

# Navigating the Transition

## Modelling the materiality of transition risk for infrastructure investment portfolios

The ClimateWise Insurance Advisory Council has launched an **open-source framework** to support investors and regulators assess how the **transition to a low-carbon economy** will impact the **financial performance of infrastructure investments**. The framework and accompanying step-by-step guide align with the G20 Financial Stability Board's **Task Force on Climate-related Financial Disclosures (TCFD)** and inform **practical actions** – for asset managers and owners – on capturing emerging opportunities from the low-carbon transition.

### Why transition risk?

A sudden and disorderly transition to a low-carbon economy will financially impact investment portfolios. Transition risks include **policy changes, carbon taxes, reputational impacts, and shifts in markets and technology**. These will vary across geographies, sectors, time horizons and according to commitments to limit global temperature rises.

### Why infrastructure?

In today's low-interest rate environment, infrastructure offers stable income and portfolio diversification. However **some infrastructure assets may be exposed to transition risk that could impact their financial returns**. A clearer understanding of transition risks and opportunities will help investors manage risk within their infrastructure portfolios.



With better information and risk management as the foundations, a virtuous circle is being built with better understanding of tomorrow's risks, better pricing for investors, better decisions by policymakers and a smooth transition to a low carbon economy.

Mark Carney, Chairman of the G20 Financial Stability Board

# ClimateWise Transition Risk Framework



## Purpose

**Step 1:** Inform asset managers and owners and regulators on the future allocation of funds and diversification of investment portfolios

**Step 2:** Indicate investment options for asset managers and owners to help improve asset resilience

**Step 3:** Enable quantification of potential impact on asset returns, investment options or exit strategies

Infrastructure Risk Exposure Matrix			Risk to Asset Returns (vs BaU)					
Transition risk exposure by infrastructure asset class			Paris Agreement NDCs			2°C Scenario		
Sector	Sub-sector	Geography	2020	2030	2040	2020	2030	2040
Power Generation	Coal	U.S.	High risk	High risk	High risk	High risk	High risk	High risk
		EU	High risk	High risk	High risk	High risk	High risk	
		India	High risk	High risk	High risk	High risk	High risk	
	Gas	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		Europe	Med risk	Med risk	Med risk	Med risk	Med risk	
		India	Med risk	Med risk	Med risk	Med risk	Med risk	
	Nuclear	U.S.	Low opp	Low opp	Low opp	Low opp	Low opp	
		EU	Low opp	Low opp	Low opp	Low opp	Low opp	
		India	Low opp	Low opp	Low opp	Low opp	Low opp	
Renewables	U.S.	High opp	High opp	High opp	High opp	High opp		
	Europe	High opp	High opp	High opp	High opp	High opp		
	India	High opp	High opp	High opp	High opp	High opp		
Oil & Gas Infrastructure	Oil	U.S.	High risk	High risk	High risk	High risk	High risk	
		EU	High risk	High risk	High risk	High risk		
		India	High risk	High risk	High risk	High risk		
	Gas	U.S.	High risk	High risk	High risk	High risk	High risk	
		EU	High risk	High risk	High risk	High risk	High risk	
		India	High risk	High risk	High risk	High risk	High risk	
Transportation	Aviation	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		EU	Med risk	Med risk	Med risk	Med risk		
		India	Med risk	Med risk	Med risk	Med risk		
	Roads	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		EU	Med risk	Med risk	Med risk	Med risk		
		India	Med risk	Med risk	Med risk	Med risk		
	Shipping	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		EU	Med risk	Med risk	Med risk	Med risk		
		India	Med risk	Med risk	Med risk	Med risk		
Mass Transit Systems	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk		
	EU	Med risk	Med risk	Med risk	Med risk			
	India	Med risk	Med risk	Med risk	Med risk			
Social	Buildings	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		EU	Med risk	Med risk	Med risk	Med risk		
		India	Med risk	Med risk	Med risk	Med risk		
Water	Water utilities	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		EU	Med risk	Med risk	Med risk	Med risk		
		India	Med risk	Med risk	Med risk	Med risk		
Telecoms	Telecommunications infrastructure	U.S.	Med risk	Med risk	Med risk	Med risk	Med risk	
		EU	Med risk	Med risk	Med risk	Med risk		
		India	Med risk	Med risk	Med risk	Med risk		

