

RIISING TO THE CHALLENGE:

How companies in Asia Pacific are preparing for the net-zero economy



In partnership with



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FOREWORD

DONALD CHAN

MANAGING DIRECTOR, ASIA PACIFIC
CDP

As of 2022, it is clear that we are in the midst of another challenging year. Conflict sadly remains a grave and distressing threat to the safety of people and the future of our planet, impeding our ability to tackle the global climate and environmental crisis collectively. And as the world continues to grapple with the COVID-19 pandemic, the Intergovernmental Panel on Climate Change (IPCC) has released its most devastating report yet. The report warns that climate change has already caused substantial damages and increasingly irreversible losses to our ecosystems, and renders more than three billion people across the globe highly vulnerable to the climate crisis. This has been consistently evident over the last year, with terrifying wildfires, extreme flooding and some of the hottest temperatures on record presenting huge challenges to lives and livelihoods around the world.



The COP26 summit took place in the shadow of the previous IPCC report's warnings and, although significant progress was made, there is still a vast amount of change needed if we are to have any chance of halving emissions by 2030 and reaching net-zero by 2050. COP26 may have kept the prospect of achieving a 1.5°C resilient future alive, but it cannot guarantee it.

It is encouraging that even against this backdrop – described by the IPCC as a 'code red' for humanity – CDP reported a record number of disclosures in 2021. Over 13,000 companies worth over 64% of global market capitalization and over 1,000 cities, states and regions disclosed their environmental data through CDP, an overall increase of 35% since 2020 and over 141% since the Paris Agreement was signed in 2015.

This includes nearly 4,000 companies from 21 markets across the Asia Pacific region, representing 14% of global market capitalization, and a more than fivefold growth from fewer than 700 companies in 2016. The region – home to some of the world's fastest-growing economies as well as vast populations most vulnerable to climate risks – now accounts for 30% of CDP's global corporate response.



The science is clear – this is our final wake up call. Climate resilience must be at the forefront of the economy and society. Although it gives us great hope to see another year of record disclosure numbers – there is still a vast amount of action required.



FOREWORD

Policymakers and regulators, too, are doubling down on their commitments to achieving the Paris Agreement goal. More and more countries are moving towards mandatory TCFD-aligned climate-related financial disclosure, which CDP has long pushed for. The Australian Regulation Authority (APRA), for instance, has recently released guidelines on managing the financial risks of climate change and target-setting, while Singapore Stock Exchange (SGX) has announced that it will mandate TCFD-aligned disclosure among a subset of high-impact sectors.

This record year of disclosures has coincided with the release of CDP's new 2021-2025 strategy, *Accelerating the rate of change*. Our new strategy recognizes the urgent need for climate action and accountable, transparent climate plans from companies, cities, states, and regions and sets out how CDP will respond to the interlinked crises of catastrophic climate change and an irreversible loss of nature and habitats. Over the next five years, CDP will work

with a broader spectrum of stakeholders and authorities to widen our scope to cover more environmental issues and increase our focus on climate targets, plans, and tracking performance against them.

The science is clear – this is our final wake up call. Climate resilience must be at the forefront of the economy and society. Although it gives us great hope to see another year of record disclosure numbers, there is still a vast amount of action required. The decisions we make over the next five years will determine whether reaching net-zero by 2050 is achievable and therefore we need all actors in our economy – national and local governments, businesses, and capital markets – to be united in ambitious, urgent, system-wide action.

CDP looks forward to seeing our region's business and policy leaders continue to lead the way in the transition to a net-zero, nature positive and equitable world.



FOREWORD

JOHN DAVIS

DIRECTOR, ASIA PACIFIC
SOUTH POLE

What Asia Pacific does or does not do to address the looming climate crisis will be felt across the entire world. Inaction will quash the business gains of a shift to net-zero emissions and make the goals of the Paris Agreement utterly unattainable. Action, on the other hand, can unlock a myriad of investment opportunities and socio-economic benefits locally and globally.



The era of claiming ambition without clear disclosure is no longer possible – especially at a time when actions and words need to match the true scope and scale of our climate challenge, especially in Asia Pacific.



We are at a fundamental fork in the road for human history. Incremental progress is no longer enough for our commerce or our climate. The environmental issues facing the Asia Pacific region will be, and already are, measured in superlatives: it is home to some of the most vulnerable countries, but also the largest emitters. It makes up the largest share of global emissions, yet remains the most exposed to extreme weather events. The physical risks brought about by a warming planet are sadly far too familiar for many – from too much water to no water at all, scorching heat waves and fierce storms, these developments will affect the region's core economic and social fabric, from the industries we have and the food we eat¹. They even come with a price tag that has grown tangible enough to drive business decisions: Asia Pacific's exposure to climate-related hazards could cut between 5.5% to 26% from its combined GDP by 2050, depending on the temperature rise scenario². Singapore alone is likely to lose nearly 50% of its GDP by 2050 in the most severe case³.

At the same time, there is reason for optimism. This report highlights examples of encouraging climate leadership across Asia Pacific in just the past year. In 2021, we have seen an increased number of analyses of climate-related business risks, but also a growing awareness of the commercial opportunities of net zero emissions pathways. Companies are competing to prove their climate ambition to a consumer base that is increasingly more informed about climate change, and to investors who want to

FOREWORD

know whether their investees can thrive in a warming world. Encouragingly, even businesses from some of the most challenging sectors are stepping up to the challenge: more than seven out of 10 companies from the materials, power generation, and fossil fuel sectors in the region have set emissions reductions targets.

Reporting and disclosure are critical in transparently sharing climate action strategies and progress with stakeholders, and central to informing corporate climate journeys to net-zero emissions. In order to deliver coordinated, urgent decarbonization across value chains businesses must quickly learn how to define and navigate their own unique climate journeys if they want to remain relevant and operational in the future.

Regardless of how different companies are, the key pillars of a best-in-class climate journey are fundamentally the same. At the outset, climate should be integrated into the business with comprehensive analyses of risk, opportunities, and a framework to address it. The next step is setting emission reduction targets and milestones aligned with the latest climate science. A clear climate journey will give CEOs the direction they need to lead the way, and provide tangible ways to turn ambition into action with energy and resource efficiency measures, targeted supply chain interventions, and product or service delivery model innovation.

The cost of tackling climate change increases with every year of delay, and organizations can make this cost more tangible and evident in their business by creating an internal

price on carbon. This would ideally drive further emission reductions. For example, compensating for emissions by purchasing high-quality carbon credits not only enables a company to take immediate climate action by funneling finance into projects in Asia Pacific that reduce emissions today, it also creates an internal cost for their actual emissions, which can be used to encourage teams to reduce emissions across the value-chain and to factor emissions into long-term investment decisions.

The era of claiming ambition without clear disclosure is no longer possible – especially at a time when actions and words need to match the true scope and scale of our climate challenge, especially in Asia Pacific. Most of the regional companies that reported to CDP have already started their climate journey, with clear emissions reductions targets and milestones in place. This all demonstrates that leading companies are remodeling the way they operate to ensure they remain relevant in fast-changing markets now and in the future.

These leaders will be poised to capture the multi-trillion-dollar first-mover advantage of operating as low- and no-carbon organizations by 2030^{4,5}. This momentum to decarbonize demonstrates a positive trajectory for the region's response to climate change.

Today, the private sector must and can be the force for positive change. Now is the time for companies to take credible leadership positions in determining the future of Asia Pacific, and in providing the innovation and finance for the global net-zero transformation. Now is the time to become part of the solution.

EXECUTIVE SUMMARY

AN AWAKENING TO THE CLIMATE EMERGENCY ACROSS ASIA PACIFIC

Leading companies of the Asia Pacific region, home of the world's fastest-growing economies as a global trade hub, are increasingly rising to the challenge to reduce greenhouse gas (GHG) emissions and avoid the worst impacts of climate change.



Companies in the region are feeling the pressure to meet growing requirements from regulators, listing bodies, governments, investors and their customers. As manufacturing and export centers for the world, many Asian businesses must change their business models to decarbonize. Doing so will help them to avoid the business impacts of climate-related risks, while also presenting new opportunities.

In 2021, an impressive 3,879 companies across the region opted to disclose their emissions, targets and climate action through CDP's Climate Change questionnaire. These companies represented 14% of global market capitalization and 2021 saw a 29% increase in the number of companies reporting compared to 2020. Their openness is to be applauded. It is only through the disclosure and monitoring of climate action that the required changes will happen. Close to one-third (32%) of companies that disclosed in 2021 were first-time responders, showing that CDP and disclosure in general are gaining recognition in the Asia Pacific region.

However, there remain significant challenges in meeting the goals of the Paris Agreement to limit global warming to well below 2°C, preferably 1.5°C, as compared to pre-industrial levels. **Just 291 companies from the 3,879 companies responding to CDP (8%) had net-zero targets** and the majority were set to 2050 or beyond. There is also a lack of direction around how to achieve decarbonization, with **fewer than four in 10 companies (38%) responding to CDP following a specific low-carbon transition plan.**

This report identifies trends and progress of corporate climate commitments across the Asia Pacific region. It shows how companies are preparing for the net-zero economy. The private sector should be commended for its efforts to integrate climate action into governance and risk frameworks as the first step. Target-setting is the next critical phase. Now is the time to deliver meaningful, substantial emissions reductions across corporate value chains.

Building strong foundations for climate action

There is growing acceptance of the physical, financial, and compliance risks posed by climate change - among others - and the expectation to act on these risks.

CDP results from 2021 highlight that climate action has risen to the C-suite level and **almost all respondents (98%) have the responsibility for climate-related issues at management level**. There is also an increasing number of climate analyses underway across industries in the Asia Pacific market. **Three-quarters (76%) of companies have a process for identifying, assessing and responding to climate-related risks and opportunities**.

Leaders are becoming more sophisticated in their approach to climate-related issues. Among the 1,134 companies that conducted climate-related scenario analyses, about half (53%) had conducted both qualitative and quantitative scenario analyses of their climate risks and opportunities as the basis to make data-driven decisions on financial, risk management and strategic matters.

While these are important steps, the focus must shift to action. One area where companies are lagging is using these analyses to develop and **follow a specific low-carbon transition plan - only 38% of companies were doing this in 2021**.

Once a clear plan is in place, incentivizing employees to strive for sustainability-related targets within company structures can yield strong results. **Companies that incentivized their management or executive teams were approximately four times as likely to have decreased their emissions than those that didn't**.

Setting targets for ambitious emissions reductions

The adage “what gets measured gets managed” applies to GHG emissions. Organizations that have a clear understanding of their footprint will be better prepared to take the steps required to reduce them.

More than six out of 10 (**65%**) **are measuring their gross global emissions (Scope 1 and 2 combined)**, but much more needs to be done to account for and reduce emissions across the value chain. **Four out of 10 companies (40%) reported that they calculated at least one category of their Scope 3 emissions** - usually business travel. But given that average Scope 3 emissions total more than 11 times the Scope 1 and 2 volumes combined, it is critical that businesses step up to measure their upstream and downstream value chain emissions.

Setting targets to reduce emissions is a vital step on the climate journey. They must be measurable and ambitious, with interim milestones to ensure accountability. It is promising to see that **65% of reporting companies had an active emissions reduction target in 2021**.

Despite the ambition shown by some leaders, **fewer than one in three have science-based targets and only 8% reported having set net-zero targets**.

Setting sufficiently ambitious targets is a step towards emissions reductions. **Organizations that have targets - either absolute or intensity-based - were four times as likely to decrease their GHG emissions**.

Taking action to tackle emissions

This report outlines many areas where companies are making impressive progress.

Some of the largest organizations in the region that were requested to report to CDP as Investor Signatory companies managed to successfully reduce their emissions. Across those major companies, **600 reported lower emissions in 2021** than in 2020. Their **net reductions totalled 267 million tonnes of CO₂e of Scope 1 and 2 emissions**. While this is a significant reduction, it only represents 1% of the overall emissions reported in the region for 2021, highlighting the enormity of the challenge.

According to these companies who reported reductions, 38% of their reductions were attributed to “change in renewable energy

consumption”. This indicates the impact of the transition to renewables. However more needs to be done in this area as **just 5% of the electricity consumed by the top 100 energy consumers was sourced from renewables**. Improvement in this area could be on the horizon as more companies in the region join initiatives like the RE100, demand better access to renewables, and innovate new solutions.

