while strengthening biodiversity outcomes.

The programme contributes to broader national objectives related to climate action, biodiversity conservation, and ecosystem restoration, including commitments associated with the Paris Agreement and Malaysia's biodiversity agenda. It also strengthened Yinson's licence to operate and creates longer-term optionality for nature-based carbon and biodiversity outcomes aligned with Malaysia's emerging carbon market architecture.

'Mangrove restoration was identified as one strategic response towards addressing the regulating ecosystem services, while delivering climate and community co-benefits.'



4.2 Nature remains less understood and prioritised than carbon

Our interviews highlight a persistent gap between ecological metrics and financial decision-making. While companies may have data on conservation areas and biodiversity conditions – they often lack the knowledge and tested pathways to show how the ecological deterioration affects revenue, costs, assets, financing, or enterprise value.



This was also echoed in ACCA's *Sustainability reporting: Track your progress to create decision-useful information* – where 37% of Asia Pacific and South Asia respondents reported that stakeholders did not tend to request information about nature and biodiversity. Only 24% reported both stakeholder demand for the information and an ability to provide it. In China, the respective figures are 46%, and 18%. These findings show that stakeholder demand and organisational readiness over nature-related information remain limited (ACCA, 2025a).

Caution needs to be taken to avoid siloed reporting and governance, eg climate and nature. They are interrelated – flooding and fires from heatwaves are consequences of global warming as CO_2 emissions continue to rise, yet they impact upon nature and people.

'What CFOs don't necessarily have is understanding the relationship to say, losing conservation areas... what's the direct financial impact there? It's not calculated as such.'

'Why don't we look at the sort of impact pathway as one?... It's related to climate, but we recognise that all of those impacts will come on the nature side as well.'

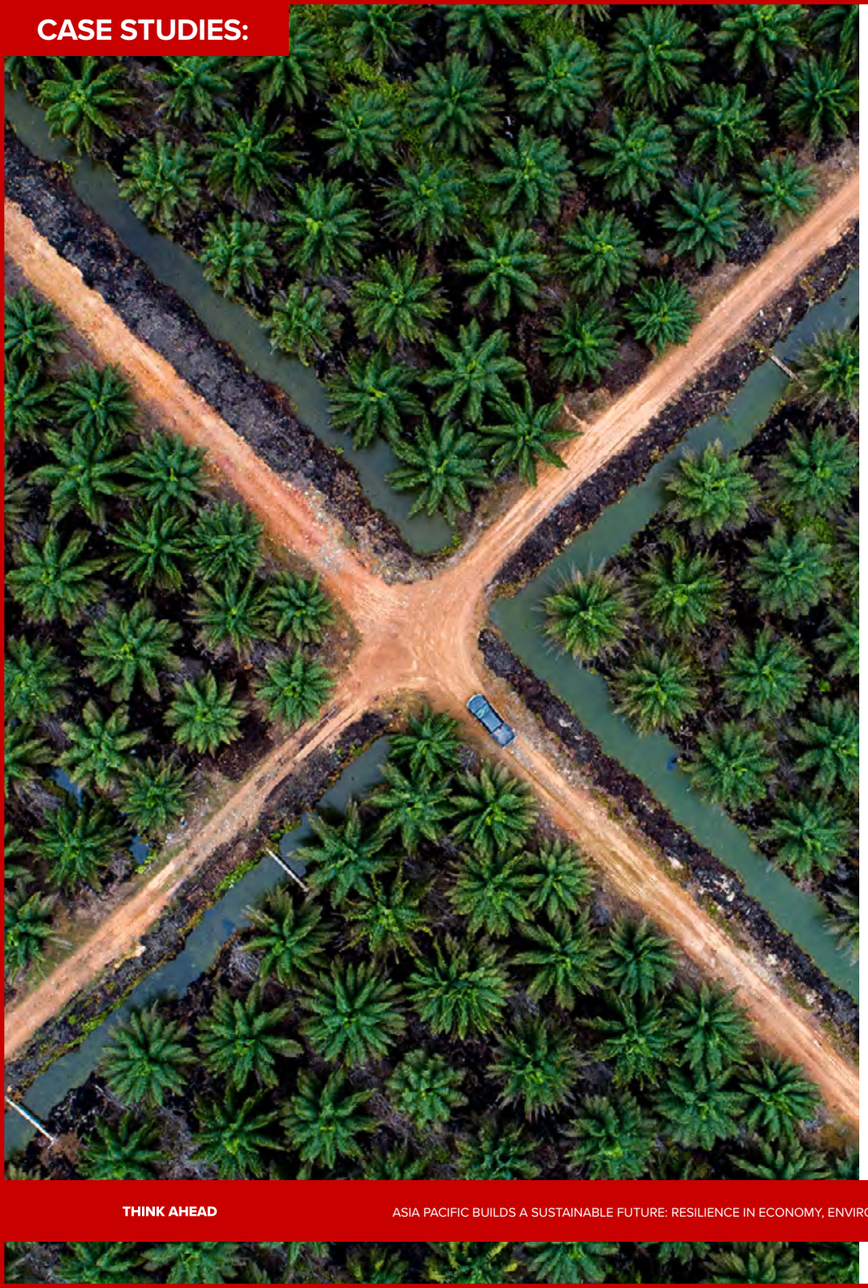
Anonymised quote from an interviewee

4.3 Central banks and financial institutions are driving the agenda

Central banks are, however, playing an important role in putting nature on the financial system agenda. The Network of Central Banks and Supervisors for Greening the Financial System (NGFS) – launched at the Paris One Planet Summit on 12th December 2017 – releasing a new package of tools in 2026 on data, scenario-modelling, and supervisory notes. This builds on its 2024 conceptual framework, which aimed to help central banks and supervisors integrate nature-related risks into their work to help strengthen the resilience of the financial system (NGFS, 2026).

Bank Negara Malaysia – in its joint report with World Bank and United Nations Development Programme's Biodiversity Finance Initiative (UNDP, BIOFIN) in June 2026 *LEAP for Nature* report – found that: 'as at end-2024, 54% of commercial loans were directed to sectors with high or very high dependencies on ecosystem services, while 36% of loans were to sectors with high or very high impacts on nature'. Palm oil and construction stands out as significant sources of exposure (Word Bank, 2026b).

The Hong Kong Monetary Authority asked banks in 2020 to assess their readiness in climate risk as well as environmental risk management, covering risks from environmental degradation – eg air pollution, water pollution and scarcity of fresh water, land contamination, reduced biodiversity, and deforestation (FSB, 2024).



Addressing of nature-related risks by banks in Asia Pacific.

CIMB

CIMB – a Malaysian bank with operations across ASEAN – integrates climate and nature-related considerations into its sustainable finance approach, with a focus on sectors with significant land-use impacts such as palm oil.

Deforestation and nature-related risks are addressed through its Group Sustainable Financing Policy, and its Sustainability Sensitive Sector list and Guidance document for high-risk commodities. For the palm oil sector, they apply sustainability criteria to assess risks such as deforestation and land-use change, as well as expectations on traceability and supply chain disclosure.

Since 2022, CIMB has required all of its palm oil clients to adopt No Deforestation, No Peat, No Exploitation (NDPE) principles as a baseline for financing. Such clients are also expected to be certified under national schemes such as MSPO/ISPO, while international standards such as RSPO are encouraged.

In 2025, CIMB further strengthened its approach by introducing requirements for traceability to plantation level, a defined deforestation cut-off date, and sustainability standards that apply across both client operations and third-party suppliers.

These requirements are complemented by human rights safeguards such as free, prior and informed consent (FPIC) and grievance mechanisms.

Mizuho Financial Group

Mizuho Financial Group was among the first banks in Asia to combine climate and nature-related reporting within a single disclosure framework.

Through its Climate & Nature-related Report, the bank aligns climate and nature considerations under a common governance, strategy, risk management, and metrics structure – reflecting the interconnections between climate change, biodiversity loss, and natural capital degradation.

(UNEP-FI, 2026)



4.4 Thematic focus: Water as a 21st century risk and opportunity

Water is indispensable to life and to the economy. It is both a basic human right and a foundation for sustainable growth.

Water is also both a cause and consequence of climate change. The Global Commission on the Economics of Water (GCEW) states that: 'degradation of freshwater systems in many parts of the world, including loss of moisture in soil, is a driver of climate change and biodiversity loss, which in turn is causing more intense and frequent droughts, floods, heatwaves and wildfires'.

Using its own simulation model, GCEW estimates that the combined effects of changing precipitation patterns and rising temperatures due to climate change, declining total water storage, and lack of access to clean water and sanitation – imply that high-income countries could see their GDPs shrink 8% by 2050 on average, while lower-income countries could face even steeper declines of between 10% and 15% (GCEW, 2026).

Floods alone accounted for more than half of the 7.2 billion people affected by disasters in the Asia Pacific region from 1970 to 2024. Of the US$3.11 trillion in economic losses caused by disasters in the same period, floods are the leading cause (33%) (UNESCAP, 2025b).

'Combined effects of changing precipitation patterns and rising temperatures… together with declining total water storage and lack of access to clean water and sanitation… high-income countries could see GDPs shrink by 8% by 2050… while lower-income countries could face even steeper declines of between 10% and 15%.'

The Economics of Water – valuing the hydrological cycle as a global common good, GCEW, 2026

This narrative should, however, be balanced by the tremendous progress that has been made by governments in the region. According to the Asian Water Development Outlook (AWDO) 2025 by ADB, about 2.7 billion people have been lifted out of extreme water insecurity in the region over the past 12 years. In India, 840 million people have better water, sanitation and hygiene (WASH) services from government programmes – while in China, investments in flood control, weather systems, and emergency responses have significantly enhanced resilience to water-related disasters (ADB, 2025b).



Since 2008, Singapore has also played a crucial role in bringing greater attention to water-related risks and opportunities through its biennial Singapore International Water Week – providing a global platform for innovation and solutions on urban water and coastal issues.

Water-related disaster risks in Asia Pacific are occurring more rapidly than mitigation and adaptation efforts. ‘Between 2013 and 2023, the region experienced 244 major floods, 104 droughts, and 101 severe storms. These disasters reverse development gains, disrupt economies, degrade ecosystems, and erode community resilience.

‘South Asia faces extreme heat and shifting rainfall, threatening agriculture and amplifying drought stress. Glacial retreat in the Hindu Kush Himalayas (HKH) endangers water supplies for 2 billion people downstream, who rely on snow-fed rivers for irrigation, hydropower, and drinking water’ (ADB, 2025b).

Yet, as set out in Section 4.1, the number of businesses in Asia Pacific that regard nature-related issues as material to their businesses or integrate them into their overall risk management frameworks appears exceptionally low. This needs to change if the region is to have any chance of addressing water security as an economic resilience and social stability issue.