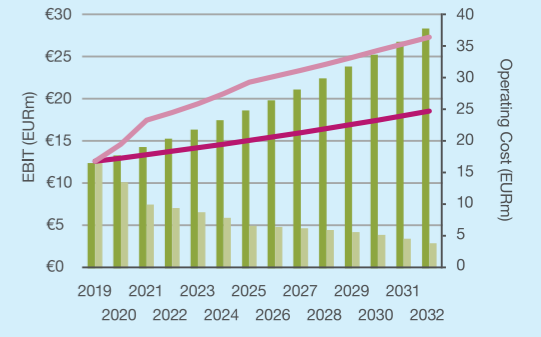
Example:

- Minimal impact (<10%) ●
- Low opp (10-25%) ●
- Med opp (25-50%) ●
- High opp (>50%) ●
- Low risk ■
- Med risk ■
- High risk ■

Impact Category	Financial Driver	Asset Class Region	Data Sources & Indicators	2020	2030	2040	Asset Specific Location	Data Sources & Indicators	2020	2030	2040
Revenue	Rev: Utilisation of gas distribution infrastructure	EU	IEA WEO Natural gas demand (Total Primary Energy Demand)	Med risk	Med risk	Med risk	[country]	EU Commission [country specific scenarios]	Med risk	Med risk	Med risk
	CapEx & OpEx: Emission reduction requirements		EU Commission policy and technology trends (internet)	Med risk	Med risk	Med risk		Government policy and asset specific (carbon intensity)	Med risk	Med risk	Med risk
Cost	OpEx: Carbon pricing	EU	World Bank EU ETS Historic data: government policy IEA WEO	High risk	High risk	High risk	[country]	EU ETS IEA WEO [country specific regulations]	High risk	High risk	High risk

- Financial driver contribution to asset returns:**
- High ■
  - Medium ■
  - Low ■
- Scenario vs BAU impact on financial driver:**
- Minimal impact (<10%) ●
  - Low opp (10-25%) ●
  - Med opp (25-50%) ●
  - High opp (>50%) ●
  - Low risk ■
  - Med risk ■
  - High risk ■

## Earnings before Interest and Tax (EBIT) and Operating Costs (OpEx)



### Asset Example: EU Gas Distribution

**Risk Exposure** is high in the 2°C scenario. **Financial driver analysis** shows a risk to gas demand in the EU, with a potential decline of more than 25% by the early 2030s compared with the base case, according to the International Energy Agency (IEA) 2°C scenario. Assuming a direct relationship between demand and asset utilisation, this suggests declining asset revenues. Leveraging a range of **scenario datasets** and accounting also for increases in OpEx, **financial modelling indicates that EBIT for the specific asset** could fall by more than 70% against base case, under a 2°C scenario.

## Outcomes

Enhanced understanding of how the costs and revenue drivers of assets could be impacted by the low-carbon transition

Increased ability to manage risk, capture opportunity and disclose the impact of transition risk, linked to the TCFD

Inform investment strategy

We regard the TCFD as a game-changer for the financial services sector in helping us to communicate our responses to the physical, transition and liability risks of climate change.

**Dominic Christian**, ClimateWise Chairman and Global Chairman of Aon Benfield

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## About ClimateWise

ClimateWise is a global network of leading insurers, reinsurers, brokers and industry service providers. They share a commitment to lead their industry in responding to the risks and opportunities of climate change. ClimateWise is facilitated by The University of Cambridge Institute for Sustainability Leadership.

## The ClimateWise Insurance Advisory Council

This is a flagship project of The ClimateWise Insurance Advisory Council which is comprised of 16 C-suite executives from across ClimateWise's global membership. The Council commissions research to inform regulators on the impact of climate change for the insurance industry and informs how industry expertise can support other parts of the financial sector as it responds to climate risk.

## Summary

- Transition risk could increase significantly by 2030, financially impacting infrastructure investment portfolios.
- This framework supports quantification of potential financial impact as called for by the TCFD, enhancing investors' ability to manage risk and capture opportunity.
- The accompanying Navigating the Transition how-to guide provides the methodology, tools and case studies to demonstrate how to quantify variations in transition risk across portfolios and within asset types.

## How will transition risk impact you?

- Visit [cisl.cam.ac.uk/transitionrisk](http://cisl.cam.ac.uk/transitionrisk) to download the open-source framework and accompanying how-to guide.
- Contact us to explore the risks and opportunities for your organisation.

## ClimateWise members 2018



Download the full report and open-source frameworks at [www.cisl.cam.ac.uk/transitionrisk](http://www.cisl.cam.ac.uk/transitionrisk)  
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