



Climate Change and Business

Responding to the pressing crisis

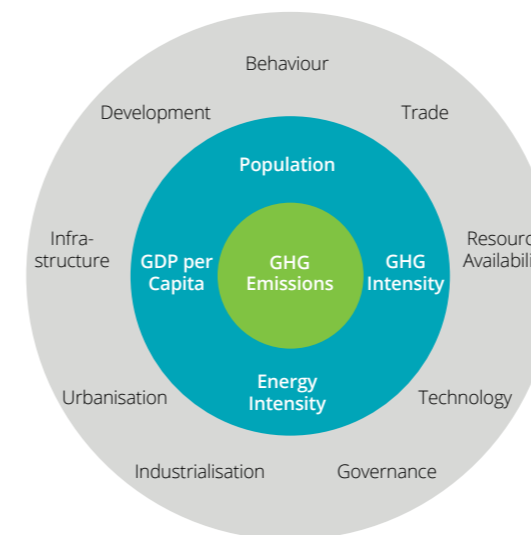
We are in a climate crisis

The science

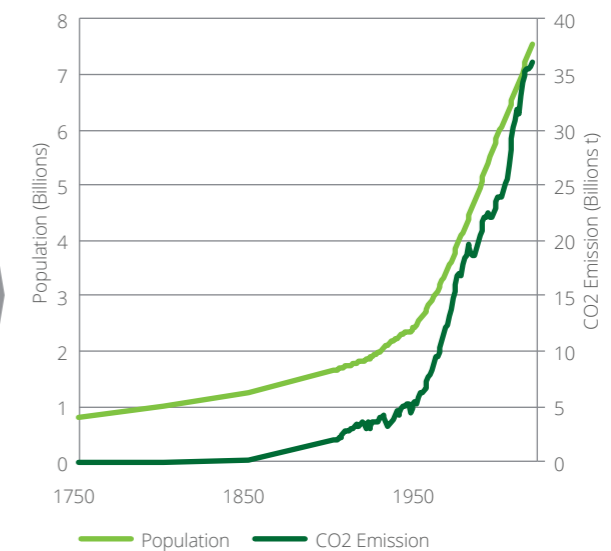
The impacts of climate change are happening now, and faster than we had ever predicted. The climate crisis is becoming increasingly evident with more frequent, more intense natural disasters such as floods, droughts, and fires. Science connects climate change with human behaviours, and also provides us with a roadmap of preventing irreversible, catastrophic consequences.

The report *Global Warming of 1.5°C* from the Intergovernmental Panel on Climate Change (IPCC) warns that global warming beyond 1.5°C as compared to pre-industrial levels will increase the intensity and frequency of extreme weather events, as well as accelerate chronic changes at the rate that human beings would not be able to mitigate in time. Achieving the 1.5C scenario requires net global greenhouse gas (GHG) emissions to be reduced to zero by 2050. While the IPCC says that this goal is within reach, rapid, far-reaching, and unprecedented changes in all aspects of society are needed.

Drivers of GHG emissions¹



Global population and CO2 emission (1750-2020)²



Moving forward

Actions have been initiated at the country level to decarbonise, address urgent adaptation needs and build climate resilient infrastructure. In doing so, capital is encouraged to flow to green financing, and taxation is levied on pollution. We are faced with no easy task: global emissions need to peak in the next few years and emissions need to be cut by at least 45 percent by 2030 in order to achieve net zero emissions by 2050. The years ahead will be critical for the future survival, wellbeing, and prosperity of human civilisation.

The United Nations Environment Programme's *Emissions Gap Report* (2019) shows that "there is no sign of GHG emissions peaking in the next few years", and that we are on the cusp of missing the 1.5°C goal. Every year of postponed peaking means that deeper and faster cuts will be required to get onto a least-cost pathway to reaching the 1.5°C scenario. Even if all current conditional Nationally Determined Contributions (NDCs) under the Paris Agreement* are fully implemented, the carbon budget for the 1.5°C goal will be exhausted before 2030. While politicians are still negotiating, leading private sector players have already pledged their emission cuts and set a roadmap toward decarbonisation.

