

IPANZ

Climate Action for Aotearoa – April 2020

Climate Action Plans and Programmes

Each industry, sector, and organisation has a responsibility for both societal and internal action on climate change. Taking a systematic approach to ensure the right issues specific to the organisation to be in a position for measurement and verification is key for success.

<<- Lifecycle of Climate Action Design and Implementation for Organisations ->>



STRATEGY		IMPLEMENTATION			OPERATIONS	
Materiality & Vision	Planning & Targets	Mitigation	Adaptation	Value Creation	Governance & Sustainment	Measurement, Reporting, & Assurance
Which issues do I need to pay attention to and why?	What are appropriate goals for my organization and how do I develop the strategic roadmap?	How do I reduce negative impacts of activities which my organisation has an influence over?	How do I reinforce my organisation to make it more resilient?	What new opportunities can generate value for all our stakeholders?	How do I manage the performance of my organisation?	How do I give confidence in the accuracy of our reporting?

Climate Action for Public Entities

“New Zealand has made a leap in the right direction to safeguard its businesses and financial market for the future.”

— Michael Zimonyi, Policy & External Affairs Director, Climate Disclosures Standards Board on TCFD decision for the financial sector.

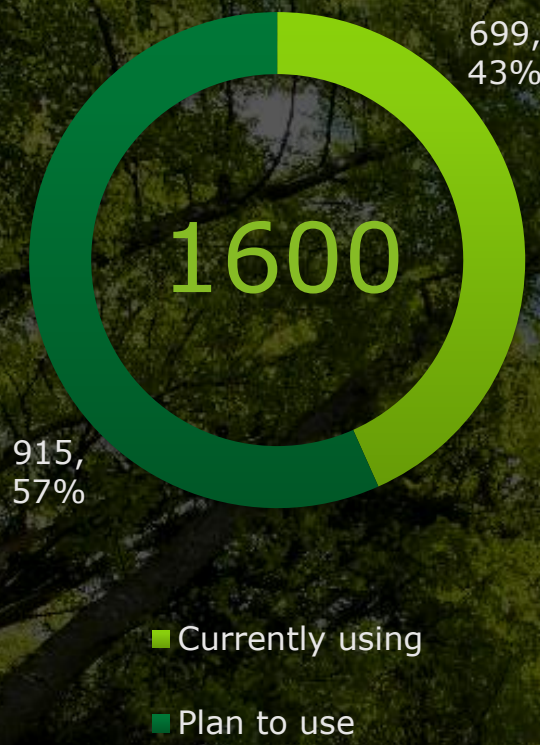
“Government agencies will have to measure and reduce their emissions and offset what they can’t in order to achieve carbon neutrality.”

— Prime Minister Jacinda Ardern on carbon neutral public sector by 2025.

“...Not everything gets funded in every Budget, so it's quite useful to know what is the best bang you can get for your buck when it comes to reducing emissions.”

— Minister James Shaw on shadow carbon pricing for Budget bids.

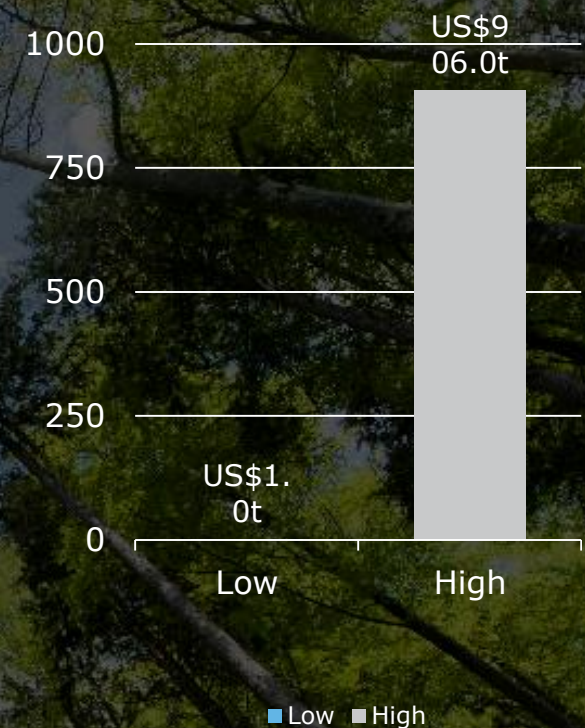
Internal Carbon Prices (or Shadow Carbon Pricing)