4.4.1 Turning disaster into opportunity

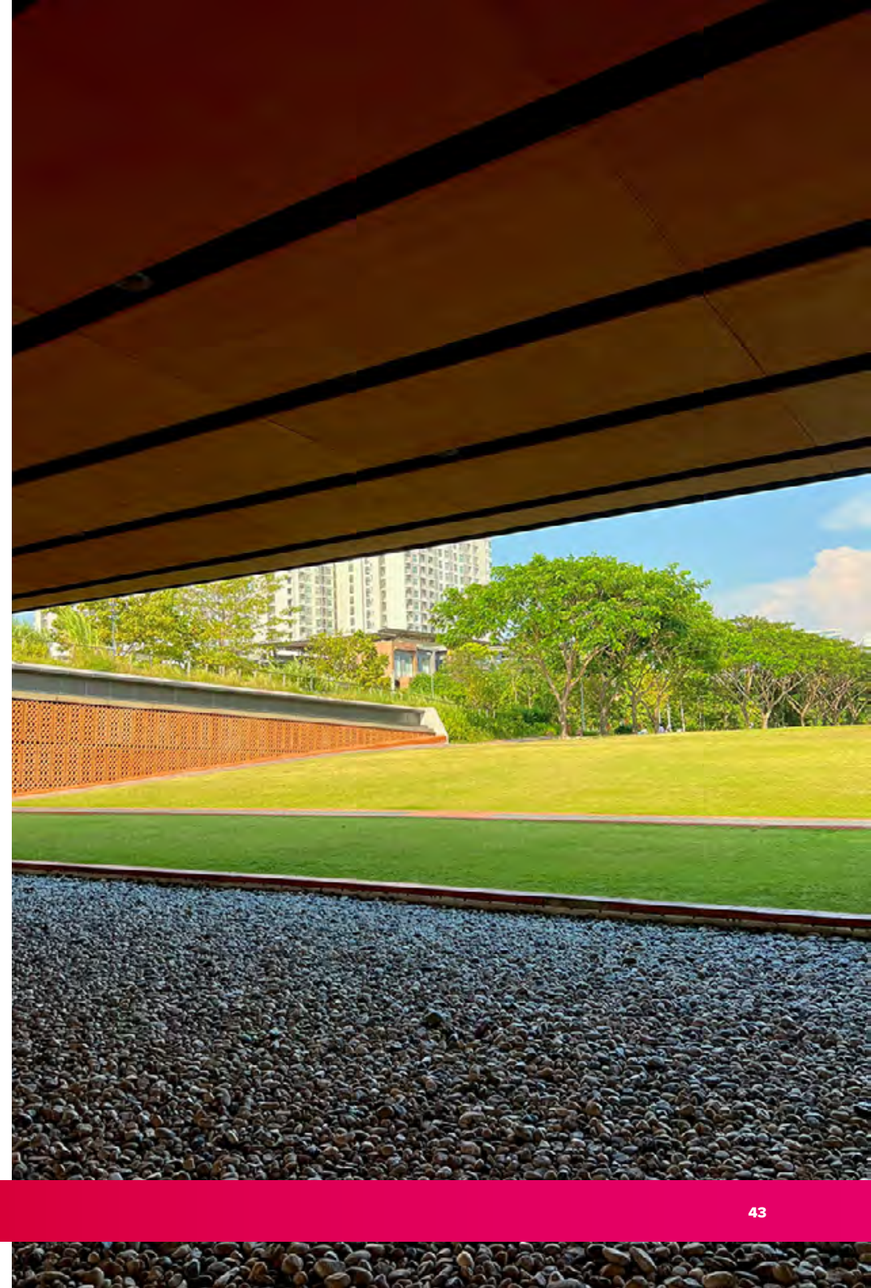
Several positive developments have nonetheless emerged in the region. ‘Sponge cities’ – using permeable pavements, bioretention ponds, wetland restoration, and floodable infrastructure – are being developed in several parts of Asia Pacific. Regional resilience against flooding is changing.

The notion of ‘flood as industry’ may sound controversial or even insensitive, but it points to a deeper resilience logic: if the periodic recurrence of floods cannot be stopped (due to continued warming), city infrastructure should not target ‘never flood’ – rather ‘recover faster from flooding, and even benefit from it’.

EXAMPLE:

Centenary Park, Bangkok

In Bangkok, the Centenary Park demonstrates this mindset change. It acts as a floodable park capable of retaining millions of litres of water during storms – while functioning as an ordinary recreational park on dry days, with walkways, playgrounds and gardens.



4.4.2 China sets an example in decoupling GDP growth from water usage

China's approach to water as a matter of national security is instructive. It consolidated its water-management authority from nine ministries into a single 'super-ministry' and tied water use targets to GDP growth targets – creating a globally rare 'hard-constraint' governance model.

In its analysis of China's 15th Five Year Plan 2026-2030 (15FYP), China Water Risk (CWR) – a think tank on water that focuses on Asia Pacific – highlighted:

- Decoupling water and economic growth has been a top priority for China since the 12FYP (2011-2015). By the 13FYP (2016-2020), GDP as a key progress indicator was deprioritised and 'waternomic' targets introduced.
- These multi-FYP efforts paid off and led to a decoupling of water use and economic growth in China since 2019.
- Since the introduction of the national water caps in 2012, water use fell by 3.2% – from 613 billion m^3 in 2012 to 593 billion m^3 in 2024 – while GDP more than doubled from CNY55 trillion to CNY135 trillion for the same period.
- A 3.2% fall in water use may not sound substantial, but it translates to 20 billion m^3 – approximately 1.2x the annual water use of Australia in 2024. The increase in GDP of CNY80 trillion is around 6.5x the 2025 GDP of Australia for the same year (CWR, 2026).

'Chinese companies are very advanced, just in different ways – waterless dyeing, ultra-efficient water use, zero liquid discharge (ZLD), and so on.'

Anonymised quote from an interviewee

EXAMPLE:

Significant coal-to-liquid project

One example of this is Aquatech – which built a ZLD plant for a coal-to-liquids project for Shenhua Ningxia Coal Industry Co. Ltd., a division of Shenhua Group, one of China's biggest coal producer.

The ZLD plant recycles over 55 million litres per day and eliminates wastewater discharge entirely.



4.4.3 Water-Energy-Food-Health nexus

Drawing on UNESCAP's Water-Food-Energy Nexus in Asia Pacific discussion paper in 2013, we propose adding a fourth component – Health. Figure 4.2 describes a number of factors relevant to each category. These are not intended to be exhaustive, but to show how a single resource matters fundamentally to the economy and to the lives of people.

This further underscores how important water and, by extension, nature is to our lives and livelihoods.

Figure 4.2 **Water connects the region's economy, energy security, food systems and public health across APEC economies**



- **Semiconductor supply chains exposed:** Fabs concentrated in basins facing high water stress by 2030 – threatening a region that supplies most of the world's advanced chips.
- **Protection gap is severe:** The vast majority of APAC's water-related economic losses remain uninsured – leaving governments and firms to absorb the shock.
- **Flooding is the costliest peril:** Extreme weather losses run into the hundreds of billions annually, with flooding far outweighing cyclones, drought and heat combined.
- **Tourism, trade and industry at stake:** Coastal megacities and export industries depend on stable, clean water for continued operation and growth.



- **Hydropower and thermal plants vulnerable:** Reservoir-dependent power generation across the Mekong and South Asia is exposed to shifting monsoons and prolonged drought.
- **Cross-border tension over shared rivers:** Upstream dam-building on transboundary rivers strains relations between neighbouring economies dependent on the same basins.
- **Desalination is energy-hungry:** Water-scarce states are turning to reverse osmosis and recycling – trading water security for higher energy demand.
- **AI and data centre growth adds pressure:** Rising compute demand is pushing water-intensive cooling and fabrication into already water-stressed basins.



- **Irrigation dominates regional water use:** Agriculture accounts for the large majority of freshwater withdrawals – leaving farmers most exposed when supply tightens.
- **Undernourishment remains concentrated:** The region accounts for the largest share of the world's food-insecure population, led by South and Southwest Asia.
- **El Niño cycles disrupt staple crops:** Palm oil and rice yields are hit hard by drought years, with effects on production lagging months behind the weather itself.
- **Virtual water trade shapes vulnerability:** Countries dependent on food imports are indirectly exposed to water stress in the exporting nations that grow their food.



- **Untreated wastewater widespread:** A large share of the region's wastewater is discharged untreated – contaminating rivers relied on for drinking water.
- **Vulnerable groups bear the burden:** Informal workers, smallholder farming communities and women in agriculture face the most direct and least protected exposure.
- **Waterborne and heat-linked illness:** Contaminated supply and rising temperatures compound each other – straining public health systems across the region.
- **Sanitation access still incomplete:** Hundreds of millions across the region still lack access to safe water and effective sanitation services.

4.4.4 Implications for business and finance leaders

At an entity level, business and finance leaders should critically evaluate the importance of water throughout their value chain. This includes water's critical role in the production process as well as in energy or electricity generation. Assets that are close to flood risk areas or in coastal areas could be affected by sea-level rise (SLR).

Workforce, customers and communities may also be affected by water risks. Essentially, water therefore needs to be considered in corporate risk registers and risk management tools to evaluate water risk may need to be enhanced. As one of our interviewees commented: 'Asia's manufacturing, agricultural and supply chain role places water risks beyond the location of corporate headquarters. Multinational companies may be exposed to suppliers in China, Viet Nam, Thailand, and other Asian economies – even when their own facilities are elsewhere.'

Water stewardship

Companies should also go beyond water risk management regarding permits, water supply, and wastewater treatment to ensure operational continuity. Water stewardship should be adopted as it extends to the company's effect on watersheds, ecosystems and communities.

Stewardship addresses longer-term business resilience and shared watershed conditions. Replenishment projects, community engagement, and collective watershed initiatives belong to this broader approach. These need to be reflected in budgets, capital allocation, risk registers, valuation, and investment decisions.

4.4.5 Cryosphere: Why does it matter to Asia-Pacific

The cryosphere refers to glaciers, snow and permafrost. It holds the vast majority of Earth's freshwater. This is why the HKH mountains are referred to as the 'Water Towers of Asia' or the 'Third Pole'. They act as natural regulators – storing water in cold seasons and releasing it in warm periods. Ice loss in the HKH has doubled since 2000.

A 2025 report by CWR and the Institute of Geographic Sciences and Natural Resources Research (IGSNRR) under the Chinese Academy of Sciences (CAS), found that the 10 HKH rivers support 1.96 billion people and US$10.3 trillion worth of GDP across 16 countries. Power assets generating 865W are located in these basins – which can power approximately 750 to 800 million average homes for a full year. Of the 10 HKH river basins, 41% now face high or extremely high water stress and are arid.

Based on the world's current emissions path, CWR and IGSNRR-CAS project that up to 70-80% of glaciers could be lost – representing 5.5 trillion m3 of water losses by 2100 in the HKH region (CWR & IGSNRR-CAS, 2025).

In terms of polar ice sheets, a 1m of SLR across Asia by 2070 is estimated to put 200 million people at risk. Under a 2°C scenario, which cannot be ruled out, polar ice sheets may melt in nearly all of Greenland, much of West Antarctica and even parts of East Antarctica (CWR, 2025).

