Deloitte.

ClimateAdapt

Strategies to counter climate risk

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Why do I need ClimateAdapt?

Compliance

In April 2022, Limited Liability Partnerships (LLPs) and many of the largest UK registered companies, banks and insurers, will be required by new UK legislation to disclose climate-related financial information.

This follows the 2021 publication of the Sustainability Disclosure Requirements (SDRs), which require double materiality and assessment of other environmental impacts and risks beyond climate change.

The International Sustainability Standards Board (ISSB), under the International Financial Reporting Standards Framework, also released its draft protocol for Climate Related Disclosures.

Objectives of the 2022 legislation

- To help support investment decisions in the transition to a low-carbon economy;
- To help climate reporting entities better assess their physical and transition risks with consideration of climate issues; and
- To help smooth the transition to a more sustainable, low emissions economy as part of the 2021 “Greening Finance: A Roadmap to Sustainable Investing”.

The new legislation is aligned with the Task-Force on Climate Related Financial Disclosures (TCFD) framework as is the ISSB’s Draft CRD Protocol.

What is the TCFD framework?

The TCFD framework addresses four key pillars: governance, strategy, risk management and metrics & targets.

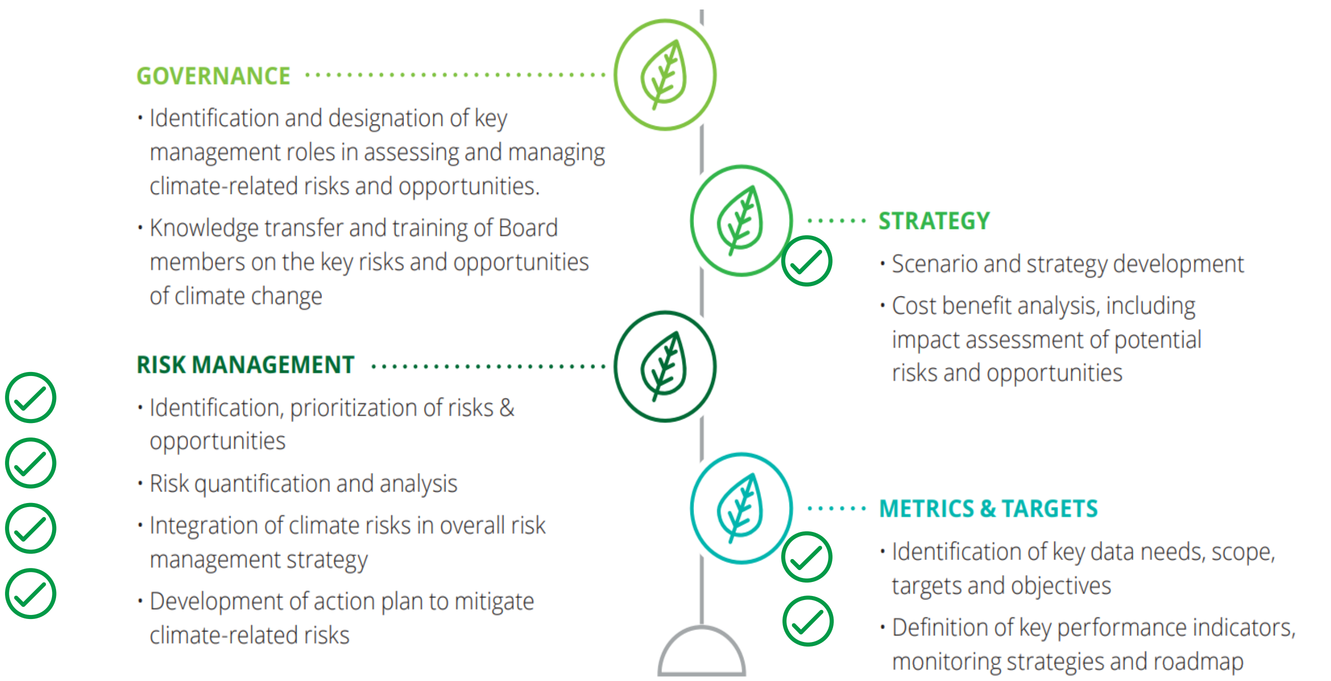
The framework is considered international best practice for climate-related financial reporting and, more generally, for climate risk management. It is already being used in the UK and other countries on a voluntary basis.