50.1%

More than half of the companies cited incentivizing low-carbon investments, driving energy efficiency and/or changing internal behaviour as objectives for their internal carbon pricing program

The reported corporate carbon prices in use are **diverse**

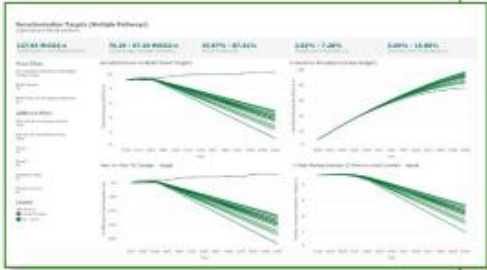


Deloitte Decarbonisation Solutions™

Supporting organisations move from strategise to operationalise

Mitigation modules

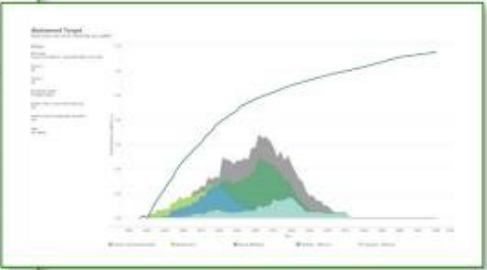
- Pathways
- Abatement
- Portfolio Manager



Determine emissions pathways, abatement gaps, establish science-based targets.



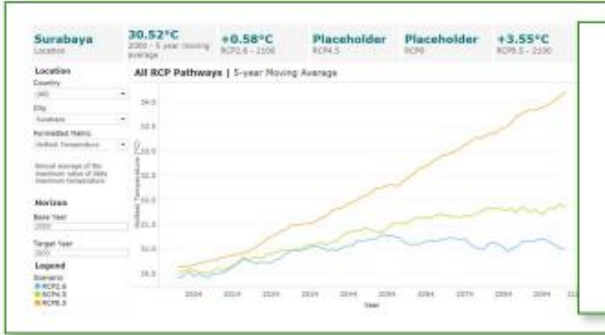
Quantify the impact of abatement projects and determine least cost of abatement pathways.



Identify portfolio risks, abatement delivery schedules and financial exposure.

Physical risk modules

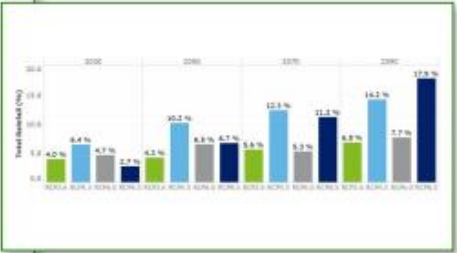
- Physical Risk Assessment
- Future Scenarios



Conduct climate scenario analysis and explore potential futures.



Visualise your business exposure to climate hazards, now and in the future.



Compare climate scenarios and future horizons.



Representative Concentration Pathways (RCPs)

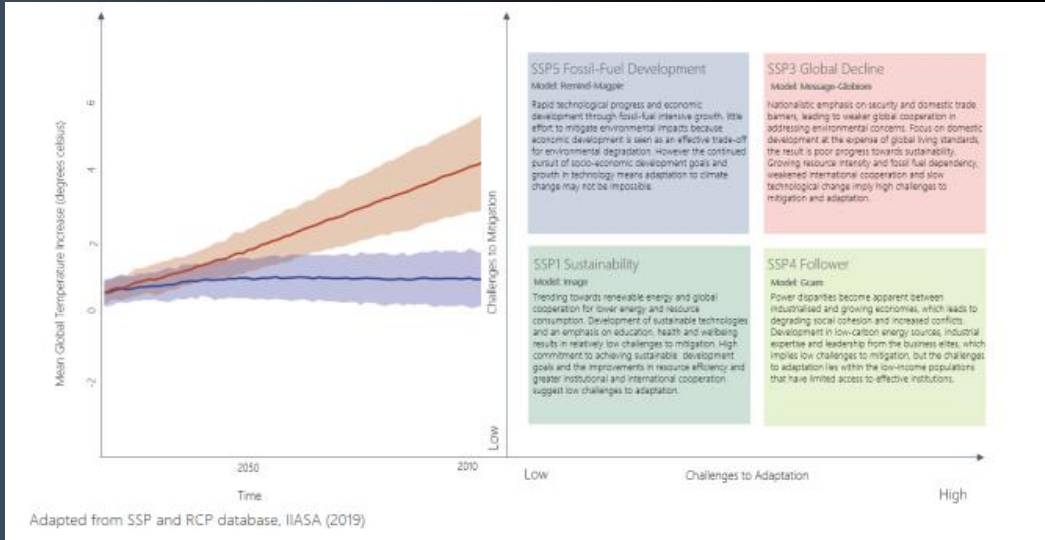
The RCPs are the widely used physical scenarios (originating from IPCC AR5). These scenarios are generally referred to as 1.5 degree, 2 degree, up to 4 degree or BaU. The RCPs describe the emissions trajectory and resulting climate conditions, but do not describe the pathway to get there, and exploration of the social and economic consequences of this pathway.