Collectively, the cryosphere supports billions of people and trillions of GDP, all of which is under tremendous risk. Antarctica, for example, is closer to Asia Pacific than it is to the Global North – yet cryosphere rarely gets the attention it deserves amongst policy debates relating to climate and nature risks.



4.5 Extreme heat: why should we pay heed

According to the World Meteorological Organization, Asia is warming at twice the global average (WMO, 2025). Driven by a 'Super El Niño', 2026 is expected to be one of the hottest years on record, and likely to strengthen through the year end. Across Asia Pacific, several Asian cities have recorded temperatures above 40°C.

Extreme heat is becoming a systemic risk to labour markets, infrastructure, supply chains, and economic growth.

Effects include:

- **health, labour and economic productivity** (eg agriculture, construction and tourism industries where activities are primarily outdoors)
- **additional energy load on grids that are already under strain**
- **water scarcity**
- **deepen existing inequalities**
- **impacts on government revenue and borrowing**.

Figure 4.3 **Impact of heat on business, society and governments**



4.6 How are governments and businesses in Asia responding?

The following examples demonstrate a willingness and an ability to address the impacts of heat, although more needs to be done.

- **Regional policy infrastructure:** The ASEAN Centre for Energy (ACE) and UNEP, through the Cool Coalition and UN Women's EmPower programme, launched a *Roadmap for Extreme Heat Protection through Passive Cooling* in April 2026. It promotes a 'Passive First' design philosophy that prioritises reducing cooling demand before applying active cooling solutions – eg natural ventilation, reflective roofs and high-performance building envelopes (UN Women, 2026).
- **Market-based risk transfer:** India's parametric heat microinsurance aims to support Indian women workers in the informal sector by covering wages lost due to extreme heat. A programme from the Self-Employed Women's Association, Climate Resilience for All, Swiss Re, and ICICI Lombard has insured over 21,000 informal women workers across five Gujarat districts. Payouts are automatically triggered when temperature thresholds are breached – regardless of proof of loss (Dias, 2025).
- **Research infrastructure:** Singapore's NUS has been designated a Southeast Asia hub for global heat-health information exchange to research into how rising temperatures affect health and productivity in the region (NUS, 2025).



Key reflections.

- Nature is the breadbasket of the economy – globally, and especially in Asia. More needs to be done to protect it and preserve its value-creation ability.
- Disclosures on nature-related risks and opportunities are low, although this is progressing and should ramp up when ISSB issues its Practice Statement on BEES.
- Central banks and financial institutions are driving the agenda as they recognise the systemic effects of businesses' dependencies and impacts on nature.
- Water and heat are likely to be major issues for the region to address in this century – including flooding, drought and melting glaciers.
- The Water-Energy-Food-Health nexus demonstrates how a single resource affects so many areas – yet remains mispriced in financial statements and in economies.
- Water, climate and nature must be managed together and not treated as siloes.

Recommendations.

To business and finance leaders:

- Put significant nature risks and opportunities, specifically water, on the corporate risk register.
- Analyse business and supply chain exposure to nature-related risks, including:
  - water availability and quality
  - flood, drought and sea-level exposure
  - impacts on communities and ecosystems
  - dependencies across suppliers and customers.
- Transition from water risk management to water stewardship by investing in water replenishment projects and technologies, engaging with affected communities, and collective watershed initiatives in partnership with the public sector.

To policymakers and public sectors:

- Establish accurate, consistent, publicly accessible data on nature, specifically water.
- Develop common or sectoral guidance for physical water-risk assessment.
- Align with ISSB's Practice Statement when issued to ensure that nature-related risks and opportunities are adequately addressed through governance, strategy and risk management, metrics and targets.
- Address and raise the risks of the cryosphere – from melting glaciers to polar ice – within intergovernmental policy dialogues.



5. Business and human rights

5.1 Importance of business and human rights in the context of Asia Pacific

Asia Pacific is vital to the world’s manufacturing, textile, agriculture, and technology supply chains. However, some of the most severe social-related risks – such as forced labour, child labour, unsafe working conditions, exploitation of migrant workers, and not paying a decent wage – occur deep within the lower tiers of these supply chains.

Forced labour is set out in ILO Forced Labour Convention, 1930 (No. 29) as: ‘all work or service, which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily’. While forced labour exists in all regions across the world, more than half the global estimate in 2022 was found in Asia and the Pacific. It is a major issue in the region – with ILO estimating that more than 11 million people are victims of forced labour (2018).

The impressive economic expansion in Asia Pacific – especially during the globalisation era – was primarily predicated on export-led growth supported by cheap and abundant labour. In several markets in Asia Pacific, such as Malaysia, Thailand and Singapore, there is a heavy reliance on cross-border migrant workers from poorer neighbours, eg Myanmar, Nepal, Bangladesh, and Indonesia.

Economic models over culture

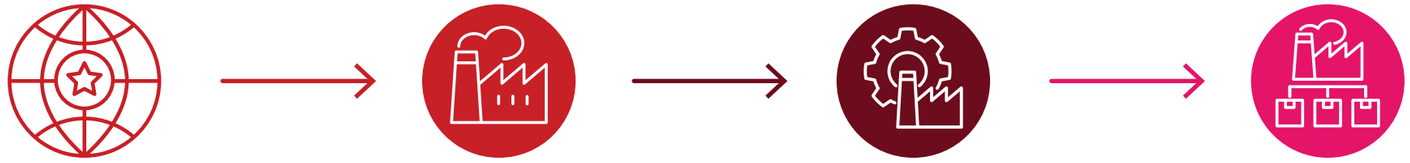
As part of its efforts to eradicate poverty, for decades many governments in the region offered incentives to attract foreign investment from Western and domestic multinationals. These have included cheap land, tax holidays, artificially lowered wages to remain globally competitive, weak enforcement of labour law, and restrictions on trade unions.

The problem is worsened by how global supply chains have been structured with hyper-fragmented subcontracting (see Figure 5.1).

The human rights abuses that occur in Asia Pacific supply chains are rarely because Asian values are inferior, different, or disregard human rights. Trade unions, civil society organisations, and workers often do stand up and speak up when human rights are infringed.

Instead, the key issue involves economic models where both local governments and global brands are incentivised to prioritise lowering costs and accelerating product or service delivery – with humans in the ecosystem often having to pay the price.

Figure 5.1 **Supply chain with hyper-fragmented subcontracting**



Global brand
Contracts production to a Tier 1 supplier based in say Malaysia or Viet Nam

Tier 1 supplier
Who may then subcontract work or require components from a Tier 2 supplier

Tier 2 supplier
Either in their markets or in another geography

Tier 3 supplier
May obtain raw materials from another supplier or use informal workshops

‘The key issue involves economic models where both local governments and global brands are incentivised to prioritise lowering costs and accelerating product or service delivery – and humans in the ecosystem often have to pay the price.’

5.1.1 UN Guiding Principles on Business and Human Rights

The UN Guiding Principles on Business and Human Rights (UNGPs) were developed in response to large governance gaps around corporate accountability for human rights abuses. These gaps arose in part from the growth of multinational companies operating across complex global supply chains, which had grown larger and more powerful than many national governments – as well as the lacuna and laxity in how those governments protected human rights.

The UNGPs – unanimously endorsed in 2011 by the UN Human Rights Council – are the authoritative global standard for both governments and businesses with regards how they should address business and human rights (B+HR). They cover:

- **State duty to protect:** governments must protect people within their territory from human rights abuses caused by businesses.
- **Corporate responsibility to respect:** businesses must avoid harming human rights through their operations and supply chains.
- **Access to remedy:** victims of business-related human rights harms must have access to effective relief.

Several countries in Asia Pacific have since begun to adopt UNGPs into local policy commitments and laws.

5.2 A regional wave of National Action Plans on B+HR is reshaping the agenda

National Action Plans (NAPs) on B+HRs represent a critical policy instrument through which governments implement the UNGPs. They signal a government's policy commitment and strategy to managing and regulating B+HR issues within a national context. These may include the protection of workers, children, women, indigenous people, persons with disabilities, and the environment, although this may differ across countries.

As of March 2026, the ILO's report, *National Action Plans on Business and Human Rights: A Guide for Employer and Business Membership Organizations*, states a total of 14 countries in Asia Pacific 'have initiated UNGPs implementation efforts.

Eight countries have active standalone NAPs (Thailand, Japan, Pakistan, Mongolia, Viet Nam, Nepal, Indonesia, and Malaysia). Two countries integrate BHR commitments into national human rights strategies (the Republic of Korea, the Philippines). Two countries are currently developing NAPs (the Philippines, Lao PDR) while Cambodia is integrating BHR principles into its trade policy framework. One country has paused its NAP process (India).

Several Asia Pacific governments are considering or advancing mandatory human rights due diligence (HRDD) legislation,' (ILO, 2026). This latter category includes South Korea, Indonesia and Thailand – which is significant as it signals a groundbreaking attempt to rewrite the business models that cause these problems.

China released a new national human rights action plan at the opening of the 2026 Forum on Global Human Rights Governance (2026-2030). The plan represents a significant step forward in China's approach to B+HR. It references the UNGPs and the new expectations apply more broadly to Chinese enterprises operating both domestically and internationally (BHRC, 2026a).

Progressive implementation – not minimum compliance

From our interviews, several participants advocated that businesses should not wait for national legislation or complete organisational capacity before acting. Instead, business leaders were encouraged to begin their human rights due diligence journey, identify implementation challenges, and develop practical mitigation plans.

Localise UNGPs rather than treat them as foreign requirements

One interesting idea shared by an interviewee involved not just translating UNGPs into local languages – but as concepts that are meaningful in respective national and cultural contexts.



5.3 Implications of EU directives on Asia Pacific

In March 2026, the EU Omnibus I Directive ((EU) 2026/470) became effective –significantly simplified and narrowing the scope of its CSRD and the CSDDD. For B+HR, they have adopted the voluntary UNGPs into binding hard law for large companies operating in the EU market.

Asia Pacific corporations that are part of the supply chain of in-scope EU companies risk losing contracts if there are unmitigated severe human rights issues. Businesses in Asia Pacific should already identify their EU customers and determine if they are in-scope. Where relevant, they should start their own human rights due diligence processes to identify and address human rights risks.

However, many businesses excluded from CSRD scope will continue sustainability reporting. In a survey conducted by osapiens from the period December 2025 to January 2026 – involving 403 senior decision-makers in UK and Europe – 90% of companies excluded from CSRD scope state that they plan to continue sustainability reporting (osapiens, 2025).[4]

Governments in Asia Pacific should therefore monitor which enterprises and industries in their markets are likely to be subject to these requirements and offer support at an industry level.

'ASEAN represents the EU's third-largest trading partner outside Europe (after China and the US) – with approximately €275bn of trade in goods in 2025. While the EU is also ASEAN's third largest trading partner after China and the US, accounting for 9.6% of ASEAN trade in 2024' (EC, nd).