Quantify your exposure.

Identify your options.

Lock in resilience.

THE FOUR PILLARS OF TCFD & WHERE CLIMATEADAPT SUPPORTS DISCLOSURE REQUIREMENTS



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What is ClimateAdapt?

Comply

ClimateAdapt is designed to support compliance with Climate-related Financial Disclosure (CRD) requirements, as required by the Taskforce for Climate-related Disclosures, the International Sustainability Standards Boards' [draft] Climate Disclosure Protocol and the 2022 mandate.

Visualise materiality

The ClimateAdapt Quant model performs a robust materiality analysis over your Physical and Transition risks, enabling you to accurately identify the most material climate-related risks presenting for your organisation, and pinpoint the actions you need to take to build in resilience.

ClimateAdapt provides a cascade map, showing the genesis of climate risk and the interlinked and cascading risks for your assets, operations and people, and exposure under different scenarios.

Scenario analysis

ClimateAdapt enables your organisation to establish a current day baseline exposure against your balance sheet, and to model climate risk exposure under multiple SSP-RCP scenarios against future time horizons.

The purpose of providing multiple-scenario analysis is to counter the magnitude of uncertainty that climate risk presents, by enabling organisations to adapt their planning and investment strategies to respond to the intensity and frequency that climate stressors may present to the organisations, over time, under various global warming pathways.

Adaptation option CBA

Having identified and quantified your baseline risk, you are well positioned to identify your adaptation options and opportunities. Once you have identified your options and established your tolerance thresholds, ClimateAdapt enables a CBA of each option to identify the optimal planning and investment strategy for building resilience into your business model.

Dynamic planning

The end product of your cost-benefit analysis of adaptation options is a Dynamic Adaptive Plan. It provides a helicopter view of tolerance threshold exceedance triggers, to inform the timing and budget required for your adaptation options, over time, and under different global warming scenarios.

Report

The science-based outputs of ClimateAdapt can be integrated into your Climate-related Disclosure and included in your Financial Statements, demonstrating to regulators and investors that you have a robust understanding of **the impact of climate risk on the balance sheet**, and a **strategy for** strengthening **business resilience**.

ClimateAdapt enables development of a dynamic adaptation strategy, to shield your organisation from climate risk cost exposure.