Shared Socio-economic Pathways (SSPs)

SSPs form a set of narratives to describe five internally consistent, distinctly different and plausible futures for the world. Developed as part of the Integrated Assessment Model (IAM) project in 2011, the narratives enable the exploration and examination of climate change impacts, vulnerabilities, adaptation and mitigation. The scenarios are designed to address the levels of both mitigation and adaptation achieved globally.

Shared Socio-economic Pathways (SSPs)

Scenarios are an effective tool to make strategic choices when dealing with uncertainty. Scenarios test important questions (hypotheses) to inform strategic decisions. They can help signpost key indicators that might alert the business to a potential opportunity or risk in the future, or provide the business with a “no-regrets” decision framework.



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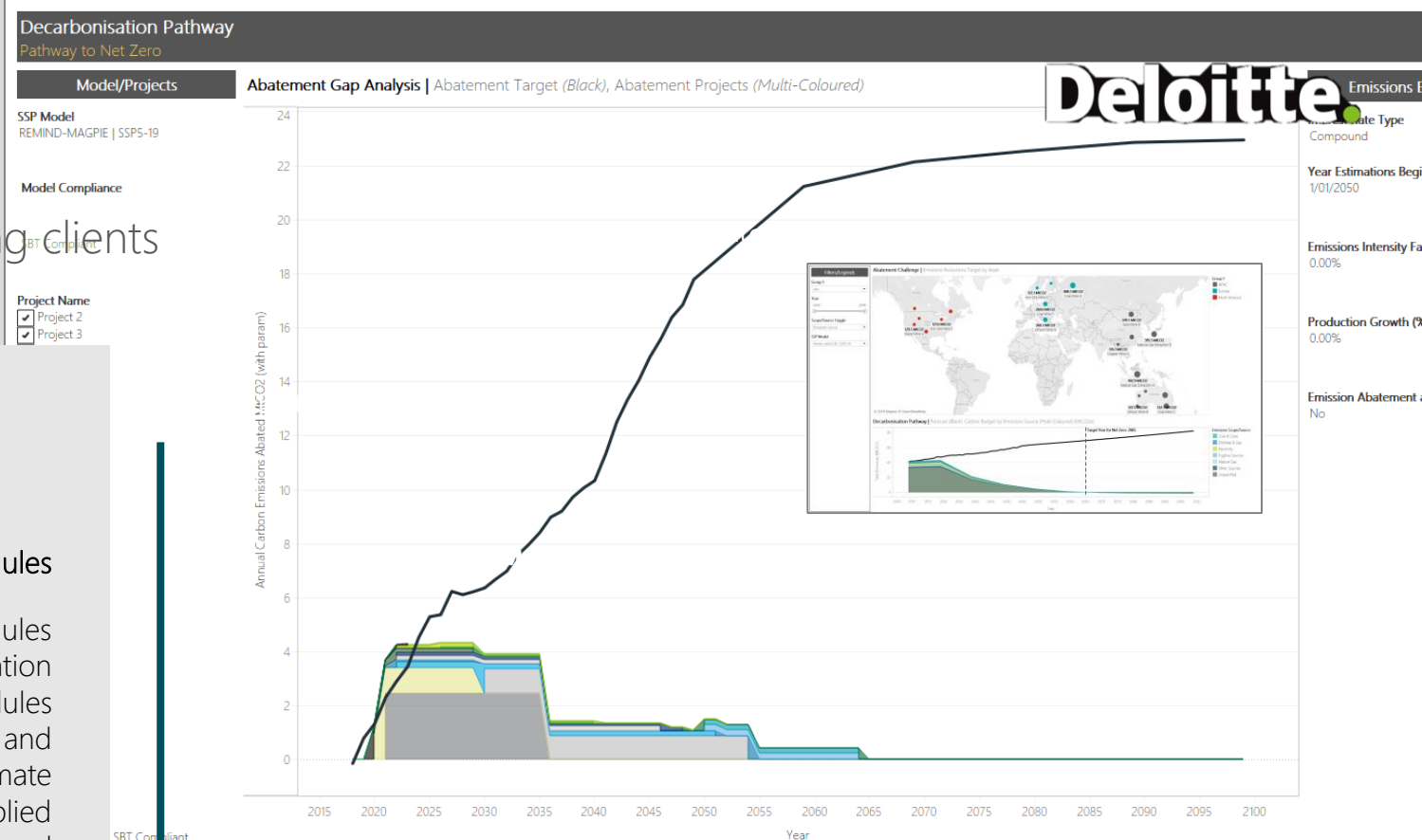
Abatement Modules