Table 5.1 **Key changes to sustainability reporting and assurance**

	CSRD (THE 'LENS')	CSDDD (THE 'HAMMER')
Primary goal	Disclosure of material sustainability impacts, risks and opportunities in their own operations and value chains. The detail on what companies must report is set out in the ESRS.	■ Businesses must identify actual and potential human rights and environmental harms caused by their operations, and the operations of subsidiaries and by partners within their chain of activities. ■ Where harm to people and planet are identified, companies must take steps to address these. For example, by agreeing action plans with suppliers to make sure the human rights of workers are being protected.
Scope	■ EU companies with a turnover of €450m or more, and over 1,000 employees ■ Non-EU companies with a turnover greater than €450m from their operations in the EU, or if they have an EU subsidiary or branch with more than €200m in annual turnover	■ EU companies with a net annual turnover greater than €1.5bn, and more than 5,000 employees ■ Non-EU companies with a turnover greater than €1.5bn from their operations in the EU
Timeline	For financial year starting on or after 1 January 2027, which effectively means the report should be published in 2028	CSDDD applies to every single in-scope company from 26 July 2028. The first reporting financial year starts on or after 1 January 2030.
Penalties and civil liability	Delegates penalty amounts to individual EU member states that are effective, proportionate and dissuasive.	Penalties for non-compliance are limited to a maximum of 3% of net worldwide turnover, and civil liability is narrowed by deferring to national law

Source: Shift and Accountancy Europe 2026

4 The survey did not address CSDDD.

The EU is also the third-largest investor in ASEAN (ECCEU, nd). China, Japan and South Korea are also major trading partners with the EU (Eurostat, 2025) – collectively, the region is likely to be impacted by CSRD and CSDDD, although the exact number of companies and the scale of impact is difficult to ascertain at this stage.

The interviews we conducted described B+HR as advancing in the region, but still driven primarily by market access, regulation, and reputational risk rather than internalised business values. Operational implementation of human rights due diligence however has proven difficult, particularly for smaller and medium-sized enterprises.

5.3.1 Priority issues include labour rights, wages and marginalised groups

Concerns raised by interviewees extend beyond reporting. The main B+HR issues centred on forced labour, migrant workers, ethical recruitment, living wages, community rights, discrimination, and the unequal distribution of responsibility between Asia Pacific suppliers and international buyers. However, it was also observed that companies tend to select less politically sensitive topics.

'Some will talk about LGBTI, others will not. So I think they're not even looking at those. They are taking a pick and choose approach.'

Anonymised interview comment

Living wages was identified as a particularly important but unresolved issue. The challenge is not simply whether suppliers raise wages, but whether buyers adjust prices, payment terms, and purchasing practices – so that improved labour conditions are commercially viable.

Interviewees also expressed concern about rights relating to Indigenous Peoples, local communities, caste-based discrimination, and broader social impacts. These issues receive less attention when they are harder to quantify or less visible in conventional compliance systems.



5.3.2 Shared responsibility in preventing and addressing human rights issues

A consistent concern raised by interviewees was whether the obligations of the EU's directives could disproportionately burden Asia Pacific suppliers through 'risk-shifting' – rather than it being a shared responsibility with EU international brands and buyers, as envisaged by the EU directives.

'Risk-shifting is effectuated through contracts that demand perfect compliance with a Supplier Code of Conduct (SCoC) and one-sided obligations that ignore the buyers' own responsibility to avoid contributing to adverse HRE impacts through their own purchasing practices' (Dadush, Schönfelder, 2026).

As one interviewee explained:

'Responsible purchasing practices should be addressed contractually, including payment periods, cancellation rates, and price reductions.'

The participant supported establishing shared industry-level terms – rather than leaving individual Asia Pacific suppliers to negotiate from a position of limited economic power.

'The core defect of traditional contracts lies in a combination of requiring the supplier to be perfect while ignoring the buyer's role in causing adverse impacts. For example, the SCoC will often require a supplier to pay its workers a living wage. Simultaneously, however, the buyer's procurement team might implement supplier selection strategies that prioritise low cost and speed over labour conditions – often ignoring labour costs altogether.

'Indeed, suppliers often complain that "buyers want gold human rights standards, but they are not even willing to pay a bronze price". It is difficult to square this circle without buyers taking on some amount of responsibility for standards adherence, including through cost-sharing. Because traditional contracts tend to place all liability for labour violations squarely on the supplier – the buyer remains legally protected in the contractual relationship even when they are the economic cause of the breach' (Dadush & Schönfelder, 2026).

Asia Pacific suppliers to EU in-scope buyers should be aware that CSDDD was designed to ensure shared responsibility. A one-sided contract that includes no Human Rights and Environmental Due Diligence (HREDD)-related obligations for the in-scope company falls short by ignoring the latter's responsibility to avoid jointly causing impacts. Contracts should therefore include HREDD-related commitments and instructions for both parties, not only the supplier' (Dadush, Schönfelder 2026).

Interviewees were also concerned about a 'race to the bottom' mentality – where if one supplier or country raises standards, such as on living wages, it could lose business if buyers don't provide corresponding support.

The response needed from Asia Pacific is more collective representation and negotiation by industry groups, which will only be stronger if they are part of cross-border initiatives. The Sustainable Terms of Trade Initiative (STTI) is one example, says Liang Xiaohui, Adjunct Professor on Business & Human Rights, Peking University Law School.

'One of the most challenging issues... is the irresponsible, unethical, and unsustainable purchasing practices by international brands and buyers.'

Liang Xiaohui, Adjunct Professor on Business & Human Rights, Peking University Law School

CASE STUDY:

STTI – a cross-border, collaborative approach towards creating fairer purchasing practices in the textile and garment industry.

STTI is a supplier led initiative focused on creating fairer purchasing practices between buyers (brands/retailers) and manufacturers in the textile and garment industry. STTI is led by the Sustainable Textile of the Asian Region (STAR) Network, the International Apparel Federation (IAF), and the Better Buying Institute with support from GIZ FABRIC (a German development cooperation project).

The initiative comprises 13 industry associations from 10 countries facing similar purchasing challenges in the industry – Indonesia, Viet Nam, China, Cambodia, Myanmar, Bangladesh, India, Pakistan, Türkiye, and Morocco.

STTI was part of a two-year Learning and Implementation Community (LIC) with 35 garment brands, manufacturers, experts and brands sharing learning, trialled improvements in Responsible Purchasing Practices (RPP), and exchanged experiences. As a result, many participating brands now have better understanding on the impact of their purchasing practices on suppliers – alongside improved two-way communication and joint problem solving activities.

5.4 Emerging developments on social and inequality related disclosures

The Taskforce on Inequality and Social-Related Financial Disclosures (TISFD) is a global initiative that was launched in early 2025 to develop recommendations and guidance for businesses and financial institutions – to understand and report on impacts, dependencies, risks, and opportunities related to people. The goal was to incentivise business and financial practices that create stronger, more resilient societies and economies (TISFD, nd).

The TISFD aims to builds on existing standards – including ISSB, Global Reporting Initiative (GRI), and ESRS – to reduce duplication while enhancing coherence across reporting frameworks. It recently released Beta Version 0.1 of its framework and is processing feedback from the consultation process, which closed on 31 July 2026. There will be a 90-day public consultation on its final draft, before its final recommendations are published in 2027 (TNFD, nd).

Finance and accountancy leaders, particularly in Asia Pacific, should pay close attention to the developments in this space and engage actively in the consultation on the final draft.

ISSB's update on its work on human capital indicates that potential disclosures may cover 'workforce size, composition, compensation, engagement, turnover, training and development, working conditions and health, safety and wellbeing, among other possible topics'. It does not explicitly address whether disclosures about human rights in the context of business will be included.



5.5 The importance of living wages in addressing human rights in business

Finance and accountancy leaders can play a critical role in promoting decent or fair wages – rather than focusing only on minimum wages.



ACCA's 2024 joint research with Mazars LLP and Shift Project Limited (Shift) *Living wage: Ensuring fair and sustainable wages for all*, found that paying a living wage is important and linked to sustainability – given the continued rise in cost of living for many years, and the systemic risks involved with inequality globally.

However, there remains a gap in expectations around supply chains that needs improvement – while 86% of survey respondents felt that their organisation should pay a living wage ***to its own employees***, only a minority believe their organisation was responsible for encouraging suppliers to do so – with Tier 1 at 34%, falling off considerably in Tier 2 (15%) and Tier 3 (12%). This limited perspective lends to supply chain social risks and needs to change.

Living wages can also serve as a major socioeconomic multiplier that provides benefits across the ecosystem – for workers, employers, economies, and governments (ACCA, Mazars LLP and Shift, 2024).

Figure 5.2 **Socioeconomic multiplier benefits from a living wage**



Source: ACCA, Mazars LLP and Shift, 2024

Key reflections.

- Recent yet significant policy development in Asia Pacific on B+HR is increasingly aligned with UNGPs.
- Fifteen Asia Pacific countries have initiated UNGPs implementation efforts, either through standalone efforts or by integrating it into national strategies. China's new policy – requiring Chinese businesses to address B+HR considerations in their internationalisation efforts – adds impetus to regional development.
- The EU's CSRD and CSDDD will create regulatory-driven market access pressure for Asia Pacific companies that are part of supply chains of in-scope EU entities.
- Progress on B+HR implementation is uneven – and some SMEs are likely to face difficult implementation challenges.
- Industry collaboration across the region will strengthen Asia Pacific businesses' ability to work with EU businesses in ensuring responsible procurement practices and avoiding the risk of a 'race-to-the-bottom'.

Recommendations.

To CFOs and business leaders:

- Conduct a human rights due diligence – address and mitigate the identified B+HR risks, and connect human rights performance with financial and operational resilience.
- Push cost-sharing into contracts explicitly to ensure that buyers must share remediation and preventive costs where they jointly caused the impact.
- Coordinate through industry bodies to negotiate collectively – including open costing models and wage floors – rather than leaving each factory to negotiate alone against a large buyer.

To policymakers and public sector leaders:

- ISSB should consider including disclosures about risks and opportunities relating to B+HR disclosures in its human capital work.
- Negotiate at a national and/or regional level (ASEAN and ASEAN +3) with the EU to insert reciprocal labour/human rights chapters with cost-sharing or technical assistance obligations attached.
- Fund SME upgrading so that suppliers aren't forced to absorb costs alone.



‘An open-weight model is an AI model whose core components are publicly released, allowing anyone to download it. This lets users run the model on their own computers, study how it works, and even modify it for their own specific needs.’

Standford HAI

6. Artificial intelligence (AI)

In July 2026, Shanghai hosted the ninth World AI Conference (WAIC). Among its developments were the launch of the World Organization for Cooperation in AI (WAICO) to promote better global governance over AI, the sharing of AI-driven meteorological early warning solutions to developing countries, and the launch Kimi K3 – an open-weight language model.

There are also interesting developments in creating an ecosystem of local models that reflect regional linguistic and cultural diversity – eg SEA-LION | Empowering Open Multilingual AI for Southeast Asia.