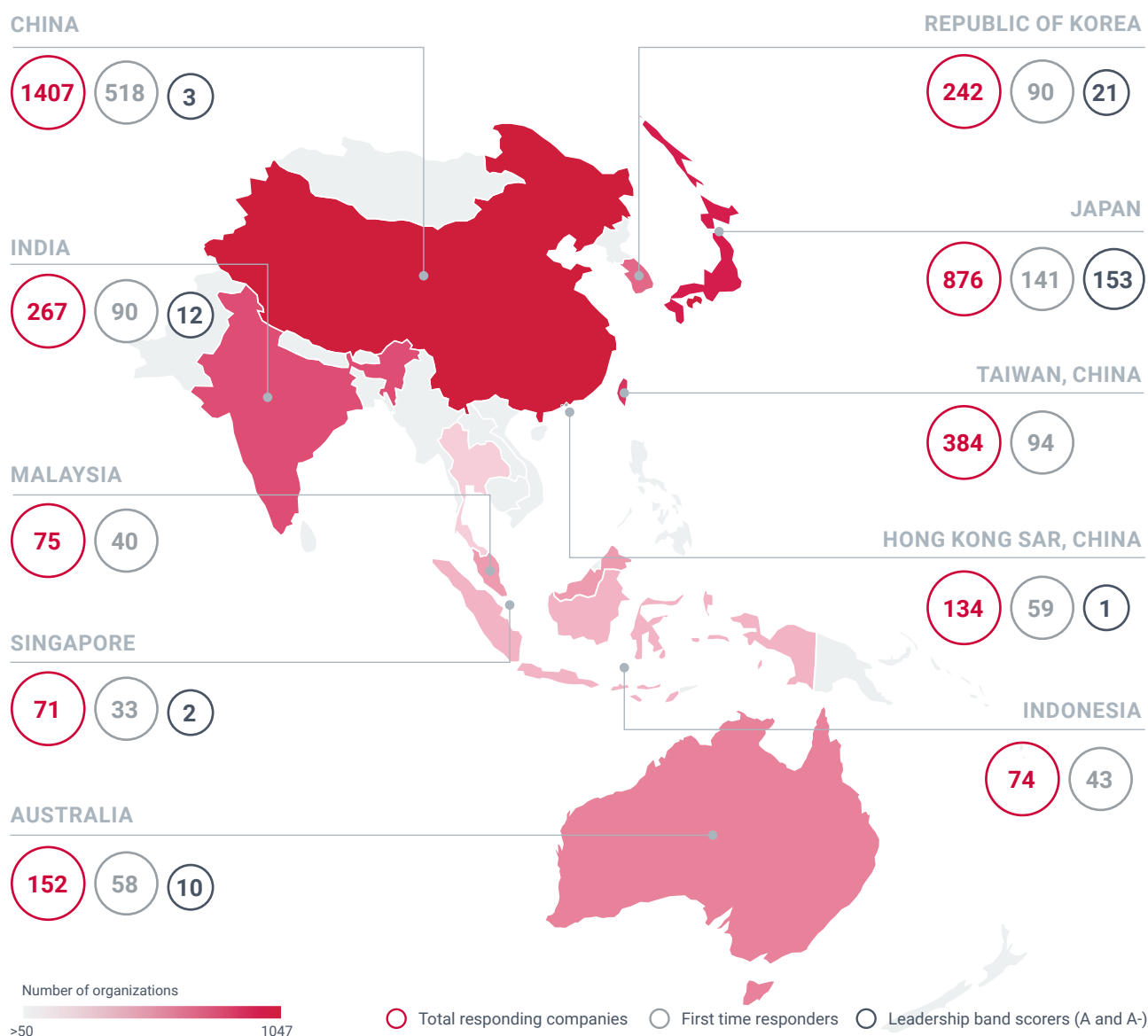
Asia Pacific’s climate leaders are paving the way for a net-zero future. However, raising climate ambition and action is overdue for the remainder of corporates in the region. In order to meet the global goals of the Paris Agreement and avoid reputation and investment risk, as well as falling behind their peers, Asia Pacific companies need to step up on climate action.



HOW DID THE REGION PERFORM?

Disclosure increases across the region

20 markets in Asia Pacific were represented, with 90% of respondents from just seven markets. All markets saw an increase in disclosures from 2020.



Growth in disclosure across all industries

The manufacturing sector represented more than half of respondents (57%), but the services sector demonstrated climate leadership, with the most A and A- scores (62 companies). All industries saw the number of first-time responders increase and an overall growth in disclosure.

		Total responding companies	First time responders	Leadership band scorers (A and A-)	Most represented sector
Apparel		172	77	2	Textiles & fabric goods
Biotech, health care & pharma		84	33	8	Biotech & pharma
Food, beverage & agriculture		146	65	15	Food & beverage processing
Fossil Fuels		32	12	4	Oil & gas extraction & production; Oil & gas processing
Hospitality		16	6	1	Bars, hotels & restaurants
Infrastructure		103	28	24	Construction
Manufacturing		2202	667	58	Electrical & electronic equipment
Materials		429	108	31	Chemicals
Power generation		37	6	3	Thermal power generation
Retail		133	50	13	Trading, wholesale, distribution, rental & leasing
Services		430	155	62	Financial services
Transportation services		95	35	6	Intermodal transport & logistics

Climate leadership spans geographies and industries

Score	A	A-	B	B-	C	C-	D	D-	Grand Total
Total	72	155	317	90	157	1	100	24	916
By Market									
Australia	1	9	21	3	17		12	1	64
Cambodia						1			1
China	1	2	11	11	22		21	15	83
Hong Kong SAR, China		1	13	7	11		5	1	38
India	5	7	21	10	19		16	1	79
Indonesia			1	1	1		1		4
Japan	55	98	141	42	47		19	5	407
Malaysia					5		5		10
Mongolia							1		1
New Zealand			10	2	5		5		22
Pakistan					1				1
Philippines		1	2		5		3		11
Republic of Korea	4	17	47	4	10		3	1	86
Singapore	1	1	7	1	3		3		16
Taiwan, China	5	17	33	9	8		3		75
Thailand		2	10		3		3		18
By Industry									
Apparel		2	4	1	3		1		11
Biotech, health care & pharma	3	5	14	3	5		3	2	35
Food, beverage & agriculture	7	8	16	3	13		2	2	51
Fossil Fuels		4	6	2	3		5		20
Hospitality	1		1	1	4	1	3	1	12
Infrastructure	8	16	28	7	13		7	2	81
Manufacturing	18	40	83	30	39		20	2	232
Materials	6	25	51	17	18		19	3	139
Power generation		3	18	1	4		7	1	34
Retail	3	10	17	3	8		8	2	51
Services	23	39	60	19	41		19	6	207
Transportation services	3	3	19	3	6		6	3	43

Disclaimer: The following numbers relate to the publicly available investor requested companies. Scores are as of 18 Jan 2022.

WHO IS REQUESTING THE DATA FROM COMPANIES?

In 2021, CDP requested environmental information from companies on behalf of two authorities: CDP Investor Signatories and CDP Supply Chain members.

In response to these requests, 13,000 companies worldwide, worth more than 64% of global market capitalization, disclosed environmental data through CDP's platform. This was an increase of 37% since 2020. Among these companies, 3,879 were based in Asia Pacific, including 975 who responded to requests from CDP's Investor Signatories, and 2,900 suppliers who responded to requests from their customers through CDP's Supply Chain program. The nearly 4,000 responding companies in Asia Pacific represented 14% of global market capitalization.

CDP Investor Signatories

CDP's global disclosure system equips investors with the data needed to engage with companies in their portfolio on their environmental impacts, and provide financial institutions with reliable and comparable data to base lending decisions on. Capital market actors are better able to mitigate risks associated with increasing climatic uncertainty, including physical, reputational, and regulatory risks.

In 2021, CDP requested environmental data from companies on behalf of more than 590 Investor Signatories, representing more than US\$110 trillion in assets.

Companies requested to respond to CDP Investor Signatories are typically large, listed companies, and/or companies operating in high-impact sectors.

CDP Supply Chain members

A company's supply chain is responsible for substantial environmental impacts. Last year, CDP found that GHG emissions in a company's supply chain are, on average, 11.4 times higher than its operational emissions.

Through CDP's Supply Chain program, major purchasing organizations are requesting environmental data from their suppliers. In 2021, more than 200 members worldwide with US\$5.5 trillion in purchasing power used the program to engage suppliers, collect data, pinpoint risks and identify opportunities. Collectively, members requested environmental data from 23,458 suppliers worldwide. In response to this, 11,457 individual suppliers disclosed through CDP's platform, including 5,285 small and medium enterprises (SMEs), resulting in an overall growth of 41% when compared to 2020 levels¹.

Suppliers requested by their customers to disclose through CDP's Supply Chain program range from SMEs to large listed companies.

Today's sustainability leaders know that their environmental risks and impacts don't end at the office door. Investors, consumers and policymakers want to see companies taking responsibility for their value chain and purchasing decisions. The global pandemic, among countless other challenging events of the past few years, shows that resilience in supply chains and business models is more essential than ever.

STATE OF PLAY FOR ASIA PACIFIC COMPANIES



Climate action is a journey. Companies are at different stages and levels of advancement, ranging from disclosure, to assessing their risk profile, to setting targets and finally, achieving them across their direct operations and supply chains. As companies progress along this journey, they become more prepared for the low-carbon economy.

This report highlights three key areas within a company's journey towards environmental stewardship, which align with CDP best practice. These are summarized in the table below, comparing all 2021 responding companies with the region's leading performers.

Companies with a leadership band score (A and A-) are demonstrating strong progress on their climate journey. They have incorporated climate into their strategy, implemented mechanisms to identify how climate-related issues can impact their business, and put in place initiatives to mitigate risks and minimize their footprint. However, improvement is still needed to align targets with a science-based 1.5°C pathway and to ramp up renewable energy usage. With enhanced guidance from the Science-based Targets Initiative (SBTi) being rolled out and growing momentum for renewable solutions, improvement in the short-term is expected in both of these areas for climate leaders.

Climate-related performance was much more varied across the overall group of responding companies. The areas that are relatively simple to implement, such as the disclosure of Scope 1 and 2 emissions, have been adopted by many organizations. Much more effort is required in the areas that are challenging but still critical, such as clear transition plans and ambitious emissions reduction targets. External stakeholders, investors, clients and the public are demanding progress in these areas so it's time for internal or organizational barriers to be eliminated. Companies must now step up, dedicate resources and improve meaningfully in these areas. There are leaders in the Asia Pacific region that can offer guidance and inspiration.

These areas will be further explored in the following sections of this report to analyze how companies in Asia Pacific are progressing on their net-zero journey.

Questionnaire focus areas

All respondents

Building strong foundations to enable climate action

Has board-level oversight of climate-related issues



3056/3879



227/227

Conducts climate-related scenario analysis



1134/3879



214/227

Has company-wide and multidisciplinary risk management processes for identifying, assessing and managing climate-related risks and opportunities

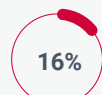


2936/3879



227/227

Conducts risk assessments more than once a year and all time horizons are considered



629/3879



195/227

Setting targets for ambitious emissions reductions

Disclose Scope 1 emissions



3074/3879



227/227

Disclose Scope 2 emissions



2759/3879



227/227

Disclose Scope 3 emissions (at least 1 category)



1556/3879



227/227

Disclose Scope 3 emissions (all relevant categories)



880/3879



199/227

Reported having active emissions reduction targets in the reporting year



2521/3879



227/227

Reports science-based targets, either intensity or absolute



1117/3879



151/227

Reports 1.5°C aligned science-based targets



413/3879



56/227

Questionnaire focus areas	All respondents	Leadership band scorers (A and A-)
Taking action to tackle emissions		
<p>Proportion of energy consumed from renewable sources</p> <p>(note: based on companies in Asia Pacific who submitted a response to CDP's Investor Signatories)</p>	<p>6%</p> <p>53 mil MWH/961 mil MWH Sample size =975 organizations</p>	<p>5%</p> <p>17 mil MWH/351 mil MWH Sample size =227 organizations</p>
<p>Top sources for emissions reductions</p> <p>(note: based on companies in Asia Pacific who submitted a response to CDP's Investor Signatories)</p>	<p>Change in renewable energy consumption</p> <p>38%</p>	<p>Change in output (see definition on page 42)</p> <p>48%</p>
	<p>Other emissions reduction activities</p> <p>32%</p>	<p>Other emissions reduction activities</p> <p>36%</p>
	<p>Change in output (see definition on page 42)</p> <p>21%</p>	<p>Change in renewable energy consumption</p> <p>11%</p>



THE RISE OF MANDATORY DISCLOSURE

Why are authorities mandating disclosure?

Environmental, Social and Governance (ESG) reporting among corporates has increased significantly over the past year, gaining more attention than ever before. Reporting on ESG issues has been largely voluntary since its inception, and ESG trends reflect the fragmented and complicated nature of voluntary reporting. There are more than 1,000 reporting frameworks for sustainability-related issues, a 10-fold increase since the Rio Earth Summit in 1992. These are accompanied by around 750 reporting and management resources⁷.

In many cases, this means companies can select the reporting frameworks they believe will present them in the best light - even if the chosen framework is not the most rigorous or if the framework fails to capture all relevant data. This fragmentation limits the value of the disclosed data, and data quality issues have led stakeholders, including investors with a strong ESG mandate, to call for greater harmonization among corporate disclosures in order to meet their own ESG targets.

Given these dynamics, there are calls from various stakeholders, including NGOs, investors and governments, to address the lack of comparability among frameworks and to move towards harmonization in ESG disclosure. This would allow stakeholders to compare corporate environmental performance both within and across sectors⁸. As such, policy actors are leveraging regulatory powers to drive convergence in environmental reporting at both the national and international levels⁹.

Mandatory disclosure trends across the world

At COP26, the International Financial Reporting Standards Foundation (IFRS) announced the

formation of a new International Sustainability Standards Board (ISSB) to develop a comprehensive global baseline of high-quality sustainability disclosure standards to meet investors' information needs and to serve public interests. IFRS also published a prototype of climate-specific and general disclosure requirements developed by the Technical Readiness Working Group (TRWG), a group formed by the IFRS Foundation Trustees to undertake preparatory work for the ISSB. Together, these developments lay the technical groundwork for the ISSB to function as a global sustainability disclosure standard-setter for financial markets.

In June 2021, G7 Finance Ministers and Central Bank Governors, joined by the governments of Australia, India and the Republic of Korea, committed to addressing ESG challenges in order to move toward deeper, multilateral economic cooperation. In addition to the G7 commitment, disclosure in line with the recommendations of the TCFD was introduced by authorities in several jurisdictions, including Japan, New Zealand, Hong Kong and Singapore, amongst others.

The announcement by authorities in India mandating disclosure from listed companies is one example of a significant push towards ESG disclosures among emerging economies. Other emerging economies like the Philippines and Malaysia are also both reviewing their existing legislation and considering developing new regulation for the purpose of mandating disclosure. Mainland China issued voluntary green investment guidelines in 2018, and mandatory disclosure has also been discussed.

In addition to government authorities, many stock exchanges based in the Asia Pacific region have begun to include more robust

environmental reporting requirements among their listing rules. The UN-linked Sustainable Stock Exchanges Initiative, which supports exchanges and regulators through capacity building in order to speed the growth of sustainable finance and to enhance corporate ESG performance, has members throughout the region. All major stock exchanges in the region have some form of mandatory ESG requirement, and many have endorsed the recommendations of the TCFD in their written ESG reporting guidance. For example, Singapore Exchange recently mandated climate disclosure in line with the recommendations of the TCFD, and Indonesia Stock Exchange became an official supporter of the TCFD in June 2021.

Building on this momentum, mandatory disclosure facilitates the creation and implementation of linked policy instruments designed to channel financing toward sustainable business and projects. Green taxonomies, which provide a set of criteria that allows investors and other stakeholders to distinguish sustainable business activities from unsustainable activities, are a key example of linked policy instruments. This has the effect of creating a more uniform understanding of what constitutes sustainable business activity. Mandatory reporting generates the data, indicators and insights necessary for investors to identify green investment opportunities in line with green taxonomies.