* The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change, aiming to contain a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels. The Agreement requires all Parties (countries) to put forward their best efforts through "nationally determined contributions" (NDCs) and to strengthen these efforts in the years ahead.
 1. IPCC (2014), from: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter5.pdf
 2. Oxford University (2019), from: <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>; <https://ourworldindata.org/world-population-growth>

“
Climate change is a change in the usual weather found in a place.
”

NASA

“
Climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
”

United Nations

“
Climate change is a long-term shift in global or regional climate patterns.
”

National Geographic

“
We cannot burn our way to the future. We cannot pretend the danger does not exist - or dismiss it because it affects someone else.
”

Ban Ki-moon, eighth Secretary-General of the United Nations

“
Climate change is not simply an 'environmental' problem. Rising temperatures pose potentially catastrophic risks to people, their livelihoods, and entire cities. Climate change puts every aspect of society at risk and has become a serious financial and economic problem.
”

Coalition of Finance Ministers for Climate Action

“
By the time we see that climate change is really bad, your ability to fix it is extremely limited... The carbon gets up there, but the heating effect is delayed. And then the effect of that heat on the species and ecosystem is delayed. That means that even when you turn virtuous, things are actually going to get worse for quite a while.
”

Bill Gates, Co-founder of Microsoft, Philanthropist

“
Climate change is sometimes misunderstood as being about changes in the weather. In reality, it is about changes in our very way of life.
”

Paul Polman, Former CEO, Unilever

Asia is particularly vulnerable

Cities at risk

Currently, Asia accounts for over 50 percent of the world's greenhouse gas emissions.³ Scaled-up climate action in the region could lead to great impact.

Large populations in Asian cities are prone to the influences of rising sea levels, as most major cities are located along coastal lines. A rise in abnormal weather events expands the impact of a changing climate towards inland cities.