In ASEAN, more than US$50bn has been invested by hyperscalers in AI data centres and cloud infrastructure (McKinsey et al, 2026). ASEAN also recently concluded negotiations on a Digital Economy Framework Agreement (DEFA), which will be officially launched at the 49th ASEAN Summit in November 2026 (ASEAN, 2026).

At the World Humanoid Robot Games in Beijing in August 2026, robots with greater finger dexterity were showcased – triggering fresh possibilities on how such humanoid robots could be used in future. Japan – in response to an ageing workforce – plans to introduce about 10 million AI-enabled robots across 18 sectors by 2040 (NHK, 2026).

Together, these developments signal at a high-level – the accelerating deployment of AI in Asia Pacific.

6.1 The dual-use nature of AI

Against this backdrop of AI expansion, it's important to recognise that AI is a general-purpose technology[5] that is increasingly pervasive – not just in its adoption rates but also where machine learning (ML) and deep learning algorithms are integrated into a growing range of software.

AI's effects on business, environment and society depend on how it is designed, deployed and governed – rather than being an inherent property of the technology itself.

'AI is not inherently good or bad for sustainability. It is a multiplier. It amplifies whatever incentives are already in place. If the incentive is compliance minimisation, AI will produce compliance at industrial scale. If the incentive is a more sustainable impact, be it operational, financial or ecological – AI can be a powerful tool too. But design must precede the deployment.'

Naho Nakakubo, Chief Sustainability Officer at Tokyo-based Cierpa & Co and an expert advisor to the AI Governance Association in Japan

AI offers tremendous potential in driving a more sustainable future in Asia Pacific – ranging from value creation and preservation to enhancing the integrity of sustainability reporting.

Used well, AI can advance clean technology innovation and resource efficiency. The headline example is Google DeepMind's (GNoME) use of AI to discover 2.2 million crystal structures, including 380,000 stable materials that could power batteries and solar panels (Merchant, Cubuk 2023).

More immediately, AI can optimise resource use across operations – analysing production line efficiency, order processing, equipment utilisation, and energy consumption together to find efficiencies that human analysts might miss. It can also streamline carbon accounting and materiality assessment in reporting.

Other examples raised in interviews included analysing satellite imagery, detection of water leaks, climate risk planning, urban heat mapping, flood planning, water network maintenance etc. These solutions can help organisations better manage their risks while exploring opportunities for improved resource efficiency. See the case study on Xpeng.

Several interviewees describe the process of sustainability-related data collection as highly manual and resource intensive – which represents an opportunity for where AI can be leveraged.

'We spend... a bulk of our time... doing the cleaning up, I would say about 60% of the time [is spent] making sure that it's supported by evidence, even before we go into an assurance process.'

Anonymised comment from an interviewee



ACCA's *AI Monitor: Unravelling AI's role in sustainability* notes that: 'Advanced analytics and cloud-based solutions are improving how organisations collect and process environmental data, eg helping to automate and streamline carbon accounting and support sustainability disclosures, which can holistically facilitate both internal and external decision-making' (ACCA, 2024b).



At the same time, technology alone cannot resolve issues such as siloed working practices. As discussed in ACCA's *Sustainability reporting: The guide to preparation* – organisations need to take practical, incremental steps to improve their internal processes and organisation-wide connectivity.

More advanced technology does not necessarily mean higher quality data, either:

'They represent better data access, which is not automatically equal to better data quality. It just means the same information already existent is all in one place. Of course, hopefully, this will allow us to compare and sort out outliers – and through increased transparency, this will lead to better reporting in the long run.'

Fabiola Schneider, Assistant Professor in Accountancy & Ad Astra Fellow, University College Dublin (ACCA, 2024b)

5 'They are pervasive, improve over time, and lead to complementary innovation.' (Bresnahan and Trajtenberg 1995)

6.2 AI's impact on the environment may be influenced by Jevons paradox

AI is not environmentally free. The 'bigger is better' race to scale large models is applying pressure on global energy supplies and GHG emissions, especially in data centres that don't run fully on renewables.

Nakakubo also flagged concerns about efficiency gains from AI use being offset by additional demand. The underlying dynamic is often referred to as Jevons paradox – named after the 19th-century economist William Stanley Jevons – who observed that improvements in the efficiency of coal use in England did not reduce aggregate coal consumption, but increased it as lower costs expanded economically viable uses.

'The same principle can apply to AI: if a task becomes cheaper or faster to perform, organisations undertake more of it – and the resulting increase in volume can partially or fully offset the per-unit efficiency gain.'

Jevons paradox is relevant for policymakers to consider as demand for AI is likely to increase in the future, and its associated implications on energy and water use.

For CFOs and business leaders, AI business cases should be evaluated on total cost of ownership – including token or subscription costs, governance, training, security, etc. CFOs need to understand that even though cost per token has plummeted, larger or frontier reasoning models use a lot more tokens than older or smaller models. In addition, Agentic AI can consume significantly more tokens because they often rely on large amounts of context.

Cost can be managed with careful selection, design and using smaller models, which in many cases will be sufficiently capable.

According to the International Energy Agency (IEA): 'global electricity consumption by data centres is projected to reach around 945 TWh by 2030 – with China and the US accounting for nearly 80% of global growth. In China, data centre electricity consumption is expected to increase by around 175 TWh, compared with 240 TWh in the US. Electricity demand from data centres in ASEAN is expected to more than double by 2030 – mainly due regional hubs in Singapore and southern Malaysia'.

China's data centre electricity supply is currently dominated by coal – with a near 70% share, followed by renewables with nearly 20%. Between 2024 and 2030, coal remains the largest source of additional electricity for data centres in China – with annual generation increasing by nearly 90 TWh.' (IEA, 2025b).

'These concerns over AI's dependencies and impacts on resources – eg energy and water – are particularly important given the region's geographical challenges.'

Rapid AI expansion could create trade-offs in energy supply – between massive electricity demands and environmental or economic costs. These concerns also extend to the socio-economic dimension: whether AI infrastructure build out creates specific advantages to the host nation or merely provides a low-cost resource for global leverage. The latter risks Asia Pacific becoming a digital extraction zone – echoing the region's long experience in other extractive industries. How the region avoids this will be an important consideration for policymakers.

The potential impact on jobs and skills of the workforce should also not be underestimated. Previous technological revolutions have eventually contributed to economic growth and greater job creation overall. However, the potential and pace of change from AI – and its impact on job and skills transition – remains to be seen. Much depends on how both employers and employees, across both private and public sectors, upgrade and redefine their skills in the near future.

6.3 AI-related skills in the finance function



ACCA's *Global talent trends 2026* – drawing from more than 11,000 global survey respondents – found that **52%** report regularly using AI technologies. However, only **43%** say their employers provide AI-related upskilling opportunities.

While these findings are broadly consistent at an Asia Pacific level, in China, these numbers are higher – with **64%** regularly using AI technologies, and **56%** being provided with opportunities to learn AI-related skills. This highlights the comparative advantage that China finance and accountancy professionals have over their global and regional peers.



In another global survey of 1,600 finance professionals by ACCA and CA ANZ, *Enabling finance insight: Bridging skills and data gaps for AI-enabled finance*, **72%** of respondents reported low levels of GenAI skills – **38%** report only basic skills – and **34%** no experience at all. Yet these skills are widely expected to be critical for future success.

Our research also identifies a 'triangle of frustration' constraining finance teams' ability to extract value from data – data quality issues (**42%**), lack of appropriate skills (**43%**) and difficulty integrating multiple data sources (**38%**) – in Asia Pacific, with the skills gap being the element most directly tied to workforce planning (ACCA, CA ANZ, 2026).

CASE STUDY:

XPeng Motors: From ESG as an 'entry ticket' to a value amplifier for technology and safety.

XPeng's development as an intelligent-mobility company brings together AI, intelligent driving, and green mobility. As its products expanded to more than 60 countries and regions by the end of 2025, the company faced a challenge: scaling technological innovation while managing its implications for safety, ethics, privacy, and energy use.

At the ACCA China roundtable, XPeng argued that AI is changing how decisions are made. Intelligent systems can improve energy efficiency, recognise complex road conditions, and reduce uncertainty in driving – creating potential value in safety and mobility, as well as in product performance.

This approach is reflected in XPeng's product development. The company incorporated 'technology for all' into its corporate values in 2025 and introduced advanced intelligent-driving assistance system, **XPENG NGP** (Next Generation Pilot), in models priced below RMB150,000 – with the MONA M03 presented as one example.

XPENG NGP, powered by **VLA 2.0** model, is designed to recognise situations, such as traffic-police hand signals, children crossing the road, and pedestrians emerging from blind spots. Active-safety functions include automatic emergency braking (AEB), automatic emergency steering (AES) and assistance when a driver becomes incapacitated.

In 2025, XPeng reported that its intelligent-driving functions had avoided or reduced 376,504 accident risks, including 78,870 night-time scenarios. Total vehicle deliveries reached 429,445 – more than double the 190,068 vehicles delivered in 2024– indicating that intelligent-driving and safety capabilities were being deployed across a growing user base.

XPeng also recognises that expanding the application of AI introduces governance risks. In response, it has established mechanisms intended to connect technical development with oversight and compliance. The Information Security and Data Compliance Committee oversees AI safety and compliance, supported by information-security and data-compliance working groups. An AI Technical Committee jointly reviews relevant rules and work plans.

The company has formulated measures on AI safety and compliance and guidelines on the labelling and safety protection of AI-generated and synthetic content. These formal arrangements are supported by internal AI-literacy training, process controls and approval mechanisms. XPeng has also included a dedicated AI-governance section in its reporting, making its approach and responsibilities more visible.

6.4 AI governance

The rapid deployment of AI is occurring in the midst of a mixed policymaking approach towards AI governance in Asia Pacific.

According to Concordia's *State of AI Safety in China* July 2026 report, China's approach to AI safety and governance has evolved beyond content control. 'Much of China's early AI regulation in 2023 focused on what AI says. Throughout 2024 and 2025, the rise of multimodal models moved the regulatory focus toward images, videos, and audio – prompting strict rules around labelling AI-generated content.

'With the rise of autonomous agents and AI companion products over the past year, the concern has expanded to what AI does and what it does to people and society, from mental-health impacts to labour-market disruptions' (Concordia AI, 2026).

China is also proposing stronger multilateralism on AI governance – through the WAICO – while also supporting the UN's Independent International Scientific Panel on AI and the Global Dialogue on AI Governance.

Japan favours the Agile Governance model, developed by policy architect, Hiroki Habuka. It recognises that in a world changing more unpredictably than lawmakers can track, the entire system of social governance – not just AI rules – should be updated continuously, rather than being fixed by law. This approach, however, assumes that organisations will act in good faith and is based on voluntary compliance.

