

SHORT ARTICLE SERIES

ESG-edu aims to make relevant ESG content available to the various stakeholders for a sustainable future.

We do this through awareness and interactive education programmes focused on retirement fund trustee, management committee member; and fund member awareness and education initiatives, such as this short article.



CLIMATE RISK AND SCENARIO ANALYSIS

According to the Task Force on Climate-related Financial Disclosures (TCFD), it is important for organisations to develop forward-looking scenario-based assessments to explore and understand climate change-related physical and transition risks and opportunities – and how these might plausibly impact the business over time.

The Task Force on Climate-Related Financial Disclosures
The Task Force on Climate-Related Financial Disclosures (TCFD) was established by the International Financial Stability Board (FSB) in 2015. One of the key recommendations of the TCFD is that organisations use climate-related scenarios as a means to identify the ways in which different climate-related risks may affect their business and financial

performance. These scenarios are not predictions, but rather descriptions of plausible future states of the world. By engaging in scenario analysis, organisations are able to measure the resilience of their strategies against the different climate scenarios – and adjust the strategies accordingly if necessary. You can download the TCFD recommendations report here: <https://bit.ly/3i5O7IE>

SCENARIO ANALYSIS PROCESS

1. CLASSIFY CLIMATE SCENARIOS INTO ONE OF TWO CATEGORIES

Transition risk scenarios:
Model the different pathways that greenhouse gas (GHG)-intensive activities, such as energy generation and transportation, can develop. These scenarios are usually designed to be consistent with a certain level of global warming.

Physical risk scenarios:
Model the effects of changes to the climate on business activity. This can either be directly through physical damage or loss of specific assets, or indirectly through impacts on supply chains etc.

2. DESIGN SCENARIOS AND METHODOLOGIES

Before engaging in analysis, specific climate scenarios need to be designed by making appropriate assumptions around the climate, economy and societies. Most scenarios are built around a main assumption. Understanding the range of assumptions that can be applied to scenarios can be just as important as the scenarios themselves, as these inform the analysis and its usefulness.

KEY ASSUMPTIONS IN TRANSITION RISK SCENARIOS:

- Temperature limits used and probability of achieving these
- Time horizon
- Emissions reduction trajectory
- Distribution of emissions reductions between sectors
- Policies
- Use of carbon capture storage to meet limits

3. TRANSLATE ASSUMPTIONS INTO VARIABLES USING MODELS

Scenario variables used in transition risk models are developed by international scenario providers, such as the European Union (EU), the International Energy Agency (IEA), the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), the Intergovernmental Panel on Climate Change (IPCC), Shell's Sky Scenario and BP's Energy Outlook.

EXAMPLES OF SCENARIO VARIABLES:

- Land-use models
- Energy system models
- Climate models
- Hazard models
- Macroeconomic models
- Integrated assessment models (IAMs)

4. REVIEW OUTCOMES

Key considerations for organisations when reviewing scenario analysis based on the specific methodology chosen:

- **Scale:** What is the order of the potential impact?
- **Timeframe:** What are the potential time horizons over which these impacts are likely to occur?
- **Asset classes and sectors:** Which asset classes and sectors will be affected and how?
- **Valuation:** Does the analysis affect how certain companies or assets are valued?
- **Trends and drivers:** Which signals can be used to track climate risks in specific assets, sectors or companies?

5. ACTIONS TO CONSIDER

Once the results have been reviewed, there are a range of actions to consider:

- Refine or extend the methodology
- Incorporate into risk and investment processes
- Company engagement
- Stakeholder discussions and disclosure

6. ONGOING MONITORING

Climate risk is not a static risk, it evolves and changes with the passage of time. If scenario analysis is to be useful, it needs to be as dynamic as climate risk itself. This implies that scenario analysis should be regularly reviewed and monitored. This will assist organisations in structuring their thinking around the ever-changing climate risks and help them be more prepared to act in response to our changing climate.

This article is the first in a series derived from the Special Edition ESG-edu publication, *Climate-related financial disclosure: Aligning South Africa to global best practice*. The publication and short article series is supported by South Africa-UK PACT. You can read and download the full publication, at no cost, here: [Read the publication](#)

About UK PACT | Supporting transformational climate change projects worldwide

In July 2020 The UK Partnering for Accelerated Climate Transitions programme (UK PACT) launched the South Africa-UK PACT country programme to support action in just transition pathways and a low-carbon economic recovery. For more information on South Africa-UK PACT and the projects being funded in South Africa, visit www.ukpact.co.uk/country-programme/south-africa

Do you have a question that you would like us to address in a subsequent article?
If so, please send your questions or suggestions for article topics by email to:

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