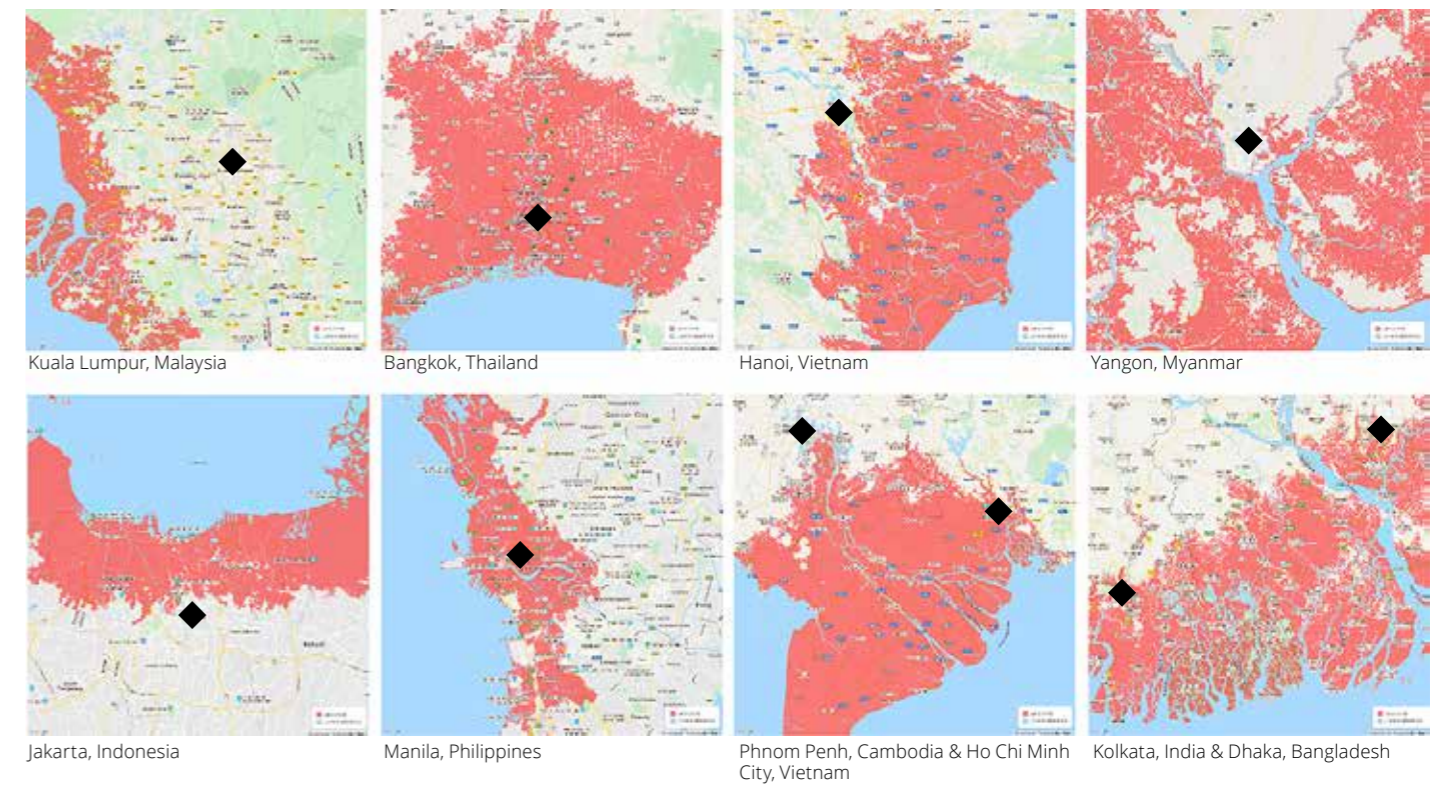
Oceans are expected to rise between 26 to 77 cm by 2100 under a 1.5°C scenario⁴, while current policy commitments under the Paris Agreement will lead us to an expected temperature rise of 3.2°C by 2100.⁵ Sea level rise is also uneven across the globe, with Asian waterbody on the faster side of the spectrum.⁶ Asia will be home to four out of five of the people who are expected to be affected by sea-level rise if there is a 3°C rise in global temperatures.⁷

Population and elevation of selected Asian cities



Rising sea levels and floods

The red areas in the maps below indicate the surface of major cities in Asia and their surroundings that are expected to be covered by annual floods in 2050 in case the 2°C target of the Paris Agreement will be reached.⁸ Considering that the achievement of the Paris Agreement is becoming more unlikely every day, worse and partially irreversible effects are forecasted in case we continue “business as usual”.



Risk accelerators

The World Economic Forum identified three climate-related risks as the top three global risks with high impact and high likelihood (extreme weather, climate action failure, and biodiversity loss).

Climate change is closely connected to complex social problems, including shortage of water and land, displacement and conflicts, and subsequent effects on the economies and businesses. Moreover, socioeconomic and environmental contexts further exacerbate the negative impacts, making underprivileged groups even more vulnerable under the changing climate.

Climate Change Risks

- Extreme heat/cold
- Precipitation extremes (drought/flood)
- Wild fire
- Sea level rise

Accelerators

Environmental and Institutional Context

- Land-use change
- Infrastructure condition
- Geography
- Agricultural production

Social and Behavioural Context

- Age and gender
- Poverty
- Housing
- Access to public services

Major Impacts

- Changes in water and agricultural supply
- Public health challenges
- Forced Migration
- Conflict
- Economic recession

3. United Nations Economic and Social Commission for Asia and the Pacific (2018), from: https://www.unescap.org/sites/default/files/CED5_1E_0.pdf

4. IPCC (2018), from: <https://www.ipcc.ch/sr15/>

5. United Nations Environment Programme (2019), from: <https://wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf?sequence=1&isAllowed=y>