Singapore has adopted a unique approach. It has issued several Model AI Governance frameworks (2019, 2024, 2026) – addressing responsible AI use, hallucinations, bias, cybersecurity, systemic risks relating to large-language models (LLMs) etc. Its May 2026 model is regarded as the world's first comprehensive governance framework over autonomous AI agents. Singapore's real differentiator is AI Verify, which enables organisations to assess their AI systems through process checks and technical tests (OECD, nd).

ASEAN's DEFA is also set to be a basis for digital trade, harmonised data governance, cybersecurity and standards across the region – supporting a digital economy expected to reach US$2 trillion by 2030 (ASEAN, 2026). DEFA could become a major influence on global debates around responsible AI and support diffusion of technology across the region.

These approaches are not exhaustive, but they demonstrate that AI governance is taken seriously by several major policymakers and standard setters in Asia Pacific. They also showcase that organisations operating across several markets will have to contend with fragmented regulatory frameworks around AI governance.



Equally important, organisations should establish their own AI governance. ACCA and the Chartered Institute for Securities & Investment (CISI) published *AI Monitor: Shining a light on AI's ethical threats for finance professionals*, which explores the evolving intersection of AI and ethics in finance. It also provides examples for equipping professionals with both the technical fluency and ethical judgement to navigate a complex digital landscape (ACCA, 2025c).





Key reflections.

- AI deployment in Asia Pacific is accelerating.
- AI at its core is sustainability-agnostic. Its impact on the environment and society will depend on how it's used – whether to solve critical sustainability issues or for mere productivity gains.
- Asia Pacific governments prefer a more structured approach towards AI governance – although approaches range from comprehensive AI legislation to lighter touch, practical frameworks.
- Organisations should be mindful of the Jevons paradox: reductions in cost per unit of transaction could lead to acceleration of demand – resulting in much greater total AI cost.
- Given that current energy generation in many Asia Pacific countries remains heavily dependent on fossil fuels, the rapid deployment of AI without environmental guardrails could exacerbate carbon emissions and water use.
- AI governance pathways differ widely across the region – organisations whose operations span across Asia Pacific will have to be alert to the implications of the different regulatory frameworks.

Recommendations.

To CFOs and business leaders:

- Build accountable governance over AI.
- Embed AI within existing board, risk, audit and investment processes.
- Close the skills gap by pairing AI adoption with structured upskilling and transition plans.
- Measure and reduce AI's resource footprint.
- Raise the level of skills and adaptability to the different governance frameworks across the region where they operate.

To policymakers and public sector leaders:

- Adopt principles-based, adaptive AI regulation – suited to national circumstances.
- Promote regional interoperability through an ASEAN or wider Asia Pacific framework.
- Align AI growth with energy and climate goals: ensure water and low-carbon energy investment keeps pace with data centre expansion.

Glossary.

TERM	DESCRIPTION	SOURCE
AI	Artificial intelligence.	ACCA, Principles of good corporate reporting (2024).
Business and human rights (B+HR)	The responsibility of business enterprises to respect internationally recognised human rights, avoid infringing on the human rights of others and address adverse human rights impacts with which they are involved.	Adapted from United Nations, Guiding Principles on Business and Human Rights (2011), Principles 11 and 13.
Corporate Sustainability Due Diligence Directive (CSDDD)	European Union legislation requiring certain companies to conduct risk-based human rights and environmental due diligence by identifying and addressing actual and potential adverse impacts in their own operations, those of their subsidiaries and, where related to their chains of activities, those of their business partners.	Adapted from Directive (EU) 2024/1760, Articles 1 and 5.
Corporate Sustainability Reporting Directive (CSRD)	European Union legislation that amends corporate reporting requirements and requires companies within its scope to report sustainability information in accordance with the European Sustainability Reporting Standards (ESRS).	Adapted from Directive (EU) 2022/2464, Article 1.
Decarbonisation	The process by which an organisation, sector or economy reduces carbon dioxide and other greenhouse gas emissions associated with its activities, with the aim of achieving a low-carbon or net-zero state.	Adapted from IPCC, Climate Change 2022: Mitigation of Climate Change, Annex I: Glossary.
Ecosystem services	The contributions of ecosystems to the benefits used in economic and other human activity. They include provisioning, regulating and maintenance, and cultural services.	Adapted from TNFD, Recommendations of the Taskforce on Nature-related Financial Disclosures (2023), Glossary; drawing on the UN System of Environmental-Economic Accounting.
European Sustainability Reporting Standards (ESRS)	The standards under the CSRD that specify the sustainability information companies within scope are required to report. They cover environmental, social and governance matters and apply the double-materiality perspective.	Adapted from Commission Delegated Regulation (EU) 2023/2772, Annex I, ESRS 1.

TERM	DESCRIPTION	SOURCE
Greenhouse gas (GHG) emissions	These comprise the seven greenhouse gases listed in the Kyoto Protocol: carbon dioxide (CO_2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF3), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). They are categorised according to the source of emissions.	Adapted from IFRS S2, Appendix A. Definition reused from ACCA, Sustainability reporting: working with estimates (2026).
Human rights due diligence (HRDD)	An ongoing process through which an organisation identifies and assesses actual and potential adverse human rights impacts, integrates and acts on the findings, tracks the effectiveness of its responses, and communicates how the impacts are addressed.	Adapted from United Nations, Guiding Principles on Business and Human Rights (2011), Principles 17-21.
IFRS S1	IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information.	ISSB (2023a). Definition reused from ACCA, Sustainability reporting: working with estimates (2026).
IFRS S2	IFRS S2 Climate-related Disclosures.	ISSB (2023b). Definition reused from ACCA, Sustainability reporting: working with estimates (2026).
IFRS Sustainability Disclosure Standards or ISSB Standards	Collectively refers in this report to IFRS S1 and IFRS S2.	Reused from ACCA, Principles of good corporate reporting (2024); ISSB (2023a; 2023b).
ISSB	The International Sustainability Standards Board.	Reused from ACCA, Principles of good corporate reporting (2024).
Just transition	A transition towards environmentally sustainable economies and societies that is well managed and contributes to decent work, social inclusion and the eradication of poverty.	Adapted from ILO, Guidelines for a just transition towards environmentally sustainable economies and societies for all (2015).
Living wage	The wage level necessary to afford a decent standard of living for workers and their families, taking into account the country's circumstances and calculated for work performed during normal hours.	Adapted from ILO, Conclusions of the Meeting of Experts on Wage Policies, including Living Wages (2024), paragraph 17.

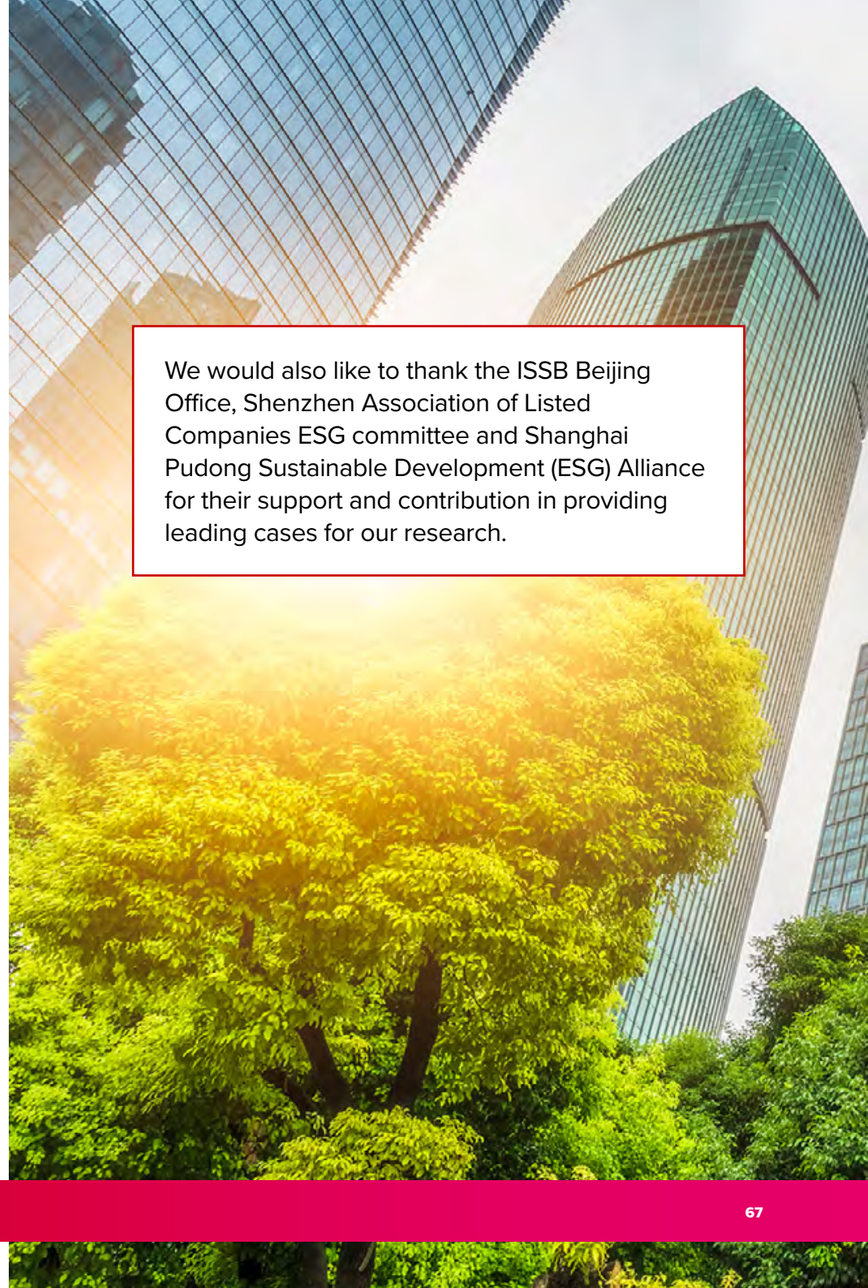
TERM	DESCRIPTION	SOURCE
Materiality	In the context of the IFRS Sustainability Disclosure Standards, information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that primary users of general-purpose financial reports make on the basis of those reports, which include financial statements and sustainability-related financial disclosures and which provide information about a specific reporting entity.	Adapted from IFRS S1, Appendix A. Definition reused from ACCA, Sustainability reporting: working with estimates (2026).
Nature-related dependencies, impacts, risks and opportunities	Dependencies are aspects of environmental assets and ecosystem services on which an organisation relies. Impacts are changes in the state of nature that may be positive or negative and may result from an organisation's activities. Dependencies and impacts on nature may give rise to risks and opportunities for the organisation.	Adapted from TNFD, Recommendations of the Taskforce on Nature-related Financial Disclosures (2023), Glossary.
SME	An organisation may identify whether it is a small or medium-sized enterprise (SME) by using the size criteria of the jurisdiction in which it is based. SMEs tend not to have public accountability and may publish general-purpose financial reports for external stakeholders. These organisations tend to have simpler organisational structures and have fewer resources than larger ones and are therefore less able to meet the full requirements of reporting standards.	Reused from ACCA, Sustainability reporting: working with estimates (2026).
Taskforce on Nature-related Financial Disclosures (TNFD)	A global, market-led initiative that has developed recommendations and guidance to enable organisations to assess, report and act on their nature-related dependencies, impacts, risks and opportunities. Its LEAP approach comprises four phases: Locate, Evaluate, Assess and Prepare	Adapted from TNFD, Recommendations of the Taskforce on Nature-related Financial Disclosures (2023).
Value chain	The full range of interactions, resources and relationships related to a reporting entity's business model and the external environment in which it operates. A value chain encompasses the interactions, resources and relationships an entity uses and depends on to create its products or services from conception to delivery, consumption and end-of-life, including interactions, resources and relationships in the entity's operations, such as human resources; those along its supply, marketing and distribution channels, such as materials and service sourcing, and product and service sale and delivery; and the financing, geographical, geopolitical and regulatory environments in which the entity operates.	Adapted from IFRS S1, Appendix A. Definition reused from ACCA, Sustainability reporting: working with estimates (2026).
Water stewardship	The use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process involving site- and catchment-based actions.	Alliance for Water Stewardship, The AWS International Water Stewardship Standard, Version 2.0 (2019), Glossary.