Significant growth of green taxonomies

The EU's Green taxonomy regulation, which was passed in 2021 by the European Commission (EC), is an important policy instrument driving ESG disclosures. The heart of the regulation is a set of ESG thresholds that companies must meet in order to be considered aligned with the EC's priority of fostering climate change mitigation and adaptation. Corporates will also be required to disclose information against the taxonomy framework under the Corporate Sustainability Reporting Directive (CSRD).

In June 2021, the UK announced the creation of its new Green Technical Advisory Group (GTAG) to provide independent oversight of the development of the UK's green taxonomy. While these regulations directly cover EU- and UK-based entities only, they nonetheless have a significant impact on companies in the Asia Pacific region that are or aspire to be embedded in European and British value chains.

The Asia Pacific region has shown leadership in taxonomy development, with China, Japan, Malaysia, Mongolia, and the ASEAN bloc developing taxonomies suited for local economic and development contexts¹⁰.

Taxonomy frameworks have also featured in the climate policy discussions of other markets including Thailand, Singapore, India, Vietnam and the Republic of Korea. While this interest in taxonomies is an encouraging sign of the mainstreaming of sustainable finance, as with mandatory disclosure care must be taken to avoid policy fragmentation and to ensure that various taxonomies align with common standards. The proposed Common Ground Taxonomy, which draws on the European Union and China taxonomies, has the potential to improve the comparability and interoperability of taxonomies.

Building on the bedrock of high-quality, comparable ESG data generated through common reporting frameworks, increased harmonization among taxonomies can potentially lower the transboundary cost of sustainable investments and scale up the mobilization of sustainable capital internationally. As such, both mandatory disclosure and taxonomy implementation are seen by policymakers as key instruments to instill greater resiliency in financial systems.

CASE STUDY

SCENTRE GROUP

Scentre Group has reduced its portfolio emissions intensity by more than 37% since 2009 – out-performing its 35% target five years ahead of schedule – and is set to power its major retail centers in New Zealand using renewable electricity from 2022.

The global retail property giant has progressively increased its CDP score to A in 2021, from a C with its first submission in 2017. The score increase acknowledged Scentre's sustainable business framework and carbon initiatives to date.

Scentre Group owns seven out of the top 10 shopping centers in Australia, as well as four of the top five centers in New Zealand.

In 2021, it announced a target to achieve Scope 1 and Scope 2 net-zero emissions by 2030 across its wholly-owned portfolio and a public commitment of support for the Taskforce for Climate-related Financial Disclosures (TCFD).

"Leading our business with a responsible business mindset goes hand-in-hand with our objective to deliver long-term sustainable returns for our security-holders and our strategy to create the places more people choose to come, more often, for longer," the company reported.

"We consider and manage our financial and non-financial risks in the same way – with governance and accountability front of mind and clear accountabilities for execution and reporting on progress."

Scentre's Sustainable Business Framework cites energy and greenhouse gas emissions, water, health, safety and security, and employment as key high-impact opportunities.

Company CEO Peter Allen, together with other members of the Scentre Group Board, is responsible for monitoring significant business risks including environmental risks, and monitoring the adequacy, effectiveness and operation of risk management and compliance policies, controls and frameworks.

Scentre Group has assessed its portfolio under physical climate change scenarios using CSIRO and the Australian Bureau of Meteorology and New Zealand Ministry for the Environment 2018 Climate Change Projections data.

They found physical risks such as the potential for higher intensity rainfall events, cyclone/storm intensity, flash flooding, extended heat waves and bush fires were relevant for some assets and risk assessments and considerations are being integrated into the business' longer-term asset planning process.

This forms part of their commitment to sustainability or 'responsible business' as the Group calls its balanced approach across community, people, environment and economic performance. In 2020, Scentre Group reduced its energy use 10 per cent year-on-year, incorporating 4% asset operational efficiency.

"Scentre Group continues to commit to identify initiatives to improve energy efficiency and move towards lower emissions technology where applicable," they said.

"Examples of initiatives include the creation of a national operations center and data analytics for enhanced performance of our building management systems, the continued installation of solar generation at centers across our portfolio and the installation of EV charging stations at our centers to meet an emerging transport solution for our customers."

A LONG-TERM INVESTOR'S VIEW

GIC'S SUSTAINABILITY APPROACH



Sustainability is integral to GIC's mandate to preserve and enhance the international purchasing power of the reserves under our management.

We believe that companies with strong sustainability practices offer prospects of better risk-adjusted returns over the long term, and that this relationship will strengthen over time as market externalities are priced in by the actions of regulators, businesses and consumers. Sustainability issues such as climate change can have a material impact on the long-term value of the companies we invest in.

At GIC, we seek to integrate sustainability into all aspects of our investment and corporate processes. We do this through our O.D.E framework:

1. **Offence:** We invest in the transition to a lower carbon world. This means investing in companies that provide low-carbon solutions, and engaging our portfolio companies to help accelerate their own transition.
2. **Defence:** We protect our investments against sustainability risks, through regular screening and additional due diligence on companies exposed to greater risks. We also stress-test our portfolio against a range of climate change scenarios.
3. **Enterprise Excellence:** With offices in 10 cities around the world, GIC also has a responsibility to operate sustainably. We achieved carbon neutrality in our own corporate activities last year.

Climate risk is an investment risk that cuts across every asset class, which the real economy cannot divest away. We require good data to support focused engagements, and good governance for companies to implement long-term transition plans with shareholder support.

CDP plays a vital role in driving greater disclosure on climate change-related risks and opportunities. CDP's disclosure framework provides companies with clear guidance on material environmental metrics to measure, monitor and report, while its database offers investors consistent and financially relevant inputs from corporate respondents. Together, these resources help companies and investors sharpen the focus and quality of engagement dialogues on climate risk and mitigation measures.

Since joining CDP in 2020, we have supported CDP's efforts in reaching out to over 3,500 listed companies in our public equities portfolio through its annual campaign. We are encouraged to see the number of companies making disclosures through CDP grow by 37% globally last year compared to 2020. We look forward to more companies participating in the reporting cycle this year, and will step up engagement with select companies that have not responded to these requests.

More companies now recognise the need for a strategic response to, and strong oversight of, climate risks and opportunities. Over 70% of respondents from the Asia Pacific region have elevated the responsibility for climate-related issues to the executive or board level. We anticipate more decisive climate action by these companies, and hope others will soon follow suit by ensuring their climate response is supported at the highest level.

Sustainable investing remains a rapidly evolving space and a continuous journey, and GIC still has much to learn and improve on in this space. We are privileged to be part of a growing community of like-minded investors around the world, whom we can exchange ideas with and learn from, and CDP's work is foundational to such a discourse.





BUILDING STRONG FOUNDATIONS TO ENABLE CLIMATE ACTION

- ▼ Almost eight out of 10 (79%) of reporting companies raised responsibilities for climate action to board or executive level
- ▼ More than three-quarters of companies have a process for identifying, assessing and responding to climate-related risks and opportunities
- ▼ Business leaders are incentivized to manage their climate impact at 50% of companies

Companies in the Asia Pacific region increasingly integrated sustainability into their corporate strategies in 2021, in acknowledgement of the critical risks - and opportunities - of climate change. C-suite executives across the region responded with plans to decarbonize and address sustainability issues within their operations. Accountability was a major focus for climate strategy as companies recognized the need to match their ambitious claims with tangible actions to ensure emissions reductions were achieved in line with their organizations' stated goals.

Governance processes such as low-carbon strategies and reporting mechanisms are important to deliver emissions reductions. One of these actions is reporting in line with the Task force on Climate-Related Financial Disclosure (TCFD) recommendations. Having emerged as one of the leading climate disclosure frameworks, companies disclose information about their climate risks and opportunities in line with TCFD requirements across four pillars: governance, strategy, risk management, and metrics and targets. CDP's climate questionnaire, which this report is based on, is fully aligned with the TCFD recommendations.

Leadership on climate action came from the top at the majority of companies responding through CDP in 2021. **Senior executives - indeed the Chief Executive Officer, Board chair or Board director - oversaw carbon emissions strategies, research and development, or the development of mitigation projects at more than 70% of companies.** Leaders recognized the need to minimize material impacts on their financial position and performance, and realized that this imperative must come from them.

76%

of companies have a process in place for identifying, assessing and responding to climate risks and opportunities

Climate leadership involves managing regulatory and reputational risks, often with multiple layers of oversight. Amid growing disclosure and regulatory requirements, companies have increasingly developed climate risk identification and management processes that are integrated into their overall business strategies. Over three-quarters (76%) of companies have a process in place for identifying, assessing and responding to climate risks and opportunities.

At ACC, a cement and concrete company based in India that scored A for their climate disclosure in 2021, climate and carbon are “among the most material topics in the organization”, having multiple layers of review across management and executive levels. “Before updating to the management, the Chief Manufacturing Officer reviews the progress on climate levels and targets at plant level and at corporate level on a monthly basis,” ACC reported. “Various KPIs such as thermal energy consumption, CPP [coal power plant] heat rate, electrical energy consumption are also tracked on a daily basis.

Among companies that have a process in place for identifying risks, the risks that were top of mind for most were current regulation (88%), legal (76%), and reputation (75%). However, fewer assessed chronic (57%) and acute physical risks (67%). This reflects a region that overall is relatively early on in its climate journey, with compliance risk and increasing mandatory disclosure requirements taking the spotlight.

Considering the fact that the cost of natural catastrophes intensified by climate change was an estimated \$US640 billion between 2017 and 2019¹², companies should also turn their attention to physical risks, especially as these are expected to worsen in the latter half of the century. Significant extreme weather events have already affected the region, impacting supply chains and damaging assets.

A positive outcome of the analysis was that a large proportion **(76%) of organizations incorporated insights from scenario analyses on their climate-related risks and opportunities into their strategy and financial planning.** Of the companies in which climate-related risks and opportunities had influenced strategy and/or financial planning, about 75% noted it influenced their operations, as well as products and services.

Yet in spite of the broad acknowledgement of the urgency of climate action among corporates, there remains a major gap in implementation. Fewer than four in 10 respondents had a specific low-carbon transition plan (38%).

38%

Fewer than four in 10 respondents had a specific low-carbon transition plan

29%

organizations used climate-related scenario analysis to inform their strategies.

About one in four (29%) organizations used climate-related scenario analysis to inform their strategies. Of those companies, half (53%) conducted both qualitative and quantitative climate-related scenario planning to inform their business strategy. This demonstrated an increased willingness from corporate leaders across the Asia Pacific region to meet the climate challenge with a holistic approach.

Directors step up with responsibility for climate action

Climate action has become a key area of responsibility for leadership teams across Asia Pacific. **There was board-level oversight of climate-related issues at 79% of disclosing companies.** This included the vast majority of hospitality, infrastructure, food and beverage, and transport services businesses, showing that a variety of industries are taking climate action seriously.

Where companies had set emissions reduction targets, they were more likely to have board oversight on climate-related issues. This was particularly notable **among those companies that had an emissions reduction target validated by the SBTi, where almost all (96%) reported to their Boards on climate-related issues.**

One third of companies allocated the significant responsibility of climate action to their Chief Executive Officer, while another 22% of companies delegated this responsibility to board-level directors. Despite the fact that different company structures will result in different roles taking responsibility for climate issues, almost nine in 10 (89%) of climate leadership roles are taken up by senior management and executives, which shows that companies are recognizing that meaningful climate action requires strong leadership.

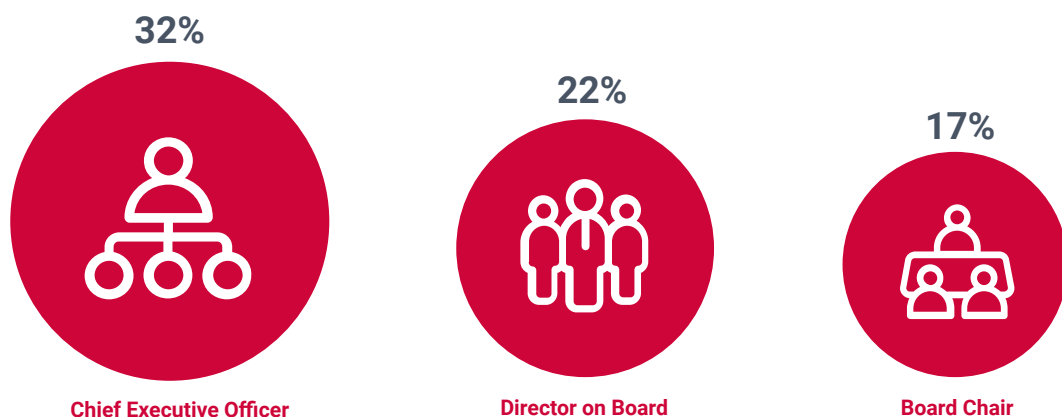


Figure 1: Most selected titles/roles with responsibility for climate action by reporting companies (Sample size = 2005)

Telecommunications, media and data center companies, as sectors, achieved strong CDP scores. Of the 62 respondents, 11 scored an A for their Climate Change submission in 2021. Seven of these companies had improved their results compared to 2020. About four out of five companies within this sector reported having board-level oversight of climate-related issues.

Achieving best practice on climate-related governance would involve integrating climate-related considerations into all aspects of decision-making, from strategy review and monitoring, to guiding future performance objectives, business plans and budgets. This involves board-level oversight of climate-related issues, with responsibility at executive or board level.

Climate-related issues were discussed at all board meetings for about one quarter (27%) of those organizations that have board-level oversight of climate, while another 50% scheduled discussions at some board meetings. About one in six (17%) placed the responsibility for climate action with the Board Chair. Further, almost seven out of 10 companies that discussed climate action at board meetings did so to review and guide their strategy (68%), and major action plans (67%). Fewer companies (61%) assessed climate action in terms of risk management but it is still positive to see this number of companies discuss climate risks at the highest levels.