6. European Space Agency (2018), from: https://www.esa.int/Applications/Observing_the_Earth/Spotlight_on_sea-level_rise

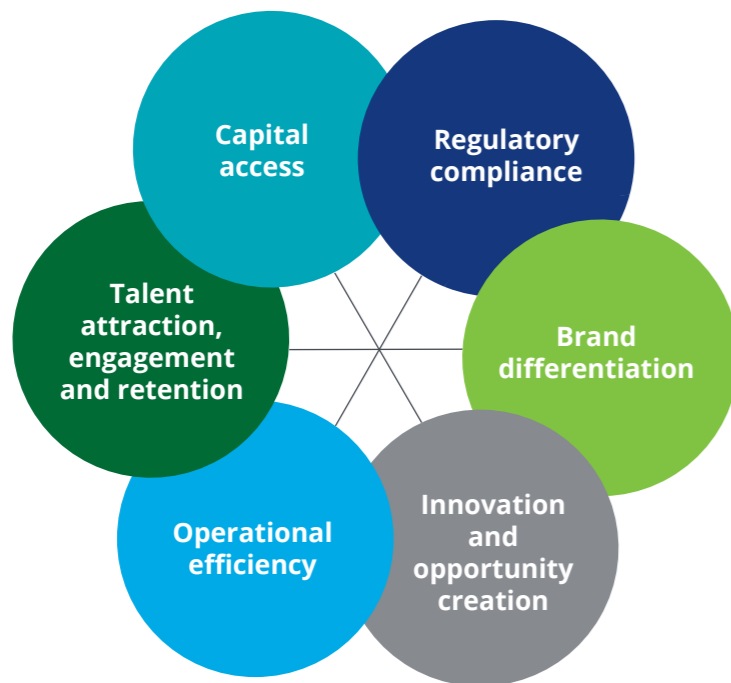
7. The Guardian (2017), *The three-degree world: the cities that will be drowned by global warming*

8. Climate Central (2019, used with permission), from: <https://coastal.climatecentral.org>

Why do you need to assess and address climate risks in business

Creating benefits while responding to stakeholders' interests

As the repercussions of climate change gain widespread attention, stakeholders such as investors, rating agencies, government, civil society, customers and employees are all pressuring companies towards taking actions through adapting their products, business models, and investments.



Regulatory compliance

In an effort to combat climate change and prevent abrupt and irreversible changes in the earth's ecosystem, the Paris Agreement was signed by virtually every country in 2016. All countries in ASEAN are part of the pact and have ratified it, which means their ambitions will be reflected in domestic regulations.

Climate-related policies may include tax incentives for renewable energies and related research and development efforts, stricter requirements for obtaining operating permits for high carbon activities, additional fees for high emission activities, etc. Over 70 national and sub-national jurisdictions have put a price on carbon emission, and the trend points towards more stringent regulations in the future.

Moreover, seven stock exchanges in Southeast Asia have mandated ESG (Environmental, Social and Governance) reporting.⁹ More stock exchanges around the world have ESG mandates on their agenda.

Brand differentiation

With increased awareness of climate change and the environmental footprint of consumerism, shifts in market demand have already been observed.

38% of global consumers are willing to pay higher-than-average prices for products made with sustainable materials, and emerging market consumers' demand for sustainable products is expected to grow exponentially.¹⁰

Innovation and opportunity creation

Innovation is necessary for businesses to be more climate-friendly and climate-resilient. New demands from stakeholders spark new opportunities in product and service design, and channel more funding into research and development. Leaders in innovation will obtain a first-mover advantage and capture more profits from the new niches.

Operational efficiency

Increased occurrence of extreme weather events such as floods and droughts affect the supply of commodities, which can lead to price fluctuation. For businesses with global value chains, climate impacts elsewhere could disrupt the business-as-usual at home. Operational efficiency helps reduce emissions and stabilise supplies, while bringing cost-saving benefits to your performance.

Talent attraction, engagement and retention

Talent is among the most critical assets for businesses. Being the preferred employer and an ideal workplace for talents brings your organisation an edge.

