

RESEARCH SPOTLIGHT:

THE FALSE DICHOTOMY IN CLIMATE RISK

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In financial models assessing climate change impacts, a transition scenario is often more costly than a “business as usual” scenario. But these models fail to consider the cost of the damage caused by the flooding, wildfires, droughts and storms triggered by climate change. With COP25 underway, Nick Spooner examines this problem and what it means for companies and investors.

Climate risk is often characterised as physical risk or transitional risk – terminology popularised by the Task Force on Climate-related Financial Disclosures (TCFD). When scenarios are modelled, a business-as-usual scenario is compared with a transition scenario to obtain a net cost differential. This often shows the transition scenario as the higher cost scenario, due to the investment required to bring about rapid change.



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For example, the International Energy Agency’s Sustainable Development Scenario requires 25% more investment than its Stated Policy Scenario (SPS). But this does not consider the costs arising from the catastrophic physical impacts of global heating, including investment to mitigate harms. An attempt to combine physical and transitional costs by think tank the New Climate Economy, showed net benefits of US\$26 trillion accruing under a 1.5°C scenario, relative to a 2°C scenario.

The climate has already warmed around 1°C compared with pre-industrial times, and physical risks are manifesting more quickly than previously expected, leading to year-on-year records for extreme weather damage. Each incremental temperature increase will exacerbate these risks, disproportionately impacting the most vulnerable areas, such as Southeast Asia, where countries have far less adaptive capacity.

Even if a transition is successfully executed, restricting global warming to 2°C, the resulting impacts will be devastating, with increased desertification and sea level rises radically altering communities and ecosystems, as highlighted by the IPCC’s 1.5°C report. Whilst companies ought to be aligning their strategies to mitigate these temperature increases, they must not lose sight of the potential impacts, and the need to prepare for these.

The underinvestment in infrastructure in the utilities sector, despite the need to improve resilience to changing climatic conditions, is an example of this poor planning. US power company PG&E is regarded as the first climate change-driven bankruptcy, due to costs and liabilities stemming from forest fires caused by poorly maintained overhead power lines.

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Even in a business-as-usual scenario such as the IEA's SPS, a transition to net-zero emissions must eventually occur, so investment in low-carbon technologies is a necessity. It is not a question of *if* a transition will occur, but *when*.

Full decarbonisation

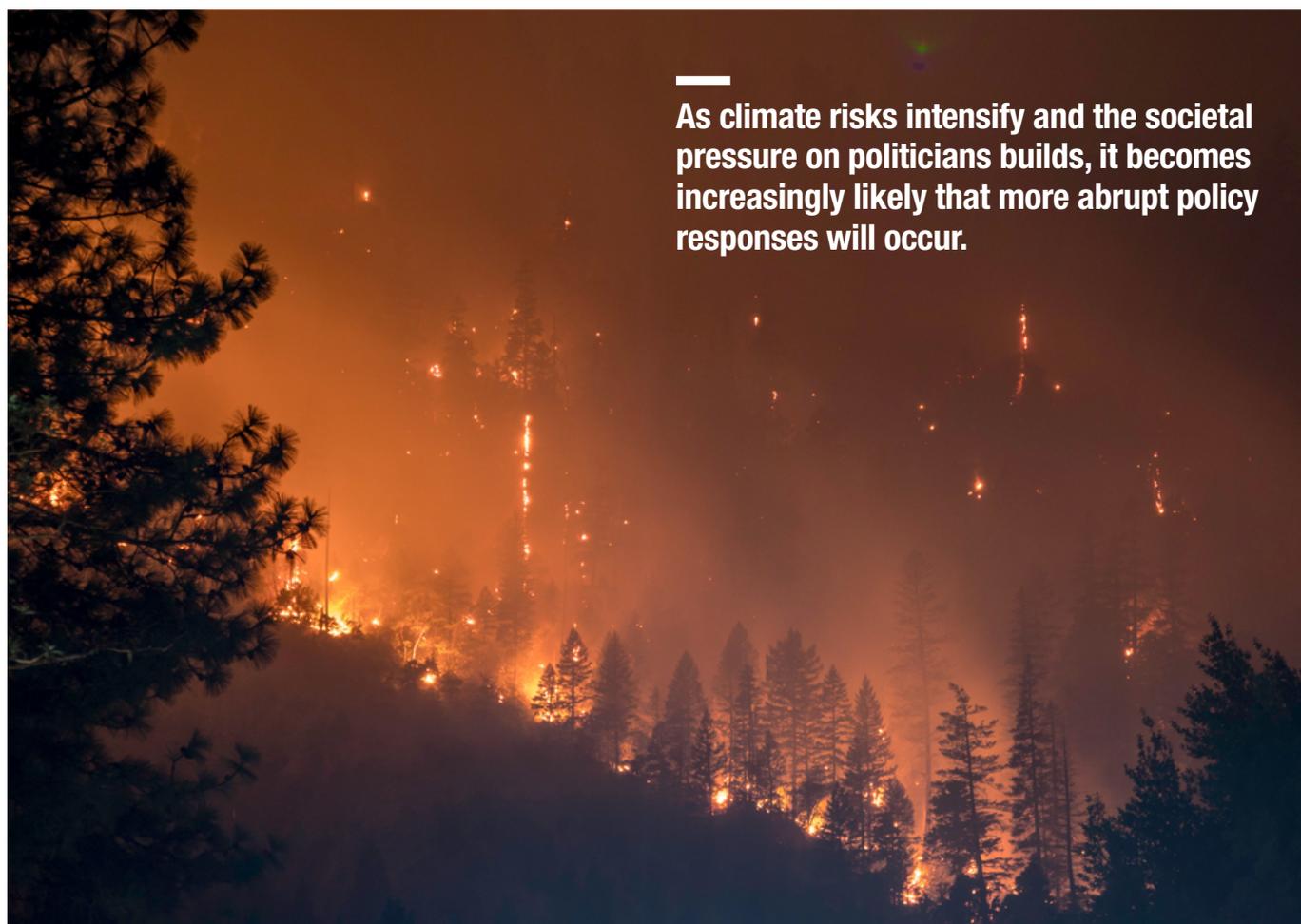
Given the urgency, we must not delay and should appropriately allocate capital to ensure that full decarbonisation is an achievable goal. This will mean taking a longer-term view on the investment needed to achieve immediate emissions reductions, and on the research and development costs to scale the technologies required to fully decarbonise the economy.

The integration of physical risk modelling with transition risk modelling has been recognised by the United Nations Environment Programme Finance Initiative as one of the [limiting factors](#) in current scenario

analysis tools. Companies and investors should consider how changes to the climate are projected to make some of the globe uninhabitable, and the subsequent impact on global supply chains. Or how changing climatic conditions may impact the suitability of low-carbon technologies across various regions, such as the projected utilisation rates from offshore wind farms.

As climate risks intensify and the societal pressure on politicians builds, it becomes increasingly likely that more abrupt policy responses will occur. Therefore, like the bankrupt in Ernest Hemingway's 'The Sun Also Rises', the transition may happen 'gradually, then suddenly', belying the smooth curves seen in many existing models.

We are currently approaching one potential inflection point. The 2015 Paris Agreement requires that the Nationally Determined Contributions (NDCs) put forward by countries are updated at least every five years, beginning in 2020. Setting aside the US, it is likely that we will see a ratcheting up of these NDCs to better align with the goal of limiting temperature increases to well below 2°C. We must now make every effort to ensure that the flurry of net-zero targets put forward this year by countries such as the UK and Costa Rica will encourage other politicians to be more ambitious.



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