Figure 2: Governance mechanisms at board-level into which climate-related issues are integrated (Sample size = 2,279)

Incentives should also be in place to incentivize the attainment of environmental projects and targets. **Half of the responding companies indicated they provide incentives for management of climate-related issues and another 24% plan to introduce them in the next two years.**

Incentives work to accelerate climate action. **Companies that do introduce incentives are about four times as likely to report decreased emissions.**

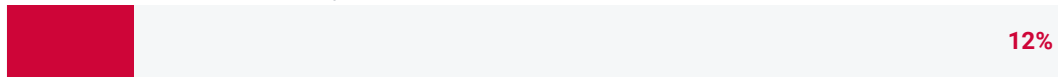
Provide incentives for the management of climate-related issues



Do not provide incentives for the management of climate-related issues, but plan to introduce them in the next two years



Do not provide incentives for the management of climate-related issues, and do not plan to introduce them in the next two years



No response



Figure 3: Companies in the region with incentives in place for the management of climate-related issues (Sample size = 3,879)

For 70% of companies that have incentivized climate action, cash rewards were used as incentives for effective activities, notably for employees or directors to meet targets on emissions and energy reductions and projects.

*Increasing its score from A- to A this year, Taiwan-based real estate firm **Sinyi Realty Inc** rewarded its executive team for sustainable development using sustainability indicators. These included personal KPIs with direct salary impacts. For employees, Sinyi held competitions to devise energy-saving innovations, with rewards for the winners.*

*At India's **Tech Mahindra**, a technology and consulting company with an A score, senior leader remunerations were linked to efficiencies and emissions reductions. The technology company also had reward and recognition programs across the organization for individuals and teams, such as Star Awards, Excellence Awards and Sustainability Champion Awards.*

Other non-monetary incentives reported included electric vehicle ownership schemes, volunteer days, and employee education and award schemes. This highlights the increasing recognition of climate as a 'whole-of-business' priority and acknowledges the important role of employees to embed climate action into an organization.

63%

of companies have identified inherent climate-related risks that could have financial or strategic impacts on their business

How companies incorporated climate risk into strategy

Climate change was rightly considered a major factor impacting companies in Asia Pacific throughout 2021. The recognition of risks is high, with two-thirds (63%) of companies having identified inherent climate-related risks that could have financial or strategic impacts on their business.

Of the 34% of organizations that reported they have not identified any risks, more than half had not conducted a risk assessment, or the evaluation was still underway. There is a clear knowledge gap here that should be addressed.

Among organizations with processes for identifying climate-related risks, more focus was given to transition risks. Current regulation was unsurprisingly the risk type most frequently included in risk assessments (88%), followed closely with at least 70% of companies including other transition risks including legal (76%), reputation (75%), emerging regulation (72%), and market (70%).

Despite the widely-reported physical risks of climate change in the region, only around two-thirds of risk-aware companies always included physical risks in their assessments. Acute physical risks were always included by 67% of companies and chronic physical risks were always included by 56%. Changing rainfall patterns and access to agricultural products were among the most significant physical risks for businesses.

Importantly, while most organizations acknowledged that climate-related risks and opportunities influenced their strategy and financial planning, **only 38% had developed a low-carbon transition plan**. A low-carbon transition plan is a critical step to enable businesses to tackle their individual climate risks and create a decarbonization plan to achieve it.

*Achieving a CDP score of A, global real estate company headquartered in Singapore, **City Developments Limited (CDL)** conducted an integrated top-down and bottom-up approach to determine resilience or exposures across their portfolio. "The study revealed that in the 2°C /1.5 °C warmer scenario by 2030, the increased pricing on carbon emissions could cause CDL to incur an annual cost of more than US\$20 million [\$US 14 million] if climate-related risk is not managed adequately", the company said. "Recognising the potential implications that carbon pricing has on CDL's business, we have accelerated our commitment towards increased climate resilience and decarbonisation initiatives." These included investment in energy efficiency, on-site and off-site solar energy adoption, carbon offsetting, as well as continuous engagement with its value chain. The company pledged to World Green Building Council Net Zero Carbon Building commitment using whole life cycle approach in 2021.*

About 12% of these companies conducted a qualitative analysis of the climate risks and opportunities facing their organization. Companies that are more advanced - just over 30% of respondents - have conducted in-depth, quantitative analysis in addition to their qualitative analysis.

The adoption of both qualitative and quantitative analyses can be viewed as a positive step in corporate climate action in the region. Climate risk assessments, both qualitative and quantitative, mean that companies have more data to make informed decisions around risk management strategies, business continuity planning and financial planning.

55%

of companies recognized climate-related opportunities that could impact their business

Seizing the opportunities of a net-zero future

Across companies in the Asia Pacific region, there was growing momentum to harness the upsides of the green economy. More than half (55%) of the companies responding to CDP recognized climate-related opportunities that could impact their business. The sectors with the highest recognition of opportunities were power generation, infrastructure, and fossil fuels.

Companies in Asia Pacific are recognizing opportunities presented by developing more sustainable products and services. Of the organizations that recognize climate-related opportunities, more than 700 companies (33%) identified opportunities related to the development of low emissions goods, while 345 (16%) are focusing research and development resources on developing new products.

Companies are also seeing opportunities being driven by the use of lower-emission sources of energy. For example, the critical transition from fossil fuels to renewables in the region is a significant opportunity for companies to explore.

*Indian renewable energy company **Adani Green Energy** improved its CDP score over recent years, rising from a D in 2020 to a B in 2021. The company seized the opportunity for renewable energy with its vision of developing 25 GW by 2025 and 45 GW by 2030, citing India's "ambitious target of renewable energy Asia Pacific creation" set at 450 GW by 2030. To achieve this, Adani sought to develop the largest solar generation portfolio in India. As of 2021, the company was implementing 11.3 gigawatts of renewable energy, including 8.1 GW of solar, 0.8 GW of wind and 2.3 GW wind-solar hybrid. "The trend towards renewable energy is not only being driven top-down but also bottom-up", the company reported.*



Figure 4: Unique opportunities identified by companies in the region (Sample size = 2,135)

High emitters recognized the need for climate action

All power generation companies and nine out of 10 fossil fuel companies that disclosed to CDP's climate questionnaire in 2021 reported having board-level oversight of climate-related issues. Climate issues were scheduled into 86% of board directors' meetings for power generation companies – the highest across sectors. Power generators also led the way in developing low-carbon transition plans (73%).

All power generation and fossil fuel companies that reduced their emissions in 2021 had board-level oversight of climate-related issues in their organizations. Likewise, all companies that set specific emissions targets had board-level oversight.

*Hong Kong-based power business **CLP Holdings Limited**, with investments across Asia Pacific, was among the companies that demonstrated it takes climate change seriously and places responsibility for climate-related issues at the board level. It achieved a score of A- in 2021, an increase from B in 2020. Its board-level Sustainability Committee has a primary role in overseeing the management of the Group's sustainability issues and climate strategy. The committee is chaired by the Chief Executive Officer and includes both executive directors and independent non-executive directors.*

While the company's portfolio currently includes fossil-fuel assets, these committees have oversight of CLP's decarbonisation strategy and were briefed on next steps to implement TCFD recommendations, including the assessment of their portfolio's exposure in different scenarios. In September 2021, CLP Holdings announced it would bring forward its goal to phase out coal-fired generation assets by 2040 – a decade earlier than previously planned - in line with its plan to reach net-zero by 2050.

*India's thermal power generation company **JSW Energy** - which scored A- in 2021, up from B in 2020 – has integrated sustainability into its business strategy with a focused workflow from the operational managers to Head of Plant, to the Corporate Executive Committee (EC), advised by the Chief Sustainability Officer.*

The organization has also established 17 sustainability policies, in line with international sustainability standards and guidelines. The performance monitoring is conducted on a monthly basis by the EC and reviewed by the board-level sustainability committee every six months.



EXPERT INSIGHT

How prepared are Asia Pacific companies when it comes to building climate action into their corporate structures?



Being able to effectively hedge against climate risks and take advantage of opportunities requires much more than adequate disclosure and following regulatory compliance.

Climate action must be integrated across the business to meet the true scope and scale of our climate challenge, and to achieve the goals of the Paris Agreement. Having the necessary governance in place is key, including a strong commitment to climate matters at the board and executive levels, as is incentivizing employees to drive bottom-up climate action. While the progress in Asia Pacific is encouraging, there is much more to be done. Organizations need to make climate considerations central in discussions about future strategy, risk management, financial planning, business continuity, CAPEX, and investment and divestment plans. It is a challenge, but leading companies are already demonstrating that it is both possible and profitable.



Nancy Xie

Senior Managing Consultant - Climate Strategies
South Pole



CASE STUDY

SIAM CEMENT

Cement production is one of the world's biggest carbon challenges. Estimated to produce up to 8% of global emissions, cement production is on par with the world's vehicle fleet¹³.

For Siam Cement, about 68% of its Scope 1 and Scope 2 GHG generation comes from cement production, mainly from the calcination process in its manufacture.

The Thailand-based cement, chemicals and packaging conglomerate introduced strategic changes into the business to support their GHG emissions reduction targets from 2020. Against a goal to cut emissions by 10% in 2020, compared to their intensity-based business-as-usual base of 2007, Siam Cement achieved 10.9%.

Siam Cement's strong ambition on climate continued after its net-zero announcement in 2020. In October 2021, the company announced a new near-term target of reducing GHG emissions at least 20% by 2030 from 2020 base year, covering operations in both Thailand and abroad.

The company has set in place a board committee and executive team to review their business transition to a low-carbon, and net-zero carbon organization. Their strategy involves increasing efficiency, maximizing alternative fuel, renewable energy and aiming for zero fossil-based energy consumption. It was led from the top:

"SCG realized that climate-related issues are crucial since they may affect corporate decision-making and business transformation as well as our innovation portfolio," the company reported.

"[The] CEO has been appointed to assess and manage all climate-related issues e.g. risk management, investment portfolio, climate strategy, operational eco-efficiency, stakeholder engagement and innovation. His responsibility on the management of climate-related issues has also been incorporated into his annual performance appraisal."

"Climate emergency [action] is needed from all countries, businesses and all stakeholders to collaborate and take action together," the company reported.

Siam Cement recognized its challenge to integrate climate resilience into business operations and met the challenge head on. Siam Cement improved its CDP score from C to B in 2021.

CASE STUDY

VITASOY

Beverages manufacturer Vitasoy believes it can harness the global trend towards sustainable plant-based foods. Five years after it introduced its medium-term sustainability targets, the Hong Kong-based non-alcoholic drinks company set a goal to reduce its electricity and fuel use by 25% per unit by 2025/2026 compared to 2013/2014, with a midterm goal of a 20% reduction by 2020/2021.

Vitasoy declared it sought to make the right products, and make those products in the right way. This philosophy was built into the two-year and five-year business plans to include new product developments, renewable energy use, packaging changes and raw material sourcing.

Vitasoy saw the swing toward plant-based nutrition as a benefit for global health and a trend for both a lower carbon footprint and reduced resource utilization. The company told CDP that food production and consumption accounted for more than 25% of all GHG emissions, including about 80% from livestock.

"Issues of food security for our growing population and natural resource availability are being impacted by climate change," Vitasoy reported in their 2021 CDP disclosure.


"We see this as both a business opportunity and climate impact reduction opportunity in providing a good range of plant-based food and beverage products to help people switch to a plant-based diet."

Vitasoy has set a target to achieve more than 90% of its products to be plant-based, pointing to the increasing consumer awareness of climate change that is fuelling an increasing preference for plant-based diets and nutrition. In addition, sustainability risks, including climate risks, are integrated into business and operational units with oversight from a board committee.

"Our commitment to sustainability has positioned us to be able to contribute solutions to complex food, health and environmental issues as well as capturing consumer trends."



SETTING TARGETS FOR AMBITIOUS EMISSIONS REDUCTIONS

- 
- ▶ **65% of companies disclosed their gross global emissions (Scope 1 and Scope 2 combined)**
 - ▶ **Scope 3 reporting and ambitious emissions reduction targets remains lagging**
 - ▶ **29% of companies report having a science-based target**

It is positive to see a large number of companies in the Asia Pacific region reporting their GHG emissions in 2021. Of almost 4,000 organizations responding to CDP in 2021, approximately 80% disclosed their Scope 1 emissions and 66% disclosed their Scope 2 emissions. The proportion of companies that reported at least one of their Scope 3 emission categories is much lower, just four out of 10. This indicates that most companies are not yet on the best-practice climate journey of accounting for their full value chain footprint.

Despite the high number of companies in the region disclosing emissions data, only 23% reported having third party verification or assurance in place of their Scope 1 and 2 emissions. Verification and assurance is good practice in environmental reporting as it ensures the quality of data and processes disclosed.

When it comes to targets, progress could be improved. Most reporting companies (65%) had an emissions reduction target active in 2021. Of the targets set by these 2,263 companies in Asia Pacific, more than half (57%) cover both Scopes 1 and 2 emissions. Similar to reporting footprint data, fewer companies are capturing crucial value chain emissions in their targets, with only 18% of targets including Scope 3 emissions.

Companies in high-emissions industries, such as materials, power generation, infrastructure and fossil fuels were most likely to set emissions reduction targets. Almost all of the top 100 emitters (94%) in the region who responded to CDP's climate questionnaire in 2021, had active emissions reduction targets.

291

companies report having set a net-zero target

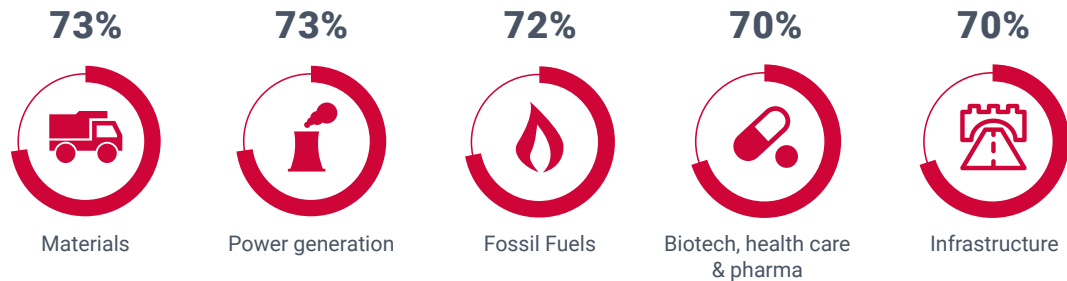
However, ambition must increase. Despite corporate and government net-zero momentum over the last couple of years, an overwhelming majority of companies have not set their sights on net-zero. Only 291 out of the almost 4,000 reporting companies have set a net-zero target and more than 70% of those have set 2050 or later as the year to achieve it. Deep, immediate decarbonization is required in this critical decade. More ambitious short-term targets in line with climate science are required to support the goal to limit temperature rises.