76% of Millennials consider a company's social and environmental commitments when deciding where to work.¹¹ The Deloitte Millennial Study 2019¹² found that millennial employees who believe that their employer supports the local community are 38% more likely to stay at that employer for five years.

Capital access

While the momentum for sustainable investment has emerged many decades ago, it was not until the early 2010s that investor interest for the topic has truly taken off. Global sustainable investments have surged by 34% between 2016 and 2018, to a total of over US\$30 trillion¹³. This growth is expected to continue in the coming years, as investors increasingly recognise and aim to address climate change-related risks and opportunities.

Below you can find some of the most influential multi-stakeholder initiatives that address climate risks to companies and the broader financial system:

| Initiative | Description | Scale |
|--|---|---|
| Sustainable Stock Exchanges Initiative (SSE) | SSE promotes corporate investment in sustainable development. It provides a multi-stakeholder learning platform for stock exchanges, investors, regulators, and companies. | 24 stock exchanges mandated ESG reporting, with seven in ASEAN including Malaysia, Indonesia, Thailand, and Singapore |
| Climate Action 100+ | Climate Action 100+ is an investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. | 370 investors with more than USD\$35 trillion of assets under management, engaging with companies accounting for two-thirds of annual global industrial emissions |
| Task Force on Climate-Related Financial Disclosures (TCFD) | TCFD is a market-driven initiative that developed a voluntary disclosure framework and recommendations, enabling stakeholders to understand better the financial system's exposures to climate-related risks. | ~900 participating organisations ("supporters"), with over US\$100 trillion of assets under management |

11. Cone Communications (2016), from: <http://www.conecomm.com/research-blog/2016-millennial-employee-engagement-study>

12. Deloitte (2019), from: <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/deloitte-2019-millennial-survey.pdf>

13. Global Sustainable Investment Alliance (2018), from: http://www.gsi-alliance.org/wp-content/uploads/2019/03/GSIR_Review2018.3.28.pdf