A proprietary tool developed through supporting clients with their decarbonisation journeys



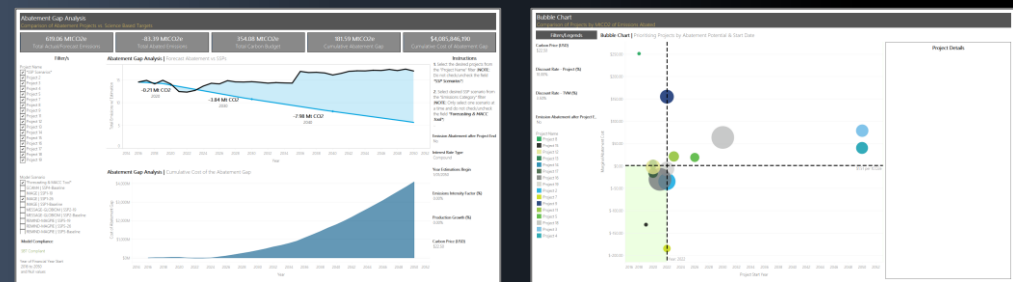
Abatement Modules

Deloitte's Decarbonisation Solutions package includes modules relating to abatement portfolio management, decarbonisation scenarios, pathways and abatement impact analysis. The modules leverage scientific information from leading bodies and methodologies including the Intergovernmental Panel on Climate Change (IPCC) RCP pathways, the International Institute for Applied Systems Analysis (IIASA) Shared Socio-Economic Pathways (SSPs) and the Science-Based Target (SBT) methodologies amongst others. The modules compare the forecast emissions reductions from selected abatement projects with short, medium and longer-term aspirations and pathways.



Portfolio Manager Module

Identify portfolio risks, abatement delivery schedules and financial exposure



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Physical Climate Risk

Past to future physical climate risk and scenario analysis



Offerings and Services

The Physical Climate Risk Module (right and next page) provides interactive high level and quantitative physical risk assessments

- Climate science and climate risk research, advice and review
- Tailored Tableau dashboards accessible via an online server
- Physical risk playbooks, user guides, technical reports and adaptation roadmaps
- Integration of physical and transition risks and opportunities
- TCFD disclosures and roadmaps associated with physical risk

Extensive Climate Metrics:

Deloitte houses multiple climate metrics beyond those available in the Physical Climate Risk Module for RCP2.6, RCP4.5, RCP6.0, RCP8.5 days above and below temperature thresholds, seasonal metrics, wind speed, humidity, evaporation, fire, floods, water stress and cyclones.

Local to global data granularity

For projects on city/regional scales, we supplement global climate model data with finer scale information, such as local weather station data and future downscaled datasets, floods, or non-climate data.

Physical Climate Risk Module (see next page for further details)

The Physical Climate Risk Module contains millions of data points globally over the 20th and 21st centuries, with any location and horizon able to be tailored to the client's needs.