Less than 10% of companies had their emissions targets validated by the SBTi, the gold standard to set a path to lowering emissions. Infrastructure companies such as construction and engineering achieved the highest proportion of companies with SBTi-approved targets at about one in five.

In July 2021, the SBTi announced that targets set from July 2022 must align with a 1.5°C pathway. This will put pressure on Asia Pacific companies to increase ambition.

Top five industries with emissions reduction target

% of companies with target (absolute, intensity, both)



Top five industries reporting science-based targets

% of companies report having science-based targets

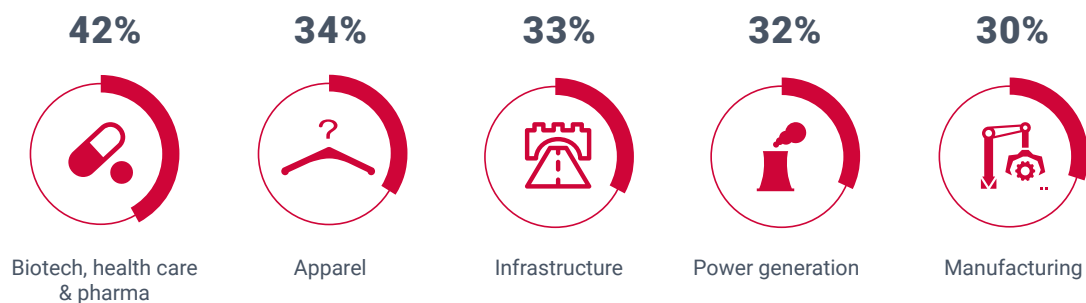


Figure 5: Top five industries reporting emissions reduction targets and those reporting science-based targets (Sample size = 3,879)

Calculating indirect and supply chain emissions

Monitoring and reducing emissions throughout corporate supply chains remained a critical challenge throughout 2021. It is well-accepted that a typical company's supply chain is responsible for substantial environmental impacts. Last year, CDP found companies' indirect emissions from their supply chain were, on average, 11.4 times higher than their operational emissions¹⁴.

40%

of companies disclosed at least one category of their Scope 3 emissions

About 40% of companies disclosed at least one category of their Scope 3 emissions, while about 23% calculated and disclosed Scope 3 emissions across all relevant emission categories. These upstream and downstream emission metrics are critical to understand the full picture of an organization's GHG emissions profile, as a consequence of the production and use of their products or services.

Most companies that reported Scope 3 emissions disclosed business travel (1,043), employee commuting (971) or waste generated in their operations (970) which are the emission categories that are most relevant across different organizations. Far fewer accounted for the more sector-specific categories such as use of their products (416), their investments (215) or the end-of-life of their products (450). Use and the end-of-life of products, in particular, have the potential to be an impactful measure for many companies.

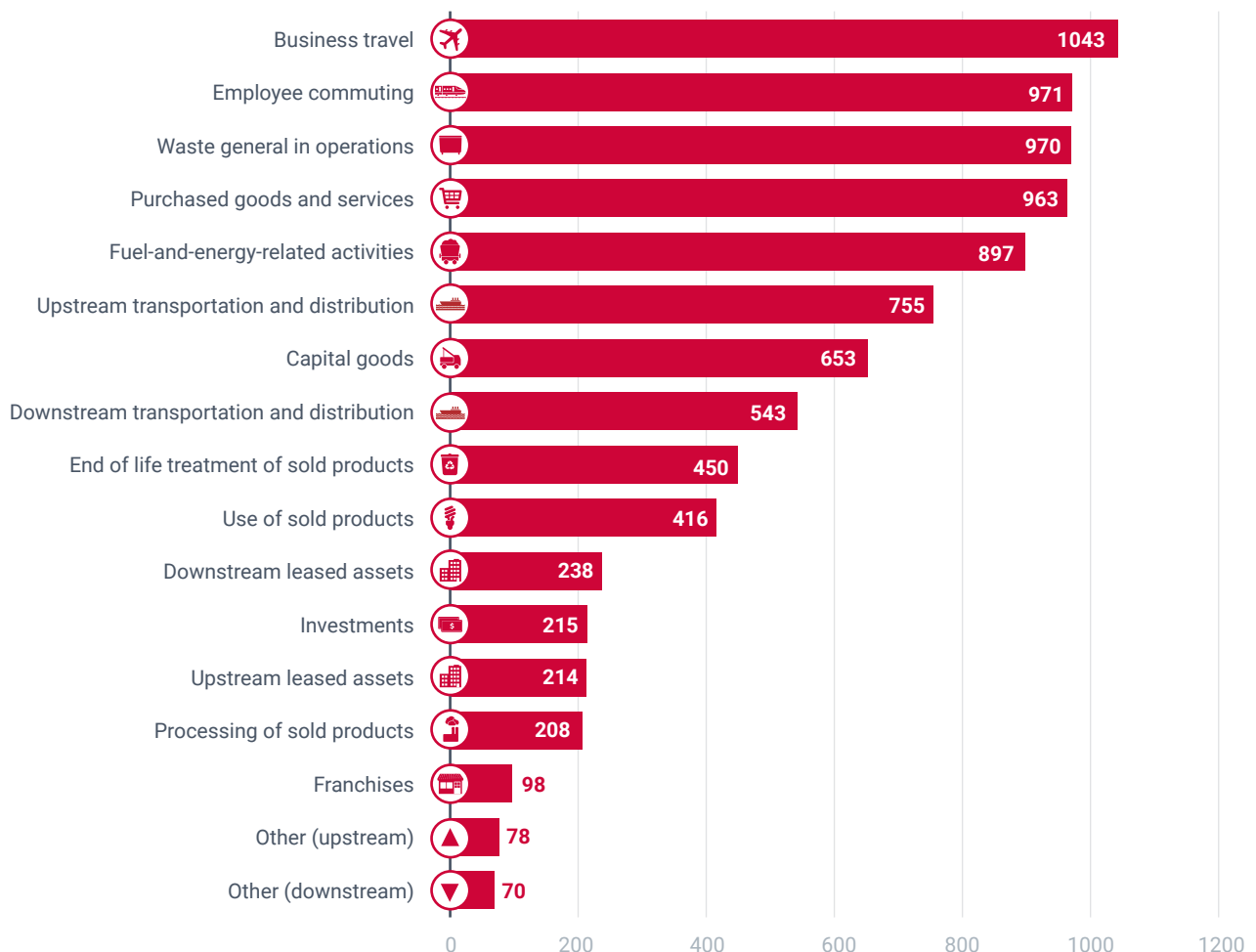


Figure 6: Scope 3 emission categories calculated by reporting companies (Sample size = 1,556)

Greater oversight of Scope 3 emissions is critical to achieve the scale required for the transition to a low-carbon economy. Climate leaders now expected to take responsibility for their overall GHG footprint, including in their value chains. While the number of companies disclosing business travel and employee commuting emissions is positive, the total emissions from these categories will be far outweighed by the other categories that are far harder to report. More needs to be done to address other substantial value chain impacts. Business-as-usual operations will not be sufficient to effect the changes required.

In the manufacturing industry - which made up more than half of respondents to the CDP climate questionnaire in 2021 (mostly customer-requested) - less than 20% reported that they always calculated the relevant Scope 3 categories for their activities. Similarly, just one in three respondents from the materials and services sectors reported all Scope 3 emissions. Consideration of Scope 3 emissions is critical given the importance of the sector in the region.

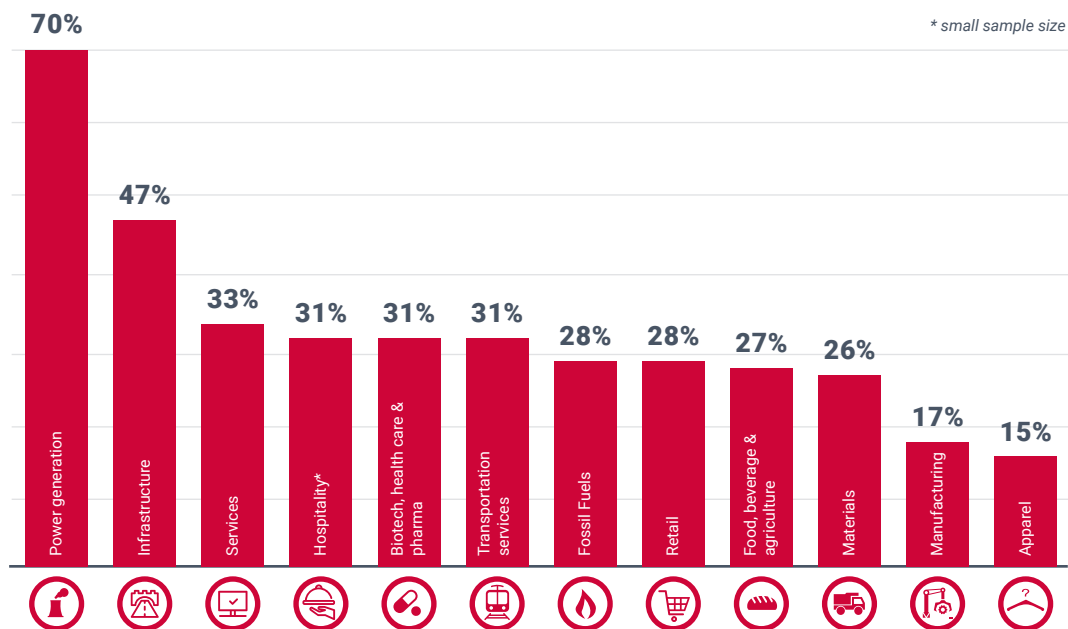


Figure 7: Proportion of companies reporting all relevant scope 3 categories by industry (Sample size = 3,879)

Some Asia Pacific companies are leading the way on Scope 3 reporting and reductions. CDP's annual Supplier Engagement Rating evaluates corporate supply chain engagement on climate issues.

*One of the leaders in supply chain engagement is Australian telecommunications and media company, **Telstra**, who scored A- for their 2021 CDP climate submission, and A for their supplier engagement rating. The company has SBTi-validated near term 1.5C targets to reduce absolute Scopes 1, 2 and 3 GHG emissions by 50% by FY 2030 from a FY2019 base year.*

The company is working with its suppliers to drive change across its value chain. It has a Supplier Code of Conduct that sets out standards, including sustainability expectations. "We have engaged our Top 100 suppliers through CDP's Supply Chain Program to ascertain more accurate levels of carbon emissions from our suppliers and identify opportunities to work together to reduce emissions".

Emissions targets across Asia Pacific region

Industries varied greatly in their targets for decarbonization. In 2021, more than seven in 10 companies in the materials industry (73%); power generation (73%); fossil fuels (72%); biotech, healthcare and pharma industries (70%) had either absolute emissions reduction targets, intensity targets or both. While climate action is important from all companies, these emissions-intensive industries are critical given their impact on GHG emissions overall.

Across these reduction targets, both self-reported and SBTi-validated, ambitions also varied. Only 682 (35%) of the 1947 targets from these companies are aligned to best practice to limit global temperature rises to 1.5°C. Another 402 (21%) are set to “well below 2°C”, and 487 targets (25%) are aligned to 2°C. The rest are unaligned and therefore, not in keeping with the ambitions of the Paris Agreement.

In a positive step, one in three reporting companies that did not yet have an emissions target planned to introduce one in the next two years.

For those that had no plans, they offered a range of reasons. Some deemed it unimportant, or not an immediate priority - disappointing and surprising given the growing global focus on climate. Others said they did not have the data on their operations or lacked internal resources. This highlighted the potential for companies more advanced in their climate journey to support other businesses across the Asia Pacific region to overcome the barriers to action.

Also, many of the companies highlighted here were in the customer-requested cohort - which presents an opportunity for large purchasing organizations and CDP Supply Chain members to further engage and drive emissions reductions within their supply chains.

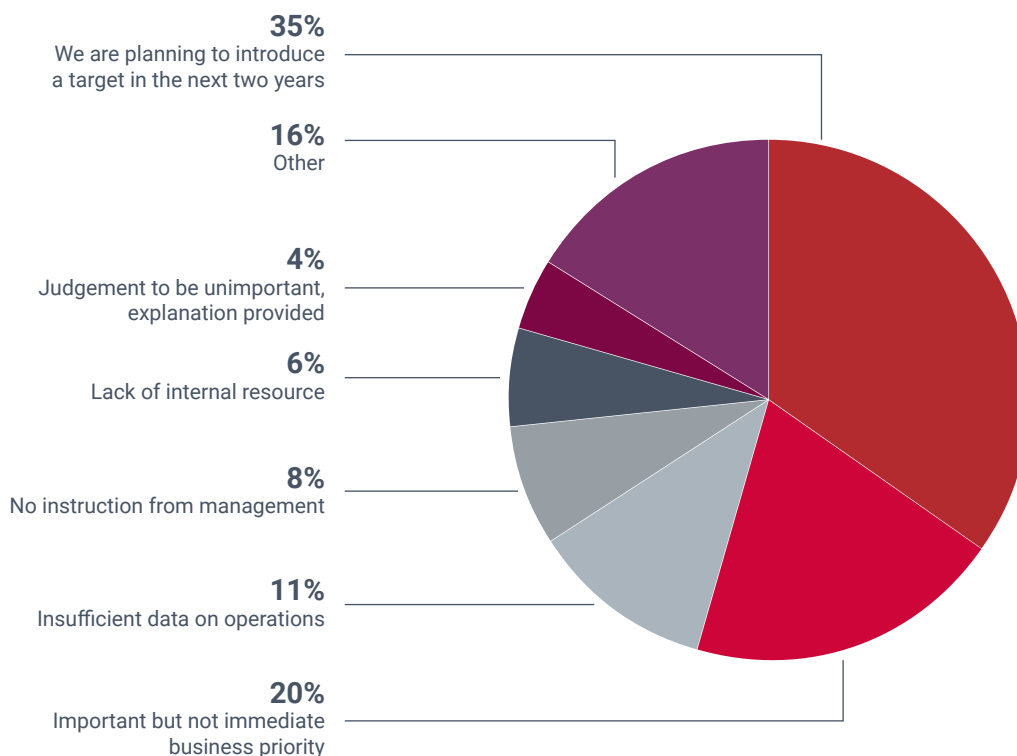


Figure 8: Reported reasons why some companies have not yet set an emissions reduction target (Sample size = 1,309)

The markets with the highest proportion of companies with targets were Japan (where 77% of companies reported emissions targets), Hong Kong SAR, China (69%) and Taiwan, China (68%). A small number of strong performances were reported from New Zealand (79%).