Acknowledgements.

The contributions of the following individuals in the development of this research are noted with thanks.

Dawn McGregor
Debra Tan
Charis Yeap
Humayon Dar
Hezri Adnan
Harpreet Kaur
Kanchuya Sukdheva
Liang Xiaohui
Murali Ram
Naho Nakakubo
Paul Huggins
Paula Kensington
Professor Hu Jie
Raymond Devadass
Renard Siew
Selar Henderson
Terence Jeyaratnam
Wu Sha
Fu Xixi
Chen Yangang
Xu Ji
William Tan
Angeline Seah
Belinda Hlatshwayo
Chris Humphrey
Jana Mudronova
Bernadette Victorio
Perpetua George
Prannoy Chowdhury
Ruhimat Soerakoesoemah
Abdul Wahid Omar
Muazzam Mohamad
Manohar Johnson
Nusaybah M Sofian
Prashani Illangasekera
Foo Peng Er
Yuliana Sudjonno
Zap Cheng
Li Jiquan
Dong Peng
Dai Rong
Zhao Xun
James Dixon
William Wallock
Luthfyana Larasati

We would also like to thank the ISSB Beijing Office, Shenzhen Association of Listed Companies ESG committee and Shanghai Pudong Sustainable Development (ESG) Alliance for their support and contribution in providing leading cases for our research.



Resources.

ACCA (2023), *Sustainability reporting: The guide to preparation*; accessed on 23 August 2026.

ACCA and BDO (2023), *Chief Value Officer – the important evolution of the CFO*; accessed on 23 August 2026.

ACCA and Chartered Accountants Australia and New Zealand (CA ANZ) (2021), *Ethics for sustainable AI adoption: connecting AI and ESG*; accessed on 22 August 2026.

ACCA 2024a, *Principles of good corporate reporting*; accessed on 11 September 2026.

ACCA 2024b, *AI Monitor: Unravelling AI's role in sustainability*; accessed on 11 September 2026.

ACCA, Mazars LLP and Shift Project, Ltd (Shift), 2024, *A Living Wage – crucial for sustainability*; accessed on 29 August 2026.

ACCA 2025a, *Sustainability reporting: Track your progress to create decision-useful information*; accessed on 22 August 2026.

ACCA 2025b, *Understanding responsible investment: Investors' perspectives*; accessed on 11 September 2026.

ACCA 2025c, *AI Monitor: Shining a light on AI's ethical threats for finance professionals*; accessed on 11 September 2026.

ACCA and The Institute of Internal Auditors (The IIA) (2025), *Internal control over sustainability data*; accessed on 22 August 2026.

ACCA 2026, *Global Talent Trends 2026*; accessed on 3 September 2026.

ACCA and Institute of Management Accountants (IMA) (2026a), *Global Economic Conditions Survey (GECS): Q1, 2026*; accessed on 31 August 2026.

ACCA and IMA (2026b), *GECS: Q2, 2026*; accessed on 31 August 2026.

ACCA, CAANZ 2026, *Enabling finance insight: Bridging skills and data gaps for AI-enabled finance*; accessed on 3 September 2026.

Accountancy Europe (AE), *2026: Omnibus explained: key changes to the CSRD and CSDDD*; accessed on 30 August 2026.

Asia Investor Group on Climate Change (AIGCC), PwC, *2024: Nature at a Tipping Point*; accessed on 15 August 2026.

Asian Development Bank (ADB), 2025a, *Asia-Pacific Climate Report 2025 – Unlocking Nature for Development*; accessed on 15 August 2026.

ADB 2025b, *Asian Water Development Outlook 2025 – The Index of Water Security for Asia and the Pacific*; accessed on 26 August 2026.

Asian Development Bank (ADB), 2026, *Asian Development Outlook July 2026*, Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO), accessed on 6 August 2026.

Association of South East Asian Nations (ASEAN), 1967, *The ASEAN Declaration (Bangkok Declaration), 1967*, (ASEAN 1967); accessed on 11 August 2026.

ASEAN, *Key Figures 2025*, ASEAN Secretariat, (ASEAN 2025); accessed on 19 August 2026.

ASEAN 2026, *Statement of the Chairperson of the ASEAN Senior Economic Officials (SEOM) on the Conclusion of ASEAN DEFA Negotiations*; accessed on 11 September 2026.

Ballesteros C, Lincke D, Nicholls RJ, Heslop J, Hinkel J, Malagón-Santos V and Slangen ABA (2025) *Migration, land loss and costs to 2100 due to coastal flooding under the IPCC AR6 sea-level rise scenarios and plausible adaptation choices*. Front. Mar. Sci. 12:1505633. doi: 10.3389/fmars.2025.1505633; accessed on 15 August 2026.

BloombergNEF's *Asia Pacific's Energy Transition Outlook 2024*, (BNEF 2024); accessed on 20 August 2026.

BloombergNEF 2026, *BloombergNEF Finds Global Energy Transition Investment Reached Record $2.3 Trillion in 2025, Up 8% from 2024*; accessed on 16 August 2026.

Bündnis Entwicklung Hilft / IFHV (2025), *WorldRiskReport 2025*. Berlin: Bündnis Entwicklung Hilft (BEH 2025); accessed on 14 August 2026.

Business and Human Rights Centre (BHRC) 2026a, *The evolution of business and human rights in China's National Human Rights Action Plan*; accessed on 30 August 2026.

BHRC 2026b, *Indonesia: Initiative to draft presidential regulation on enforcement of corporate compliance with business and human rights approved by President, minister confirms*; accessed on 28 August 2026.

Business Standard (BS) 2022, *India, Pakistan left in a lurch as gas deliveries get redirected to Europe*, Economy & Policy News – Business Standard; accessed on 17 August 2026.

Carney, Mark, Value(s) – *Climate, Credit, Covid and How We Focus on What Matters*; 2021, HarperCollinsPublishers, page x; (Carney, 2021) accessed on 12 August 2026.

Centre for Governance and Sustainability (CGS) under the National University of Singapore (NUS) Business School and Kering (CGS-NUS, Kering) 2025, *Nature-related Practices and Strategies in Asia Pacific*; accessed on 26 August 2026.

Chancel, L., Gómez-Carrera, R., Moshrif, R., Piketty, T., et al. (Chancel et al) 2026, *World Inequality Report 2026*, World Inequality Lab; accessed on 16 August 2026.

Lim, CH., Basu, R., Yan, CS, Kashiwase, K., Kutlukaya, M., Li, M., Refayet, E., Seneviratne, D., Sy, M., Yang, R. (Lim, CH et al) 2024, *Unlocking Climate Finance in Asia-Pacific: Transitioning to a Sustainable Future*; accessed 4 September 2026.

China Water Risk (CWR) 2025, *Stop the Melt*; accessed on 27 August 2026.

China Water Risk (CWR), Institute of Geographic Sciences and Natural Resources Research (IGSNRR), under the Chinese Academy of Sciences (CAS), 2025, *No Water, No Growth 2 Rising "mother" river risks threaten half the total GDP of 16 Asian countries*; accessed on 27 August 2026.

China Water Risk (CWR) 2026, *China's 15FYP Outlook for Water Security & Resiliency – 2 Goals, 4 Directives, 8 Actions to prep for a new era of "Water B"*; accessed on 26 August 2026.

Climate Bonds Initiative (CBI) 2026, *Sustainable Debt Global State of the Market 2025* (CBI 2026); accessed on 16 August 2026.

Climate Policy Initiative (CPI) nd, *Global Landscape of Climate Finance Data Dashboard*; accessed on 3 September 2026.

Concordia AI, 2026, *State of AI Safety in China*; accessed on 3 September 2026.

Crippa, M., Guizzardi, D., Pagani, F., Banja, M., Muntean, M. et al. (Crippa et al) 2024, *GHG emissions of all world countries – 2025 Report*, Publications Office of the European Union, Luxembourg, 2025, doi:10.2760/9816914, JRC143227; accessed on 18 August 2026.

Dadush, Sarah, Schönfelder, Daniel (Dadush, Schönfelder) 2026, *Moving Toward Shared Responsibility: How the EU's CSDDD and Omnibus I Reimagine Contracting for Human Rights and Environmental Due Diligence*; accessed on 31 August 2026.

Deloitte Touche Tohmatsu Limited (Deloitte) 2025, *Accelerating Net-Zero: Critical Opportunities in Asia Pacific's Climate Policy*; accessed on 19 August 2026.

Dias, Lisann., 2025, *India's Heat Insurance Plans: Look Promising, Need Behavioural Shifts, And A Lot More*; accessed on 27 August 2026.

Edelman Trust Barometer – Global Report Trust Amid Insularity, Edelman Trust Institute 2026 (Edelman 2026); accessed on 12 August 2026.

European Commission nd, *Association of South East Asian Nations (ASEAN) – EU trade relations with the Association of South East Asian Nations. Facts, figures and latest developments*; accessed on 30 August 2026.

European Council and Council of the European Union (ECCEU) nd, *EU-ASEAN trade*; accessed on 30 August 2026.

Eurostat 2025, *Euro area international trade in goods surplus €18.4 bn*; accessed on 30 August 2026.

Financial Stability Board (FSB) 2024, *Stocktake on Nature-related Risks – Supervisory and regulatory approaches and perspectives on financial risk*; accessed on 26 August 2026.

Global Commission on the Economics of Water (GCEW) 2026, *The Economics of Water – Valuing the Hydrological Cycle as a Global Common Good*; accessed on 26 August.

Institute for Economics & Peace. *Positive Peace Report 2024: Analysing the factors that build, predict and sustain peace*, Sydney, March 2024. (IEP 2024); accessed on 11 August 2026.

International Energy Agency (IEA), 2025a, *Renewables 2025 – Analysis and forecasts to 2030*; accessed on 14 August 2026.

IEA, 2025b, *Energy and AI*; accessed on 3 September 2026.