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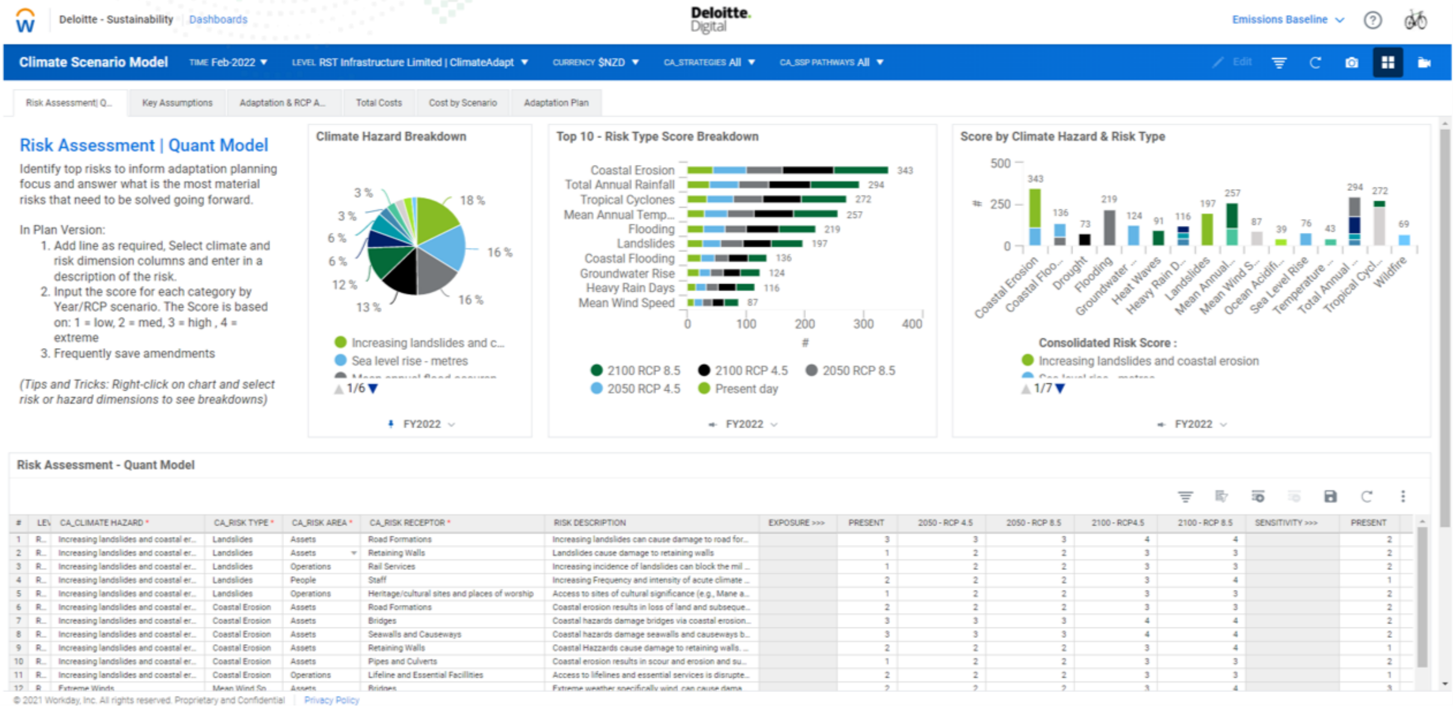
How does it work?

The model takes the outputs of an organisation's climate risk assessment and, via a quant model, conducts a materiality analysis to identify the most material climate risks presenting for the organisation (refer to Fig 1).

Figure 1

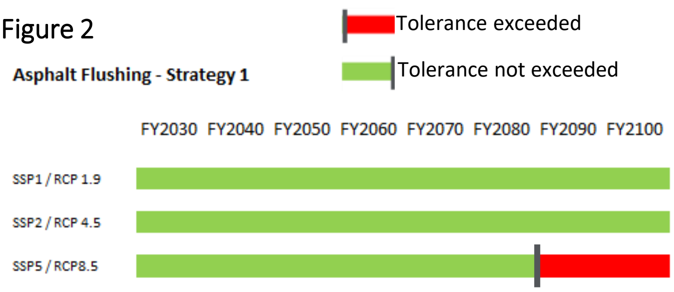


Using current and historic data, we take a 20-year average to establish the baseline / current day cost exposure to physical risks at a risk/asset/unit level. We input this data into the ClimateAdapt model to calculate the medium-term and long-term cost exposure to climate risk, under multiple RCP scenarios for the organisation's top 5-10 material risks.

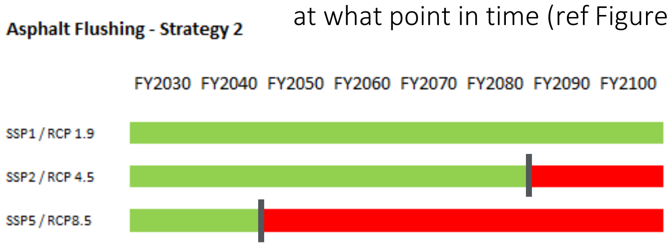
For each risk, we work with the client to identify appropriate adaptation options and cost these at present day prices. We also work with the client to establish the tolerance threshold for each risk (the maximum frequency of occurrences before remediation costs become untenable and action is needed i.e.to decommission, reinforce, or reroute/relocate the asset).