*Japanese consulting and IT company group, **Nomura Research Institute (NRI)** not only recognized the imperative to adopt more sustainable ways to deliver electricity to its data centers, but also addressed its Scope 3 emissions. NRI scored A for its CDP disclosures in 2019, 2020 and 2021.*

"In 2020, we signed the Business Ambition for 1.5°C pledge, establishing the target of a 72% reduction in GHG emissions by 2030 from a 2013 base-year," the company said. "This was certified by the Science-based Targets initiative (SBTi) as a 1.5°C target. We believe it is important that the whole supply chain takes measures to address climate change. To build a cooperative framework for promoting sustainability with our whole supply chain, we hold an annual event for business partners on NRI's environmental initiatives, where we exchange opinions." To further enhance its engagement with suppliers, NRI became a CDP Supply Chain member in 2021.

The online service provider committed to the RE100 Initiative in 2019 to commit to 100% renewable energy use. NRI has pledged to achieve this by 2050, with an interim target of 70% renewable use within the end of this decade.

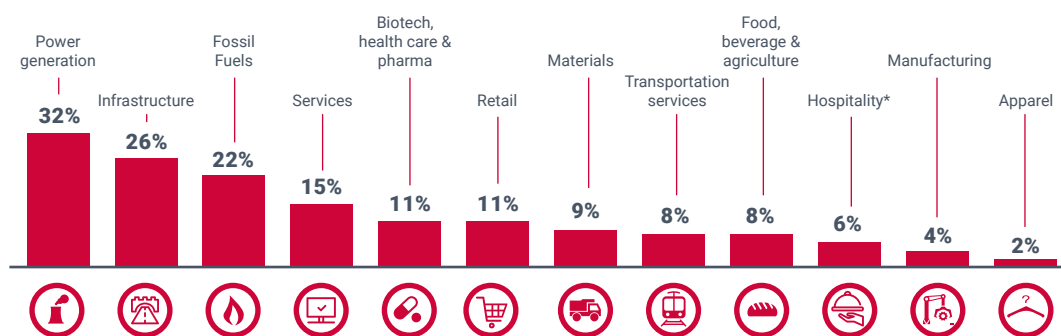
Target setting is a step towards emissions reductions. Organizations that have targets - either absolute or intensity-based - were three times as likely to decrease their GHG emissions.

Striving for net-zero?

Despite these intentions, however, the current emissions reduction targets from reporting companies remain insufficient to meet the global climate challenge. Fewer than one in 10 organizations (8%) reported a net-zero target and only 37 of the top 100 emitters that responded to CDP's investor-led requests reported net-zero targets. There is an expectation of improvement, however, given 2021 was the first year CDP requested this information.

High-emission power generation companies reported the highest proportion of net-zero targets (32%), while one-quarter of infrastructure companies (26%) also had a target for net zero. Hospitality (6%), manufacturing (4%) and apparel (2%) were industries with the lowest proportion of net-zero targets from all responding companies.

Dominant Asia Pacific industries such as manufacturing and apparel reported low rates of net-zero targets, just 4% and 2% respectively. Given the importance of these industries in the region, and the imperative to get to net zero by 2050, more needs to be done.



* small sample size

Figure 9: Proportion of companies reporting net-zero targets by industry (Sample size = 3,879)

29%

of responding companies report having science-based targets

Targets must be aligned to science

More companies are recognizing the need to align emission reduction targets with climate science. 29% of responding companies report having science-based targets. Less than 10% of companies had their science-based targets validated by the SBTi. As of March 2022, 300 companies in Asia Pacific had targets validated by the SBTi.

As it becomes recognised as the gold standard, SBTi is strengthening and adding to its guidance. It is developing additional specific decarbonization approaches for some sectors that may support more complex organizations in setting targets. Likewise, it has only been since October 2021 that the SBTi has had the Net-Zero standard, a framework to enable companies to set robust and credible net-zero targets in line with a 1.5°C future.

The Net-Zero Pre-Launch Public Consultation was open between September and October, 2021, during which time more than 168 participants helped to refine the standard.

In November 2021, Wipro became the first company in Asia Pacific to have its net-zero target validated by the SBTi. Wipro commits to reach net-zero greenhouse gas emissions across the value chain by FY2040.

There was already some momentum with verified targets reported in 2021. About one in five (21%) of the companies that reported a net-zero target intended to seek validation of their target from the SBTi and another 23% expected to set an SBTi-validated net-zero target in the next two years.

*Indian multinational conglomerate **Wipro** has set its net-zero goal by 2040, within a broader suite of actions, and was one of the first seven companies globally to have their net-zero targets approved by the SBTi.*

The technology services provider achieved more than 42% renewable energy consumption in 2020/2021. Commensurate with its near-term goals and targets, Wipro would scale up investment over the next five years on additional renewable energy procurement, server virtualization, revamp of building management systems, integration with global energy command center (GECC) and retrofits to significantly improve efficiency. Wipro has also set a 100% renewable energy target along with 55% absolute reduction of emissions across all scopes by 2030.

"At Wipro, we see the resurgent interest in Net Zero transition as an opportunity to provide IT services to companies around energy management, smart grid solutions, data analytics and reporting for customers from energy intensive sectors like energy and utility companies, retail, transportation, and manufacturing," the company said.

This is a critical time and the companies aligning their decarbonization ambitions with climate science are leading the way for the world.

EXPERT INSIGHT

It's time to demonstrate ambition with action



The time has come for companies to measure, report and reduce all emissions across their value chain. It is positive that about 80% of Asia Pacific-based companies are reporting some direct emissions. However, only 10% of respondents have SBTi-validated near-term targets. This is clearly not enough. We hope that more companies align their targets with best-practice and increase their ambition to take immediate steps to decarbonize. There are effective ways to monitor emissions and support is available to set ambitious but achievable targets - which are imperative to be able to reduce emissions across Scopes 1, 2 and 3. While we are seeing increasing interest across the region from companies wanting to start their climate journey, true climate leaders need to demonstrate real ambition and share their knowledge with their suppliers to collectively drive action. Working together with your leadership team, supply chain and expert advisors, we need to step up to meet this urgent challenge.



Matt Sprague

Associate Director - Climate Strategies
South Pole



CASE STUDY

FISHER & PAYKEL HEALTHCARE

Fisher & Paykel Healthcare views its business goals and sustainability as intertwined.

The New Zealand-headquartered healthcare manufacturer set and received approval for its 2034 Science Based Target during the 2021 financial year—the same year in which the company's products impacted the lives of approximately 20 million patients around the world.

“At Fisher & Paykel Healthcare, we see corporate social responsibility and sustainability as inextricably linked to the way we do business, and we recognize that taking care of the environment while we pursue our business goals is the right thing to do,” said Lewis Gradon, Managing Director and Chief Executive Officer.

The healthcare company incorporates climate-related risks and opportunities into its financial and strategic planning.

In April 2021, its target to cut emissions 67.2% from 2019 was approved by the Science-based Targets Initiative. In turn, this has sparked the linkage of target achievement to executive remuneration and prompted further supplier-engagement targets.

The company is not only planning to monitor and manage its carbon emissions but also those connected to its sales and product use.

“This requires Fisher & Paykel Healthcare to engage and influence the majority of our suppliers to also work to reduce their carbon emissions,” said Nic Bishop, Head of Sustainability & Environmental Innovation. “This will influence our supply chain strategy by embedding sustainability elements to a much higher level across our supply chain.”

It has committed to a target of having 87% of its suppliers, by spend, to have science-based targets by the 2024 financial year.

Fisher & Paykel Healthcare implemented low-carbon energy use and hydropower initiatives, which saved an estimated 2,538 metric tonnes of CO₂. It has another 11 initiatives under investigation. It is continuing to develop a long-term carbon reduction plan to implement the target.



TAKING ACTION TO TACKLE EMISSIONS

- ▼ The top 100 emitters from Asia Pacific reduced their emissions by over 117 million tonnes CO₂e
- ▼ Just 5% of energy used by the top 100 energy consumers came from renewable sources
- ▼ Companies purchased almost 13 million tonnes of carbon credits throughout the year

Companies in Asia Pacific reported an impressive 267m tonnes of Scope 1 and 2 GHG emissions net reductions throughout the year. This is roughly equivalent to the annual emissions from the nation of the Philippines¹⁵.

Of the 975 companies requested to respond by CDP's investor signatories, the 100 highest emitters were responsible for 83% of emissions. These organizations are typically from carbon-intensive industries and they will face increasing pressure to demonstrate reductions. While their operations continue to be emissions-intensive, in 2021, these top 100 emitting companies delivered 44% of the overall reductions (117m tonnes).

While this is an encouraging effort to decarbonize from the individual companies, emissions reductions to date do not meet the levels required to meet the goals of the Paris Agreement. Companies are setting up strong foundations for their climate action, such as governance and targets, but they must also be taking decisive action to achieve short-term reductions.

The action underway typically focuses on increasing energy efficiency, the use of more renewable power sources and the transition to lower carbon fuels. It is clear that corporate demand for renewables is strong and the impact of switching to renewables is widely accepted but in reality, it can be challenging for companies in Asia Pacific, given the relatively limited options to source renewables in many markets. According to the RE100 annual disclosure report 2021, Australia, China, Japan, Singapore, Republic of Korea, and Taiwan, China, were among the 10 most difficult markets to source renewables¹⁶.

Note: All emissions and energy analysis in this section, unless otherwise explained, is based on the 975 companies in Asia Pacific that responded to CDP's 2021 climate questionnaire in response to requests from CDP's investor signatories.

117 MtCO₂e

emission reductions reported by
the top 100 emitters in 2021

Reporting and reducing carbon emissions

The total emissions reported by companies in the region that submitted a response to CDP's investor signatories in 2021 was 2.98 billion tonnes CO₂e, with Scope 1 representing 85% of the total reported emissions. This high Scope 1 figure is due to heavy-emitting sectors such as power generation and manufacturing companies in Asia using coal and gas directly in their operations. Many manufacturers generate their own heat and electricity rather than relying on the grid.

Across the total Scope 1 and 2 emissions reported, two-thirds came from power generators and the materials sectors. Companies based in Japan reported the highest proportion of emissions (29%). Combined, Japan and India represent about half (52%) of the total reported emissions.

In light of such a significant emissions footprint, it is positive to report that substantial reductions have been achieved by companies across the region. Such is the power of measuring and public disclosure of emissions that more than 600 companies managed to scale back their GHG footprint in 2021.

The net reductions reported are 267 million tonnes of CO₂e of Scope 1 and 2 emissions. While this is a significant reduction, it only represents 1% of the overall emissions reported in the region for 2021. Much more work needs to be done.

Of these companies reporting reductions, 38% attributed their reductions to "change in renewable energy consumption" which indicates the impact of transitioning to renewables. This was followed by "change in output" (36%) and "other emissions reduction activities" (21%). Considering the proportion of reductions attributed to renewable energy consumption and other related activities, this shows that these activities delivered results.

The "change in output" reason refers to variations as a result of business growth or expansion, a decline in sales or a new product release. It is likely that in 2021, this was a significant factor as it also includes the impact of the COVID-19 pandemic. As parts of the world return to "business as usual" it is crucial that emissions do not.

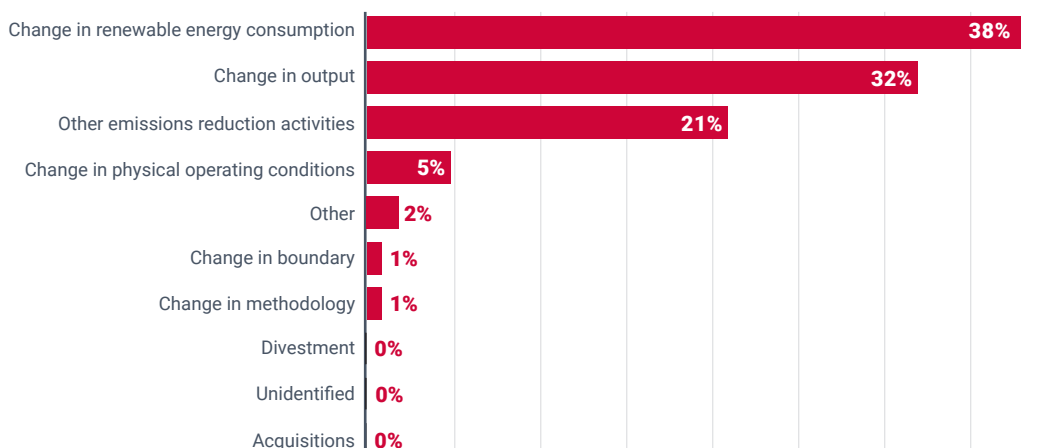


Figure 10: Reported reasons for decrease in emissions (Sample size = 600)

Slow shift to renewables

Widespread use of renewables is essential to decarbonize energy consumption and achieve net-zero emissions. The International Energy Agency has deemed that at least 90% of power generation should be renewable by 2050 to meet the Paris Agreement targets¹⁷.

6%

of energy consumed by disclosing companies was sourced from renewables

Despite this clear and urgent directive, only 6% of energy - a total of about 53 TWh - consumed by disclosing companies was sourced from renewables. The most energy-intensive manufacturing industry represents more than 43% of the total renewable energy consumption.

Of the top 100 energy consumers in Asia Pacific that disclosed to CDP in 2021, 75 used less than 5% renewable energy. Half of the top 100 investor-requested energy consumers did not use any renewable energy.

Infrastructure was the leading sector using renewable energy amongst the top 100 energy consumers, representing 28%. Other high-emitting sectors followed, with transportation (13%), manufacturing (10%) and food, beverage and agriculture (7%). While renewable uptake is lower than required, we are seeing some strides from the biggest sectors.