1. Multi-Risk Assessment

Exposure to individual and multiple physical risks

- Historical: cyclones, flooding, fire danger, drought, hot temperatures.
- Future: temperature, rainfall and sea level rise.

2. Future Scenario Analysis

- RCP2.6, RCP4.5, RCP6.0 and RCP8.5: Mean annual change (across 10 CMIP5 GCMs) in 6 temperature and rainfall chronic and acute metrics every year for 2000 to 2100.
- RCP4.5 and RCP8.5: Sea level rise including range and comparison across countries for the 2050 and 2100 horizons.



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Physical Climate Risk Module

Providing quantification of physical risks globally



Physical Climate Risk Module

The complexity and volume of climate data is one of the most significant barriers to understanding climate risk, and stakeholder buy-in. To address this, Deloitte has developed a platform that collates global climate measurements of the recent past and 21st century climate projections across any geographic location globally.

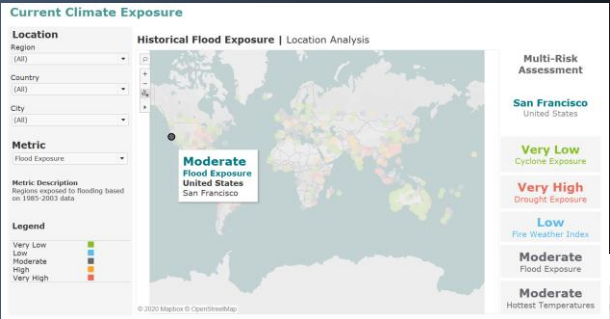
We provide a **high-level multi-risk assessment** of present exposure to floods, fire, cyclones, hot temperatures, and drought, and future exposure to large trends in temperature, rainfall and sea level rise.

The **future climate scenario analysis** includes projections for RCP2.6, RCP4.5, RCP6.0 and RCP8.5 for any horizon in the 21st century based on ten IPCC global climate models. Our vast range of future metrics includes hottest temperature, long heatwaves, total and extreme rainfall, dry spells, evaporation, humidity, and sea level rise.

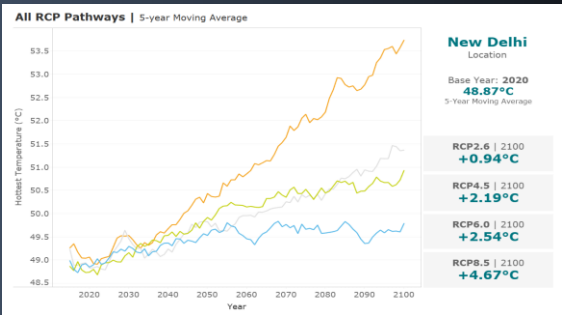
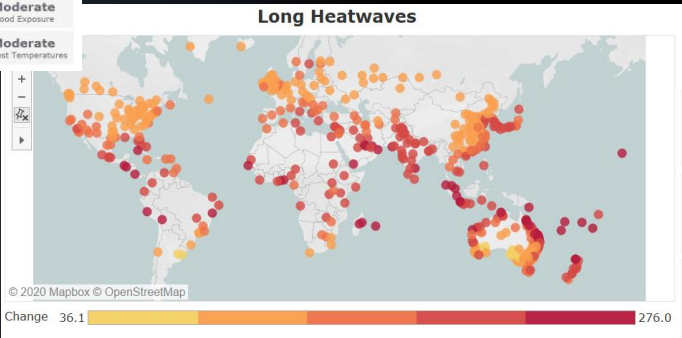
The module allows quantitative geographic visualisation and can be used, in part, to assess risks to businesses' operations and supply chains. Any local to global scale dataset can be inputted into the module to produce tailored dashboards with physical risk ratings.



Example output
Multi-Risk Assessment
Assessment of current exposures to cyclones, droughts, fire, flood and heat



Example output
Future Scenario Analysis
Increase in long heatwaves under a high emission (RCP8.5) future



Example output
Comparing Future RCPs
Hottest annual temperature under four Representative Concentration Pathways (RCPs)

Example output
Local Sea Level Rise
Increase in sea level for 2100 for RCP4.5 versus RCP8.5





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