Using the baseline cost and tolerance threshold information, ClimateAdapt models adaptation options against multiple global warming scenarios and timelines to pinpoint the timing and scale of investment required under any given scenario. By inputting the tolerance threshold number -i.e. Asphalt flushing and chip seal failure occurs 'x' times per annum, at which point remediation costs become untenable), the model pinpoints which adaption to deploy, at what point in time (ref Figure 2).

Figure 2

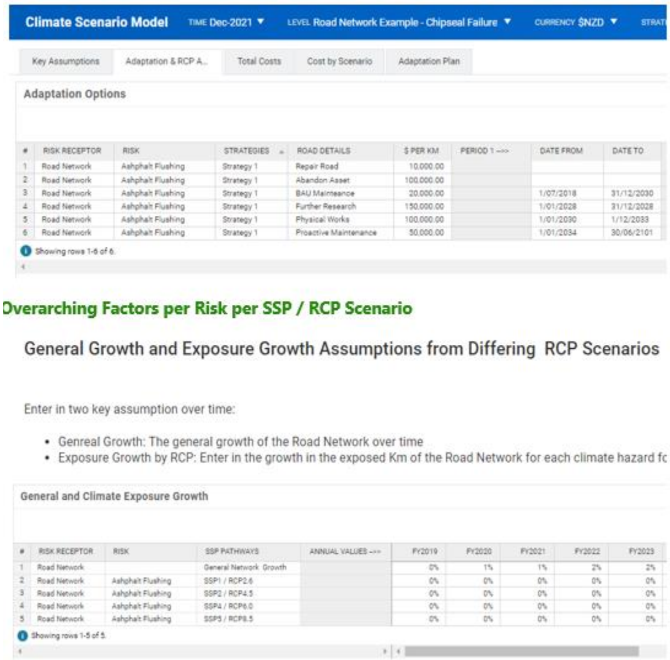


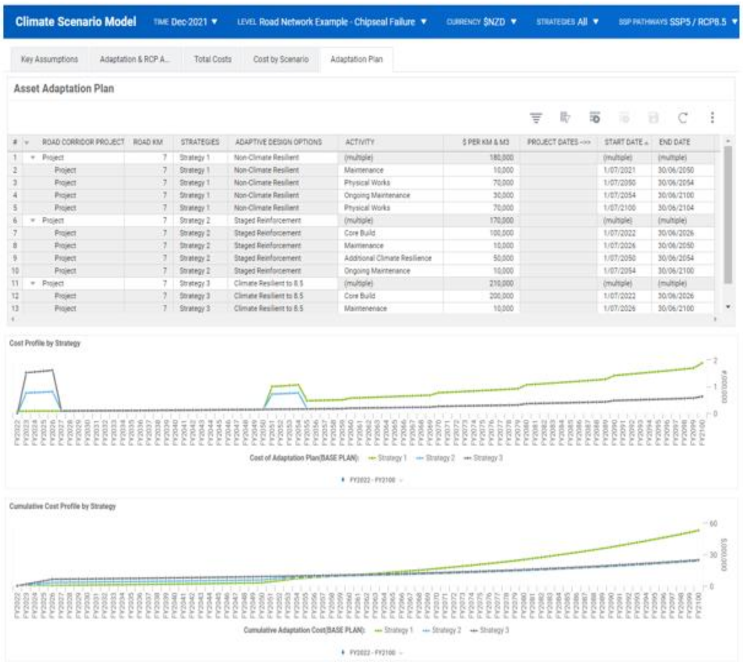
Tolerance level for annual occurances of temperatures > 25 degrees = 120



Tolerance level for annual occurances of temperatures > 25 degrees = 80

To facilitate a cost-benefit analysis of adaptation options, the model includes a growth factor to account for business growth (FTEs, assets, population) and applies a forecast inflation rate. The model also factors in Deaths and Serious Injury (DSI) costs and economic productivity costs (damage function), as illustrated below.