International Financial Reporting Standards (IFRS) Foundation 2025, *IFRS Sustainability Disclosure Standards (ISSB Standards) – Application around the world. Jurisdictional profile: Malaysia*; accessed on 22 August 2026.

IFRS 2026, *ISSB agrees on the proposed way forward for nature-related disclosures*; accessed on 26 August 2026.

International Labour Organization (ILO), Walk Free, and International Organization for Migration (IOM) 2022, *Global Estimates of Modern Slavery – Forced Labour and Forced Marriage*; accessed on 29 August 2026.

ILO, 2025, *World Employment and Social Outlook: Trends 2025*, Geneva: International Labour Office, 2025. © ILO (ILO 2025); accessed on 16 August 2026.

ILO, 2026, *National Action Plans on Business and Human Rights: A Guide for Employer and Business Membership Organizations*; accessed on 28 August 2026.

Kurlantzick. J, Richter. A, 2026, *The Iran War is Causing Energy Chaos in Asia* (Kurlantzick, Richter 2026); accessed on 19 August 2026.

LSE Global School of Sustainability, Grantham Research Institute on Climate Change and the Environment, 2025, *Delivering an integrated climate finance agenda in support of the Baku to Belém Roadmap to 1.3T*; accessed on 4 September 2026.

McKinsey & Company, Singapore Economic Development Board, Tech in Asia, 2026, *AI in Southeast Asia: An era of opportunity*; accessed on 3 September 2026.

Merchant, A., Cubuk, E.D., 2023, *Millions of new materials discovered with deep learning*; accessed on 11 September 2026.

Mittermeier, Russell A., Mittermeier, Cristina G., Kormos, Cyril F. 2001, *Setting Priorities for Saving Life on Earth: Megadiversity Countries, Hotspots and Wilderness Areas* (Mittermeier et al, 2001); accessed on 15 August 2026.

National Action Plans on Business and Human Rights Network on Greening the Financial Services (NGFS) 2026, *NGFS 2026 Nature Package*; accessed on 26 August 2026 .

NHK World Japan (NHK), 2026, *Japan aims to deploy 10 million AI robots by 2040*; accessed on 3 September 2026.

osapiens 2025, *Beyond Compliance: Sustainability Reporting after the Omnibus*; accessed on 10 September 2026.

Rentschler, J., Salhab, M. & Jafino, B.A. (Rentschler et al 2022): *Flood exposure and poverty in 188 countries*. Nat Commun 13, 3527 (2022); accessed on 14 August 2026.

Riahi, Lily., Abdelaziz, Omar., Gluckman, Ray., Hamilton, Ian., Khosla, Radhika: Global Cooling Watch 2025, *The free degrees – how sustainable, passive-first cooling can save lives, money and food*; accessed on 27 August 2026.

Securities Commission Malaysia (SC) 2026, *ACSR's Mandatory Sustainability Assurance Requirement to Take Effect in 2028*; accessed on 23 September 2026.

Shift Project Limited (Shift) 2026, *From regulation to action: What the EU due diligence rules mean for business*; accessed on 30 August 2026.

Standford University Human-Centred Artificial Intelligence (Standford HAI), nd, *What is an Open-Weight Model?*; accessed on 3 September 2026.

Stiglitz, J., J. Fitoussi and M. Durand (eds.) (2018), *For Good Measure: Advancing Research on Well-being Metrics Beyond GDP*, OECD Publishing, Paris, (Stiglitz et al 2018); accessed on 11 August 2026.

Taskforce on Inequality and Social-related Financial Disclosures (TISFD), nd, *TISFD – About Us*; accessed on 31 August 2026.

Taskforce on Nature-related Financial Disclosures (TNFD) 2025, *TNFD 2025 Status Report*; accessed on 26 August 2026.

The Organisation for Economic Co-operation and Development (OECD) nd, *Greenhouse gas footprint indicators*; accessed on 18 August 2026.

OECD 2025, *OECD Employment Outlook 2025: Japan*; accessed on 1 September 2026.

OECD, nd, *OEDC AI Policy Observatory*; accessed on 3 September 2026.

United Nations (UN) (2024): *World Population Prospects 2024: Summary of Results*. UN DESA/POP/2024/TR/NO. 9. New York: United Nations.

United Nations Environment Programme (UNEP) 2026, *Nature reporting comes of age: What financial institutions need to know*; accessed on 26 August 2026.

UNEP-Finance Initiative (UNEP-FI) 2026, Transitioning to a Nature Positive Economy | Asia Pacific Case Studies.

UN.ESCAP, et. al. (2025a) *2025 review of climate ambition in Asia and the Pacific: readiness for NDC implementation*, (UNESCAP 2025); accessed on 14 August 2026.

UNESCAP 2025b, *Asia Pacific Disaster Report 2025, Rising Heat, Rising Risk – Policy Pathways for Regional Resilience*; accessed on 27 August 2026.

UN WOMEN 2026, *ASEAN and UNEP launch passive cooling roadmap to protect communities and cities from rising heat risks in ASEAN*; accessed on 27 August 2026.

World Bank, 2026a, *Global Economic Prospects, June 2026*. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO, (World Bank 2026); accessed on 6 August 2026.

World Bank, UNDP BIOFIN, and Bank Negara Malaysia (BNM). 2026b, *A LEAP for Nature: Advancing Nature-related Financial Risk and Opportunity Assessment in Malaysia*; accessed on 26 August 2026.

World Economic Forum 2025, *Accelerating Value Chain Decarbonization for Corporate Growth: Perspectives from Asia* (WEF 2025); accessed on 20 August 2026.

World Intellectual Property Organization (WIPO) 2025, *IP Facts and Figures 2025*; accessed on 16 August 2026.

World Meteorological Organization (WMO) 2025, *State of the Climate in Asia 2024*; accessed on 27 August 2026.

World Wildlife Fund for Nature (WWF) 2024, *Living Planet Report 2024 – A System in Peril*. WWF, Gland, Switzerland, 2024; accessed on 15 August 2026.

Zero Carbon Analytics, May 2025, *The race to invest in Southeast Asia's green economy – Zero Carbon Analytics*, accessed on 1 October 2026.



Appendix: 2024 GHG emissions from EDGAR

(Emissions Database for Global Atmospheric Research) Community GHG Database.

Figure A1 **Global GHG emissions**

2024 GHG emissions (Mt CO_2eq), shares in global emissions, changes relative to 2023, emissions per capita (t CO_2eq/cap), and CAGR (1990-2024) (%) for countries and regions accounting for over 1% of global GHG emissions.

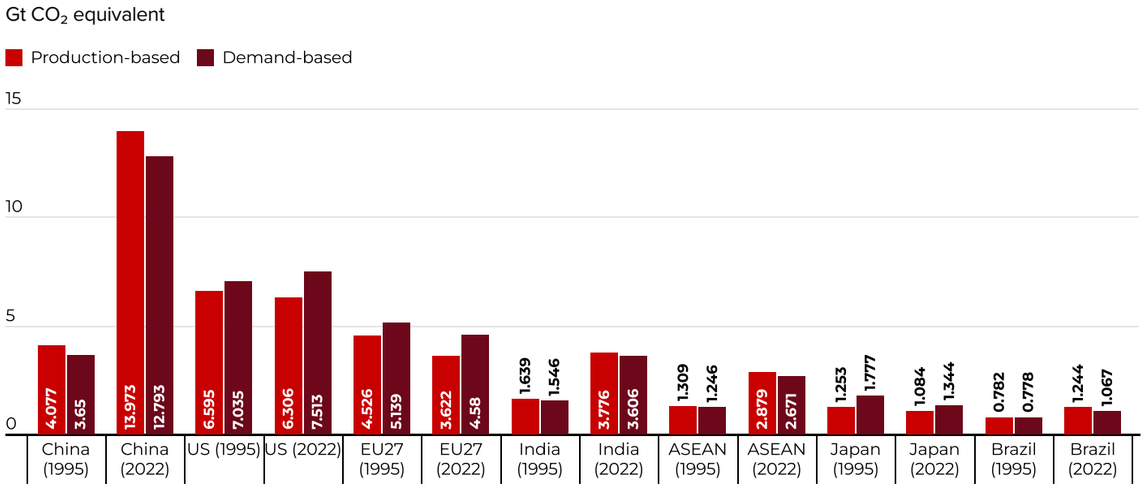
Country	2024 emissions	2024 share in global	2024 emissions per capita	CAGR (1990-2024)
China	15,536.1	29.2%	10.8	4.3%
United States	5,912.6	11.1%	17.3	-0.1%
India	4,371.2	8.2%	3	3.5%
EU27	3,164.7	5.9%	7.1	-1.3%
Russia	2,575.7	4.8%	18	-0.5%
Indonesia	1,323.8	2.5%	4.7	4.1%
Brazil	1,299.2	2.4%	5.9	2.1%
Japan	1,063.3	2.0%	8.5	-0.6%
Iran	1,054.8	2.0%	12.2	3.5%
Saudi Arabia	8,38.9	1.6%	22.8	3.8%
Canada	768.1	1.4%	19.8	0.8%
Mexico	686.8	1.3%	4.9	1.3%
Germany	674.4	1.3%	8.2	-1.8%
South Korea	668.2	1.3%	12.8	2.3%
Australia	591.5	1.1%	22.3	0.7%
Viet Nam	584.3	1.1%	5.7	5.6%
Türkiye	579.5	1.1%	6.8	2.8%
South Africa	569.8	1.1%	9.3	1.0%
GLOBAL TOTAL	**53,206.4**		6.6	1.5%

Source: Crippa et al 2024

Important points to note:

- The emissions above are territorial (production-based) where the fuel is burned or the factory operates — not where the goods end up being consumed. So an iPhone assembled in Zhengzhou and sold in Ohio **counts entirely toward China's emissions total, not the US's**.
- **The alternative is consumption-based accounting** (trade-adjusted), which reallocates embedded emissions to the country that consumes the good.

Figure A2 **Top GHG-emitting economies: Production vs Demand**



Source: Crippa et al 2024

Greenhouse gas top emitters

In 2022, the largest producers and consumers of GHG emissions were China, the United States, India, the European Union (EU27), Southeast Asia (ASEAN), Russia, Brazil, and Japan. Since 1995, production and demand based emissions have declined in Japan and the European Union, but increased substantially in China, India, and Southeast Asia. In the United States, production based emissions fell, while demand based emissions rose by about 7%. China recorded the highest absolute emissions under both production and demand based approaches, with emissions tripling between 1995 and 2022.

ACCA
The Adelphi
1/11 John Adam Street
London WC2N 6AU
United Kingdom

020 7059 5000

accaglobal.com

All rights reserved. Used with permission of ACCA. Contact *insights@accaglobal.com* for permission to reproduce, store or transmit, or to make other similar uses of this document.

© ACCA OCTOBER 2026.

This publication has been produced in line with WCAG 2.2 AA accessibility standards. It is designed to be accessible to a wide range of readers, including those using assistive technologies. If you experience any accessibility barriers, please contact ACCA to request an alternative format.

THINK AHEAD

Accessible Document