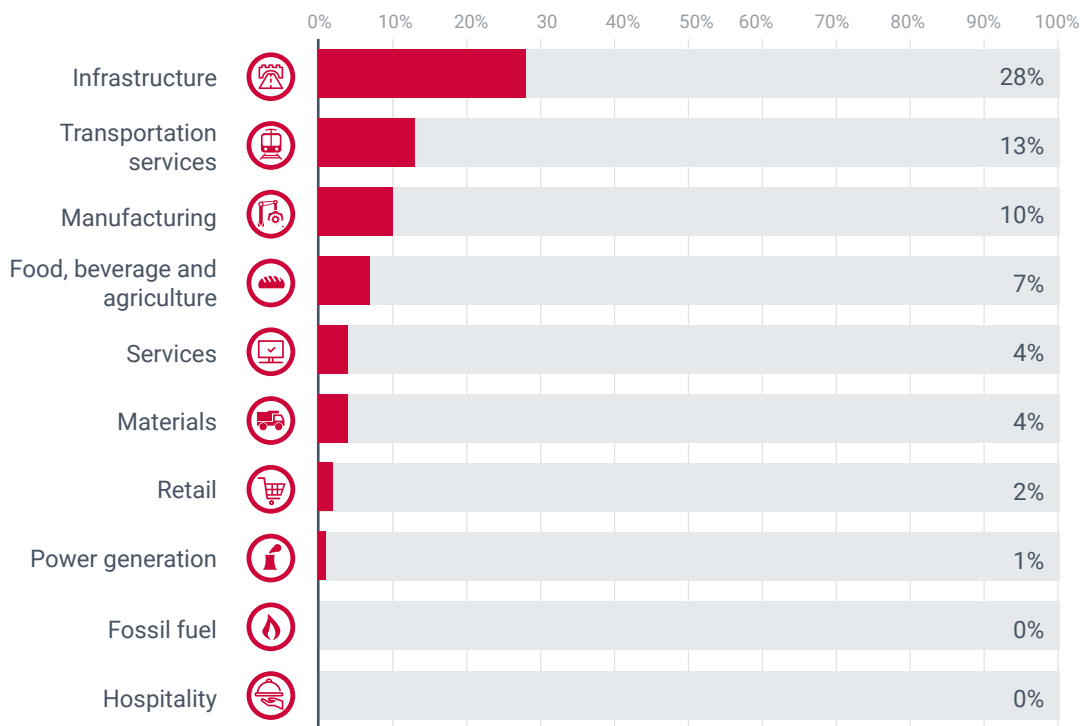


Figure 11: Industry breakdown of renewable energy consumption of top 100 energy consumers (Sample size = 100)

Like most climate action, renewable procurement is often driven by setting targets or joining a leadership initiative such as the RE100. On an encouraging note, the RE100 annual disclosure report 2021 noted that its membership had seen its biggest yearly growth in the Asia Pacific region, where 36 new members were headquartered, equivalent to 62% of new memberships¹⁸.

*South Korean wireless telecommunications operator **SK Telecom** joined the RE100 initiative to achieve net zero in 2020. This sets the target for 100 per cent renewable energy use, which the company plans to achieve by purchasing power through the green tariff and other means recognized by the Korean Electric Power Corporation such as the K-RE100 system.*

They have also taken local steps. "We also reduced 38 tCO₂e by installing solar panels in the Future Management Institute in Icheon and Seongsu office building to switch the corporate power source into renewable energy," the company said.

Renewable options increasing

While renewable energy access has been challenging in some parts of the region, more companies are anticipating increased stakeholder demand, market opportunities and upcoming regulatory requirements to procure and generate energy from renewable sources.

As stated, 62% of new memberships to the RE100 in 2021 came from Asia Pacific. As demand increases, so too should supply.

Purchased renewable energy in Asia accounted for 11% of all purchases reported by RE100 members in 2021, while the region accounts for nearly a third of RE100's electricity consumption. Unbundled Energy Attribute Certificates (EACs) dominate in Asia, where they are used to deliver 70% of purchased volume¹⁹. Companies purchasing EACs can claim the environmental benefit of renewable energy production in their own electricity consumption which can be a feasible alternative to renewable electricity supply in markets where other sourcing methods are limited.

Corporate power purchase agreements (PPAs), which are becoming increasingly popular among corporates across the globe, are another method for companies to source renewables and reduce their Scope 2 emissions. In Asia, corporate PPAs represent a 21% share of RE volumes by RE100 members²⁰.

Trends seen amongst RE100 members are also being observed among the top 100 energy consumers in Asia Pacific that disclosed to CDP in 2021. PPAs are the most common source for these companies to reduce their Scope 2 emissions - 26 out of these 100 companies have contracted PPAs to buy renewable electricity directly from the generator, showing that there is appetite for creative solutions. This was followed by unbundled energy attribute certificates (EACs), used by 13 companies.

***AMP Capital**, the asset management arm of Australia's financial services company AMP, who scored A- for its CDP submission, signed a renewable electricity agreement (PPA) for 100% of the electricity for the base building services for all internally managed commercial office buildings in its AMP Capital Wholesale Office Fund (AWOF) portfolio.*

"The signing of this renewable electricity contract helps support the viability of new solar farms and provides a market signal that there is demand for more renewable electricity generation facilities to be built. The contract also supports clean energy jobs and the orderly transition away from fossil fuel dependence in Australia," the company said.

13 million

tonnes of carbon credits were
purchased by reporting companies

Carbon offsetting recognized as part of climate action strategies

In addition to critical reduction and renewable energy efforts, carbon offsetting is becoming part of corporate climate action in Asia Pacific, with 109 investor-requested companies participating in 2021. Reporting organizations purchased almost 13 million tonnes of carbon credits throughout the year.

The number of companies that bought voluntary offsets was significantly higher than those that bought them for compliance (96 compared to 11), but the volume of credits purchased under regulatory requirements was higher (57%).

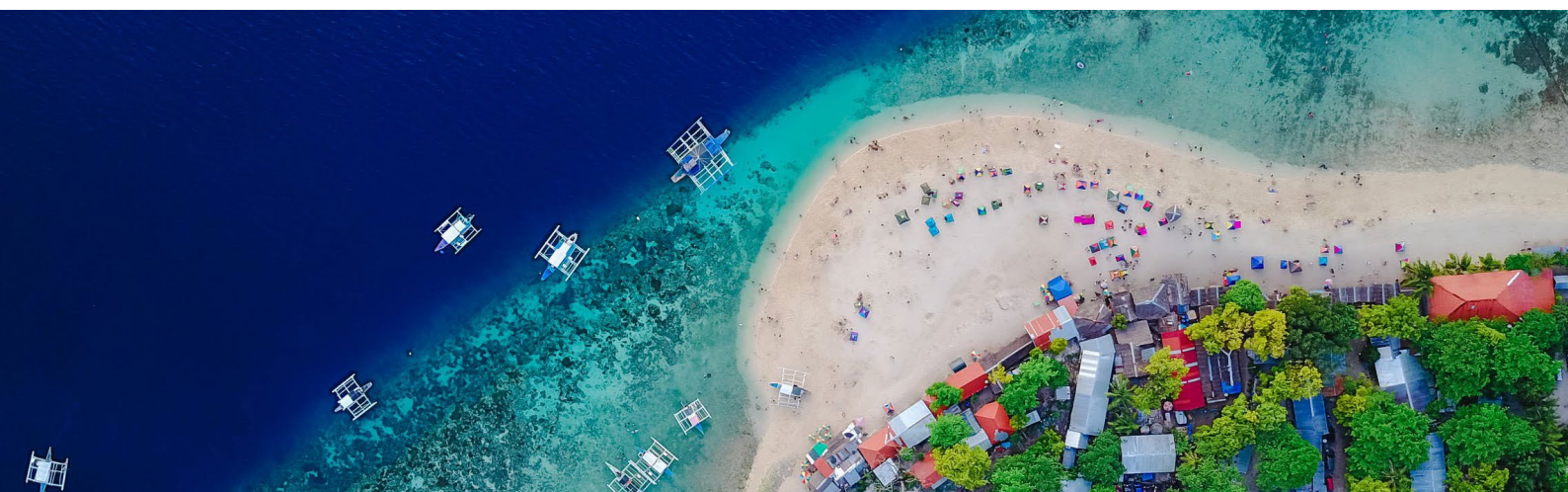
The 96 companies taking voluntary action purchased around 5.2 million tonnes of carbon credits. 62% of the voluntary carbon credits are purchased by the services sector, followed by fossil fuels (19%), and transportation services (9%). These sectors are clearly feeling the pressure from stakeholders to demonstrate immediate action which is driving them to finance climate action projects.

Most (96%) investor-requested companies that did buy carbon credits had their own emissions targets in place, indicating that offsetting is part of a broader reduction strategy. Most (89%) of companies buying credits have either set science-based targets or anticipate to do so in the next two years.

While the primary focus must be on cutting GHG emissions that are released into the atmosphere, there are also productive, environmentally-positive and socially beneficial ways of implementing offsets. Solving the climate crisis will take an “all of the above” approach. We need to reduce emissions rapidly, and we’ll need to draw on every tool in our toolbox to do so.

It is positive to see companies taking responsibility for their emissions today by voluntarily purchasing carbon credits, helping to fund projects with important environmental and socioeconomic benefits - often within the Asia Pacific region.

While offsetting or investing in emission reductions beyond value chains has been recognized as an important part of the climate journey by the Science-Based Targets initiative²¹, among others, it does not reduce an organization’s emissions and cannot be counted towards emission reduction targets. Companies must ensure offsetting is part of a holistic climate strategy and that they are taking meaningful steps to decarbonize across their value chain in line with science.



EXPERT INSIGHT

Are Asia Pacific companies taking enough action now?



Across the Asia Pacific region, climate leaders have achieved commendable reductions in their GHG emissions. Given the urgency of the climate crisis, however, this is not sufficient to meet the pace and scale of the action required in this decisive decade – companies must also support global climate action beyond their direct value chains.

Prioritizing emission reductions is key, which is why companies should conduct a hotspot analysis of emissions to see where and how to carry out the most impactful interventions. Many measures such as energy and resource efficiency can lead to cost savings, so these are a practical place to start. Procuring renewable energy is the next critical step in the journey and requires strong collaboration between sustainability and procurement teams to align objectives and budgets. Options for renewable energy in the region are slowly becoming more accessible and innovative. We expect to see further developments in this area as large energy consumers and renewable technology entrepreneurs put pressure on incumbent energy suppliers and governments. Further down the chain, we expect to see more companies tackling their supply chain emissions by working with suppliers and customers to reduce Scope 3 emissions.

Even under optimistic projections, there is still an enormous gap between where we are heading towards by 2030, and where we need to be to ensure a habitable planet. Companies should, therefore, also undertake ‘beyond value chain mitigation.’ This can be done by financing projects and activities that further avoid and remove emissions outside of their value chain.



Tara Oakley

Regional Business Development Lead, Oceania
South Pole



CASE STUDY

CHAROEN POKPHAND GROUP

Thai conglomerate Charoen Pokphand Group (C.P. Group) has committed to raising energy efficiency, expanding renewable energy use and reducing the amount of waste sent to landfill to zero by 2030 as part of its sustainability framework, guided by its “Three-benefit Principle”. This states that in every country it operates in, the company must first consider the benefits to that country, its people and communities, followed by business benefits to the company itself.

The Group operates in 21 countries and economies across 14 industries such as food and agriculture, retail and distribution, media and telecommunications, property, pharmaceuticals, and finance and investment. It has joined the United Nations’ Race to Zero campaign and joined the Business Ambition for 1.5°C campaign.

C.P. Group has set a target to become carbon neutral by 2030 and net-zero by 2050. This includes phasing out coal from its operations, and raising the proportion of renewable energy use in all businesses.

In order to advance its climate agenda, the company is shifting its energy and electricity consumption to low-emission energy resources, and renewable resources such as solar, wind, hydro or biomass.

“We plan to increase the renewable consumption to 85% by 2030 to achieve this goal,” C.P. Group said in its submission to CDP.

“From this challenge to shift from high-emission energy sources to renewable energy, we see the opportunities to develop new products and processes, such as biofuels and renewable electricity for our own use and for our customers, helping to reduce emissions both within the company’s own operations, and along our value chain.” This represents the potential to increase our revenues through access to new and emerging sectors.

The conglomerate has also committed to reducing water consumption by 20% by 2030, minimizing plastic packaging and instead using 100% reusable, recyclable and compostable plastic.

In addition to its focus on raising energy efficiency and expanding renewable energy, the Group also implements reforestation and afforestation projects and improvement of agricultural practices. This includes initiatives such as maize plantations in paddy fields to reduce nitrous oxide emissions, replacing chemical fertilizers with organic fertilizer, and precision agriculture, that lower emissions in the food value chain. In its infrastructure business, a high-speed rail project is on track to lower the use of fossil fuels in road transportation.

“The Group aspires to become a carbon-neutral organization by 2030, covering GHG emissions from its operations (Scope 1 and Scope 2) and to become net-zero by 2050 (covering all 3 scopes). We aim to achieve this by prioritizing renewable energy, encouraging all employees, suppliers, business partners, contractors, and other groups of stakeholders to implement emissions reduction programs, and to continuously lower GHG emissions throughout the value chain,” it said.

THE NEED FOR A WAVE OF CHANGE TO SECURE WATER RESOURCES



22%

companies in the Asia Pacific region reported releasing their water discharges from direct operations to the natural environment without treatment

10%

of companies in Asia & Oceania made progress towards pollution elimination targets, despite having 16.7% companies setting pollution-related targets.

13%

increase in disclosure number in Asia and Oceania from 2020 to 2021

50%

of global A-list companies come from Asia & Oceania

Current state of play

Water scarcity, exacerbated by climate change and human-induced factors, could trigger human migration and water conflicts that will affect an estimated 700 million people by 2030^{22, 23}. Parts of West Asia and South Asia are at risk of losing groundwater even more quickly than other parts of the globe²⁴, making water security a top priority for regional environmental action. Human-induced factors, such as the rapid development of industries and domestic water demand, do not keep pace with the water supply. With increasing population growth in Asia, water demand will increase by 250% by 2050²⁵. Contrastingly, the water supply that comes mainly from both inland and coastal wetlands has decreased by 35%, which is three times faster than the rate of forest loss²⁶, due to industrial and municipal wastewater that is released untreated globally²⁷.