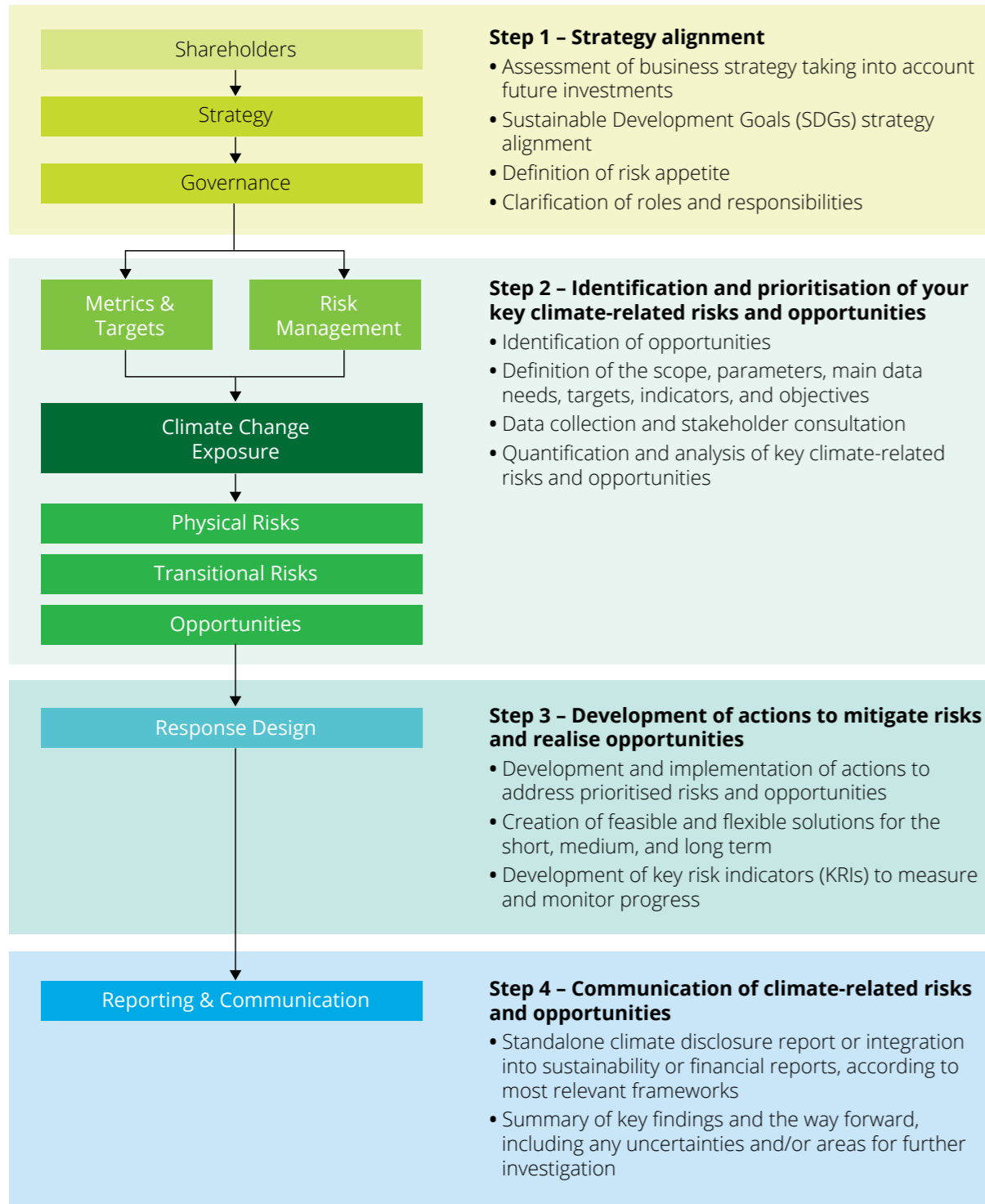
9. Sustainable Stock Exchanges Initiative (NA), from: <https://sseinitiative.org/data/>