The final output of the model is a DAPP plan, to support a responsive and adaptive planning and investment strategy that build in resilience and shields the organisation from climate risk exposure.

What is a DAPP plan?

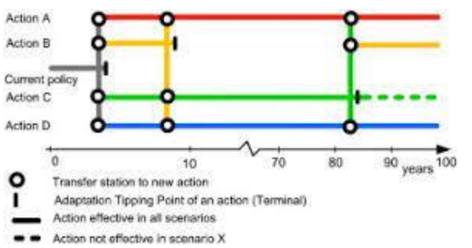
The Dynamic Adaptive Policy Pathways (DAPP) methodology uses triggers and options to develop a series of decision-making pathways, to inform strategy in the face of uncertainty. Conceived of and applied in the Netherlands, the approach enables organisations to establish trigger points for adjusting and/or executing planning and investment decisions. This enables organisations to anticipate and respond to potential outcomes before costly damage occurs.

To determine which pathway to follow, the organisation establishes a series of triggers to signal that a tolerance threshold is approaching. For example, as the number of hot days increases, the frequency and intensity of a risk event - i.e. asphalt flushing - increases to a point at which remediation costs become untenable and a tolerance threshold is reached. A trigger is established several years before the threshold is reached, to signal that an investment decision point is approaching and a course of action must be undertaken to avoid reaching the tolerance threshold. This threshold will present at different points in time under different global warming scenarios.

By exploring different pathways and options early on, and stress testing these against multiple warming scenarios, we can design an adaptive plan that includes a combination of short-term actions and long-term options designed to build in resilience and counter your exposure to climate risk.

The plan is monitored for signals that a decision point is approaching to:

- Implement the next step of a pathway
- Shift to an alternative pathway
- Reassess the objectives of the plan itself.



Adaptation Pathways Map

An adaptive plan builds resilience into your core business strategy and counters your exposure to climate risk uncertainty.

ClimateAdapt outputs

- ✓ Materiality analysis of top climate risks presenting for the organisation
- ✓ Quantification of exposure to climate risk at the present day and at multiple future time horizons, under multiple warming scenarios
- ✓ Cost of adaptation options, over time and under different warming scenarios
- ✓ DAPP plan to illustrate optimal investment strategy, in terms the timing and cost of deployment of your adaptation options, under any given global warming scenario.

OUR TEAM

Deloitte’s differentiator is our people. The cross-disciplinary nature of our team ensures we bring a comprehensive skill-set to deliver optimised ESG solutions, strategies and services tailored to meet your needs.

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Nanja Schouten is a Director at Deloitte Consulting and works in Human Capital focusing on Workday enabled HR transformations.

Nanja has over 15 years of experience in technology enabled HR transformations in both consulting and business roles and has lead multiple global HR technology implementations. She currently leads the Dutch Workday team in Deloitte.

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Alie van Davelaar is director at Deloitte Consulting and works in the Finance & Performance offering of Deloitte’s Enterprise Technology & Performance practice in the Netherlands. She leads our Enterprise Performance Management team, focused on the appliance of disruptive technologies in finance, like cognitive and predictive forecasting enabling finance becoming a true business partner.

She has a strong focus on the business finance community processes covering consolidation, planning, budgeting & forecasting and how these can be supported by the latest and greatest digital solutions and best practices, like connected planning and predictive forecasting. Alie has over 14 years hands-on experience in designing and implementing new Enterprise Performance Management solutions in different industries serving as a linking pin between business and IT.