If the industries and municipalities do not take ambitious actions to secure the water resources, there will be significant economic consequences. Affected nations could lose 6% of their gross domestic product (GDP) as a result of inaction²⁸. Industries can mitigate water insecurity risks by setting pollution elimination targets and reducing water withdrawal, managing water risks, and monitoring withdrawal and wastewater discharge.

Important notice: 1,185 companies in Asia (1,154 companies) & Oceania (31 companies) included in this CDP Water Security analysis are based throughout Japan, China, Hong Kong SAR, India, Republic of Korea, Thailand, the Philippines, Singapore, Malaysia, Indonesia, Australia, New Zealand, Kazakhstan, Saudi Arabia, United Arab Emirates, Israel and Taiwan, China.

Setting pollution elimination targets and reducing water withdrawal

The World Economic Forum (2020) estimates that there will be a 40% gap between global water supply and water demand by 2030²⁹. Board-level oversight on water-related issues is crucial to track progress made against established targets to close this gap.

Almost three-quarters of companies (72%) in Asia and Oceania reported that they have board-level oversight on water-related issues. Despite this, however, the number of companies setting targets on water consumption and water intensity reduction are only 16% and 6%, respectively. Those without water consumption targets highlighted several reasons, such as: they believed this type of target did not apply to their business; that it is not an immediate business priority; and that it is unimportant to their business, notably due to insignificant water-related risks and/or low volume of water used in their operations.

In terms of pollution-related targets, 16% of the companies in Asia and Oceania had set targets, but in fact, only 10% of them have made progress towards pollution elimination. At the same time, few companies have made progress in reducing dependence on freshwater resources in Asia and Oceania, at 14% and 11%, respectively. This number is minor compared to the number of companies that have water policies, which shows that progress has been lagging given the availability of water policies within organizations. More than half of the companies in Asia and Oceania (51%) reported a publicly available water policy. Despite most companies having board-level oversight on water-related issues and publicly available water policies, the water-related targets set by companies remain inadequate to close this supply-demand gap. To meet water-related targets and policies, companies must implement effective measures and take more ambitious actions.

Managing water risks

Of 1,154 responding companies in Asia, only 8% of them reported that they experienced detrimental financial impacts, which accounted for US\$ 1.39 billion in total. This is a relatively low proportion compared to the number of companies undertaking water-related risk assessments in Asia and Oceania (70% and 90%, respectively). Furthermore, most companies (76%) in Asia highlighted that physical risk is a major threat to their operations. This shows that most companies are yet to fully consider and measure the financial impacts of the physical risks that water insecurity poses for their business.

To address this issue, CDP urges companies to incorporate water-related issues into their long-term strategy and financial planning. In 2021, half of the companies in Asia and Oceania that disclosed to CDP reported that they have integrated water-related issues into their strategy to achieve long-term objectives. In addition, 44% of the companies reported integrating water-related issues into their financial planning. This is instrumental to ensuring that water security is seen as a business priority.

As for companies' expenditure, of 1,154 companies in Asia, 33% reported that they increased capital expenditure (CAPEX) for water-related issues. In comparison, 31% of them reported that their water-related operational expenditure (OPEX) increased in the reporting year. An increase in CAPEX or OPEX for water-related issues implies that companies have allocated expenditure to upgrade or replace aging infrastructure and expand water and wastewater infrastructure, such as pipe distribution, water testing, and wastewater treatment facilities. CDP data reveals that the total investment value for managing water risks in Asia and Oceania is US\$16.79 billion in total, a 3% increase from last year's value. S&P Global (2021) estimates that the trend of increasing

investment in water-related issues will keep growing over the next 20 years, ranging from US\$385 billion to US\$1.3 trillion.

Monitoring withdrawals and wastewater discharge

Quantifying the amount of water withdrawal and discharge is fundamental to understanding the impacts we create on water resources and whether we have adequate resources available for our future generation. In 2021, of 1,154 companies in Asia Pacific, 80% reported that they had monitored water withdrawal volume, and 67% reported that they had monitored the water discharge volume from at least 75% of their facilities. Such water accounts provide crucial information to shape companies' strategies and play a role in assessing the water-related risks in their business operations.

In addition, monitoring the quality of waste water discharge is essential to understand the potential detrimental impacts and costs that companies may create through their operations. This year, 68% of companies in Asia responding to CDP reported that they measured and monitored the quality of water discharge. Furthermore, of 1,154 companies in Asia, 22% reported that they released their water discharge from direct operations to nature without treatment, and 57% reported they treated water discharge in tertiary treatment facilities. In comparison, 40% of companies in Asia Pacific reported that they monitored water recycling and water reuse from at least 75% of their facilities. Such water data disclosed to CDP will allow companies to be transparent and accountable regarding their water consumption and water discharge, which benefits relevant stakeholders through tracking their corporate performance and making informed investment decisions.



Olam International, a Singapore-based global agribusiness company, analyzed diverse options to ensure water efficiency in their facilities, including the installation of a pH correction system. The condensed water emitted from evaporators was previously going directly to a wastewater treatment plant. Now, the pH is corrected to around pH 7 (the same as normal water) and it can be reused. Additionally, Olam reprocessed reverse osmosis reject water*. Instead of sending rejected water to the wastewater treatment plant, it goes through a new third stage in the reverse osmosis system to be recovered and reused. This system has allowed the facility to reduce water intensity almost by half, from 100 m³/ton to 55 m³/ton."



*Reverse osmosis reject water is wastewater produced as a result of purifying water from potable sources using the reverse osmosis process.

PROTECTING FORESTS TO ACHIEVE NET-ZERO EMISSIONS



Asia Pacific companies reported
forest-related risks with value of up to

**US\$ 28.8
BILLION**

There is no clear path to deliver climate mitigation without investing in nature. Forests are one of the key components to limit global temperature rise to 1.5°C and achieve net-zero emissions by mid-century. Natural Climate Solutions (NCS), an effort to increase carbon storage and avoid GHG emissions in landscapes and wetlands through conservation, restoration and sustainable land management³⁰ has the potential to deliver up to one-third of the net emissions reductions required to achieve a 1.5°C pathway at a lower cost than technological solutions³¹.

Despite its important role, the area of primary forests continues to decline globally. Primary forests comprise only 19% (140 million hectares) of the total forest area in Asia Pacific³². The driver of forest and land-use changes in the region can be attributed to the large-scale expansion of commodity plantations including palm oil, rubber, timber concession, mining, and infrastructure development. At COP 26, 141 countries, including 20 Asia Pacific countries, pledged to halt and reverse deforestation and land degradation by 2030 under the Glasgow Leaders' Declaration on Forests and Land Use³³.

The risk is real

In 2021, 207 companies in the Asia Pacific region reported their forest related information to CDP. Of these, 74% (153) disclosed their actions to remove deforestation from forest risk commodities (timber, oil palm, soy, beef, cocoa, coffee and rubber) supply chains, a 25% increase compared to last year. Despite this increase (and considering its position as a major producer, consumer, and exporter of several commodities, such as wood products and palm oil) the number of disclosures from this region is less than a quarter (24%) of total global companies disclosing on forest-related actions (865).

CDP data also reveals the risks related to producing and sourcing forest risk commodities. Nearly all reporting companies have identified forest-related risks. Of the 112

companies based in Asia Pacific that identified forest-related risks in their business, 95% (106) are able to provide the type of risk identified. 75% of these reported reputational and market risks with the potential to have substantive financial and strategic impacts on their business. Further, 59% of companies reported forest-related risks with a total value of up to US\$28.8 billion. However, the cost of mitigating these risks is still far below that figure, with companies reporting a total projected cost of US\$793 million.

With growing awareness among consumers, investors, and policymakers on the key role of forests in achieving net-zero emissions, urgent action is critical to managing the potential business risks related to producing or sourcing forest risk commodities.



Brambles, an Australian supply-chain logistics company, identified that forest fires could have an impact on their financial performance, with the risk valued at up to US\$15 million. Brambles mitigation strategy includes supplier diversification in different geographies, implementing a circular business model to reduce demand for timber, and sourcing 100% sustainably certified timber. The company reported that this strategy has enabled their business to remain resilient throughout the ongoing challenges presented by the pandemic including the materials shortages and cost increases.



Figure 16: Types of risk reported by companies in Asia Pacific in 2021

Progress is lagging

To halt and reverse deforestation by 2030, we need more companies to take meaningful action to protect and restore forests. Work to protect forests and address deforestation needs to be incorporated in companies' governance and given the strategic importance it deserves.

This year, 88% (91) of Asia Pacific companies reported having board-level oversight on forest-related issues. However, the high ratio of board-level oversight on forest-related issues among companies did not automatically translate into the ability to develop high quality forest-related policy or commitments. 107 (70%) and 80 (52%) companies that reported having a forest-related policy and public forest-related commitment³⁴, respectively. Yet only 12% (19) and 2% (3) reported a best quality policy or commitment. This is a gap that needs to be addressed, as the formulation of a robust policy and commitment is an early and critical step for companies in the transformation towards sustainable supply chains.

A high quality commitment must also include publicly stated time-bound targets and milestones that reflect the urgency of halting deforestation by the end of this decade. In 2021, 63% of companies reported forest-related targets, but only 28% of companies linked these targets with a no-deforestation commitment.

Through CDP's platform, only 11% of companies in Asia Pacific reported a target to achieve a greater level of traceability, while just 21% of companies stated an aim to cover more volume of forest risk commodities under third-party certifications to fulfill their zero deforestation and/or no conversion of natural ecosystem commitments. However, only 8% (13) and 4% (6) of companies were making linear progress towards these goals, respectively.

Actions toward a forest positive future

CDP has developed a set of key performance indicators to track and monitor corporate progress in commodity supply chain transformation. This includes several elements such as the level of traceability, the volume of third-party certification for produced or sourced commodities, control mechanisms, engagement within value chains, and involvement in external initiatives and activities to protect and restore ecosystems.

Traceability enables a company to follow a product or its components through stages of the supply chain³⁵. The aim is to ensure that the commodity sourced is sustainable, comply with the company's commitment and buyers' policy, and ultimately safeguard their reputation. Among companies disclosing through CDP's Forests questionnaire, 69% of companies reported having a traceability system in place to track their sourced commodities, however, only 21% (32) reported being able to trace more than 90% of their production or consumption at least to municipality level or equivalent.

Certification is critical to support companies in achieving their goal. Where full traceability is difficult to achieve (e.g., cost inhibiting), it can ensure that the commodities sourced are not produced at the expense of forests³⁶. In the Asia Pacific region, 63% of companies reported using third-party certification to ensure the sustainability of their sourced commodities. Companies with palm oil supply chains are leading the way with 73% (44) of companies reporting this action.

To achieve supply chain transformation, a company needs to invest in full value chain engagement. Engagement with the company's direct and indirect suppliers is critical. Among commodities' processors, traders,

manufacturers, and retailers in Asia Pacific, 22% (34) reported providing financial and technical support to improve their suppliers' capacity to supply sustainable raw materials. Among manufacturers and retailers, 40% (38) of companies reported working beyond first-tier suppliers to manage and mitigate forest-related risks through supply chain mapping or capacity-building activities.

Engaging with smallholders is also vital, as they are critical producers of forest risk commodities, and often lack the capacity to produce commodities sustainably. This year,

17% (18) of companies in the Asia Pacific region reported working with smallholders to address deforestation through the provision of direct training and financial incentives³⁷.

To achieve a forest-positive future, companies need to move beyond no-deforestation by implementing ecosystem restoration and protection projects. Our data found that 58% (60) of companies reported supporting or implementing projects focused on ecosystem restoration and protection. However, only 49% of companies report that they conduct timely monitoring and measurement of outcomes.



Golden Agri Resources (GAR), a vertically integrated palm oil plantation company, reported that it has been able to trace 100% of its palm oil down to the mill level since 2015. In 2021, GAR achieved 94% traceability, to plantation level, for its palm oil. Using a combination of tools such as supply chain mapping, partnering with technical experts, and utilization of traceability software, GAR can identify suppliers located in high-risk areas. GAR supported its suppliers to strengthen their own procurement and traceability systems to avoid unknowingly sourcing from high-risk areas, which would violate GAR's sustainability policy. GAR is currently focused on extending its knowledge and sustainability outreach efforts to the plantations, smallholders, and dealers supplying fresh fruit bunches to GAR's supplier mills.



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About CDP

CDP is a global non-profit that runs the world's environmental disclosure system for companies, cities, states and regions. Founded in 2000 and working with more than 680 financial institutions with over \$130 trillion in assets, CDP pioneered using capital markets and corporate procurement to motivate companies to disclose their environmental impacts, and to reduce greenhouse gas emissions, safeguard water resources and protect forests. Over 14,000 organizations around the world disclosed data through CDP in 2021, including more than 13,000 companies worth over 64% of global market capitalization, and over 1,100 cities, states and regions. Fully TCFD aligned, CDP holds the largest environmental database in the world, and CDP scores are widely used to drive investment and procurement decisions towards a zero carbon, sustainable and resilient economy. CDP is a founding member of the Science Based Targets initiative, We Mean Business Coalition, The Investor Agenda and the Net Zero Asset Managers initiative. Visit www.cdp.net or follow us @CDP to find out more.

About South Pole

South Pole, a social enterprise recognised by the World Economic Forum's Schwab Foundation, is today the world's leading climate solutions provider and carbon project developer. Since its founding in 2006, it has developed nearly 1,000 projects in over 50 countries to reduce over one gigaton of CO₂ emissions, and to provide social benefits to communities who are particularly vulnerable to climate change. Projects range from sustainable agriculture, forest conservation, waste management, to energy efficiency and decentralized renewable energy.

South Pole also advises thousands of leading companies on their sustainability journeys to achieve net-zero emissions. With its global Climate Solutions platform, South Pole develops and implements comprehensive strategies that turn climate action into long-term business opportunities for companies, governments and organizations around the world.

South Pole is committed to becoming a B Corp globally across all of its local entities, building on its existing B Corp certification in Australia and the U.S.

For more information, visit www.southpole.com or follow the company on [LinkedIn](#), [Twitter](#), and [Facebook](#).

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