10. Nielsen (2018), from: <https://www.nielsen.com/us/en/insights/report/2018/the-education-of-the-sustainable-mindset/>

Solution process

Strategic transformation

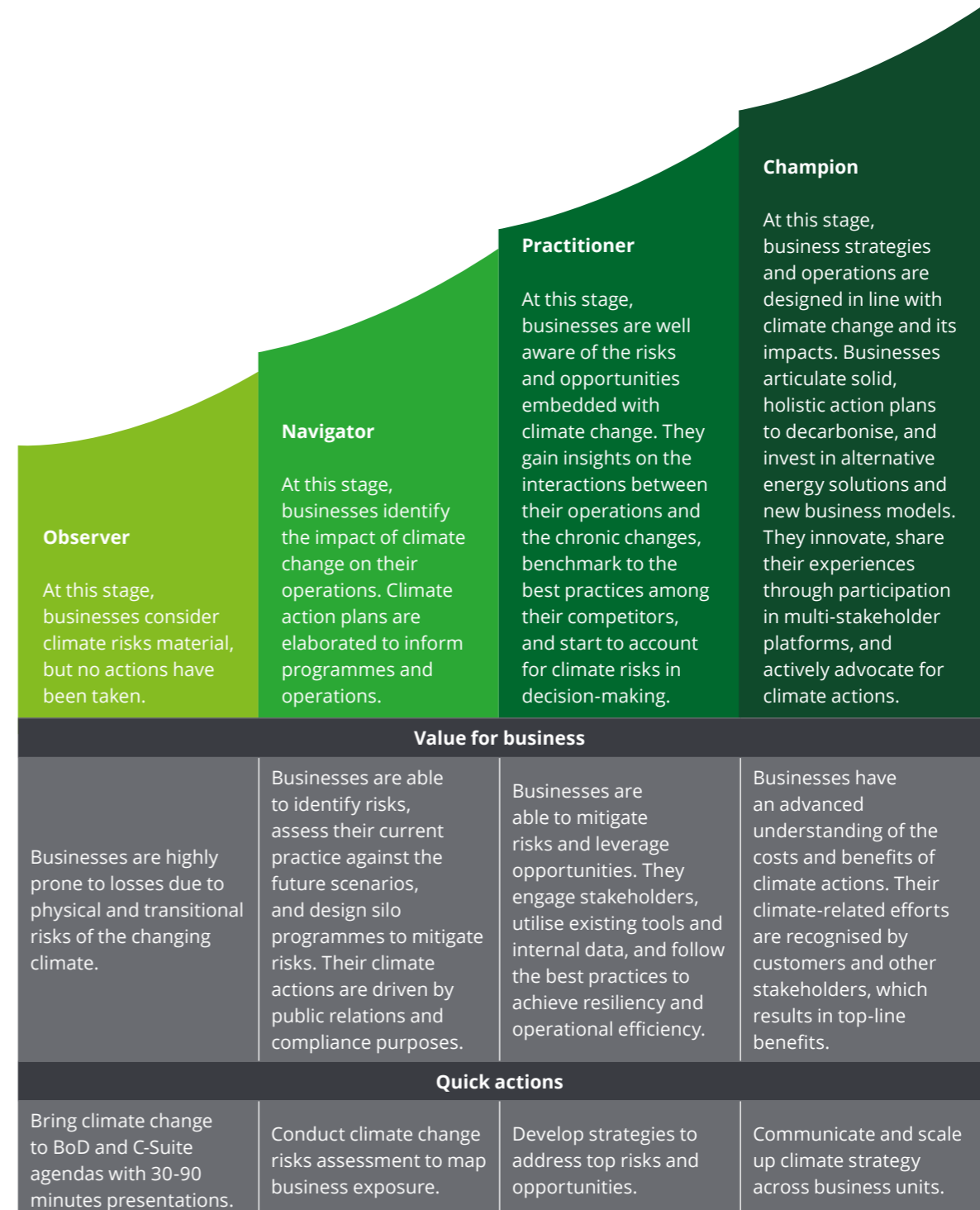
We believe that climate change goes beyond compliance – it will bring material risks and unprecedented opportunities to every organisation. Based on the Deloitte Sustainability Risk Management Framework, we will guide you through the solution process below to identify, address, and report on the impacts of climate change onto your business.



Maturity model

Assessing where you are and what you need

The solution framework illustrates the full cycle of activities in climate risk management, however, not all steps are required for a customised strategy that fits your business. Meanwhile, reporting is encouraged for businesses at all stages in their climate actions, which can cover anything from pure strategy to evidence-based action plans. The maturity model shows the benefits from each phase of climate action.



United Nations collaboration




United Nations initiatives

The United Nations, together with scientists and civil societies around the world, is advocating for stringent climate actions. Responsible businesses and investors have created tools for climate mitigation and adaptation, and built platforms for stakeholders to convene and learn from the leading practitioners.

Relevant UN agencies include:

| Agency | Climate-related mandate |
|--|---|
| United Nations Environment Programme (UNEP) | <ul style="list-style-type: none"> Climate change Chemical and waste Resource efficiency |
| United Nations Development Programme (UNDP) | <ul style="list-style-type: none"> Environment: nature-based solutions for development Clean, affordable energy |
| United Nations Global Compact (UNGC) | Advocate for and facilitate businesses to: <ul style="list-style-type: none"> Support a precautionary approach to environmental challenges; Undertake initiatives to promote greater environmental responsibility; Encourage the development and diffusion of environmentally friendly technologies. |
| United Nations Industrial Development Organisation (UNIDO) | <ul style="list-style-type: none"> Resource-efficient and low-carbon industrial production Clean energy access for productive use Implementation of multilateral environmental agreements |

Some of the most influential initiatives are the following:

- 
UNGC and UNEP's Caring for Climate initiative places a strong emphasis on enhancing the role of business in finding strategic solutions to adapt to the impacts of climate change on development issues such as peace and security, water sustainability, poverty reduction, energy and food security.
- 
The Principles for Responsible Investment is an international network of **investors** working together to put its six guiding principles into practice. Backed by UNEP and UNGC, its goal is to understand the implications of sustainability for investors and support signatories to incorporate these issues into their investment decision-making and ownership practices.
- 
The Principles for Responsible Banking, championed by UNEP, help any **bank** to align its business strategy with society's goals. They provide a framework for a sustainable banking system, and thereby accelerate the banking industry's contribution to addressing society's greatest challenges, including the climate emergency.

Deloitte United Nations Team

The Deloitte United Nations Team is a group of professionals committed to promoting sustainable business in Asia Pacific and to supporting the United Nations' projects in the region. We work collaboratively with our network of partners to design creative and executable solutions that contribute to the achievement of the Sustainable Development Goals (SDGs). To this end, we can draw on decades of experience serving both the public sector and commercial enterprises, while utilising the breadth and depth of world-class capabilities that our Deloitte member firms have to offer.

Our credentials

Our alliances

Deloitte maintains active involvement in the public discourse on climate change and other sustainability issues through collaboration with leading global institutions that are dedicated to finding and promoting solutions to sustainability challenges:

| | |
|--------------|---|
| GRI | Global Reporting Initiative Deloitte has been an organisational stakeholder since its inception in 2004, and two Deloitte partners are members of the governance structure. |
| ACCA | Association of Chartered Certified Accountants Deloitte has a representative on the Global Forum |
| SASB | Sustainability Accounting Standards Board Deloitte has provided funding and a secondment, participated in industry working groups, and has a seat on the Assurance Task Force. |
| UNGC | United Nations Global Compact Deloitte was a founding signatory in 2000 with several high impact pro-bono projects and secondments. |
| WBCSD | World Business Council for Sustainable Development Deloitte was a founding member in 1995 and has been actively involved in working groups and projects. |
| CDP | CDP (Formerly the Carbon Disclosure Project) Deloitte is a past global and U.S. sponsor of CDP Water Disclosure, and has developed reports to Investor and Supplier questionnaires on CDP Climate Change. |

Integrated solutions

The Deloitte Climate Change brochure is part of a series of brochures that Deloitte has developed to offer targeted solutions to companies and organisations in Asia Pacific. The other complementary offerings are:



Agenda 2030: Creating legacy, prosperity and continuity for your business

Sustainability Risk Management: Powering performance for responsible growth

Social Responsibility in Business: Focus on Human Rights

Contact

Cheryl Khor

Operational Risk Leader
Deloitte Risk Advisory Asia Pacific
ckhor@deloitte.com

Rui Figueiredo

Director, Strategic and Operational Risk
Deloitte Risk Advisory
rfigrdo@deloitte.com

Sarah Chapman

Director, Sustainability
Deloitte Risk Advisory
sachapman@deloitte.ca

Deloitte.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities. DTTL (also referred to as “Deloitte Global”) and each of its member firms and their affiliated entities are legally separate and independent entities. DTTL does not provide services to clients. Please see www.deloitte.com/about to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax & legal and related services. Our global network of member firms and related entities in more than 150 countries and territories (collectively, the “Deloitte organisation”) serves four out of five Fortune Global 500® companies. Learn how Deloitte’s approximately 312,000 people make an impact that matters at www.deloitte.com.

Deloitte Asia Pacific Limited is a company limited by guarantee and a member firm of DTTL. Members of Deloitte Asia Pacific Limited and their related entities, each of which are separate and independent legal entities, provide services from more than 100 cities across the region, including Auckland, Bangkok, Beijing, Hanoi, Ho Chi Minh City, Hong Kong, Jakarta, Kuala Lumpur, Manila, Melbourne, Osaka, Shanghai, Singapore, Sydney, Taipei, Tokyo and Yangon.