

Integrating Systemic Impacts into Climate Scenario Analysis

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SR Inc is committed to providing best practice guidance on key sustainability topics, including TCFD scenario analysis. For guidance on executing and reporting on scenario analysis, refer to [SR Inc's Guide to Scenario Analysis Member Advisory](#). This piece is related to, but distinct from, that guidance, now providing SR Inc's informed recommendations on how industry best practice should evolve.

Task Force on Climate-Related Financial Disclosure (TCFD) scenario analysis is an increasingly key aspect of corporate ESG reporting strategies, and yet is very much an evolving process, a fact that is fully recognized by the taskforce themselves.¹ Companies that participate in scenario analysis gain insight into a range of climate risks to their business and also provide useful disclosure for their corporate stakeholders. However, at present, the exercise is often less impactful than intended, as the scenarios fail to prompt a consideration of second-order impacts and reinforce limited views of material risk.

Each different scenario outlines a finite set of conditions and encourages users to extrapolate their business' relevant risks and opportunities. This process inherently prompts corporations to identify very specific risks (often the most obvious, such as sea level rise) to their assets in high emissions scenarios. For example, if a company's central headquarters is located on a coastline, they will—and certainly should—report that as a risk. The issue is that many companies will stop there, identifying only very concretely predictable risks, which often have a clear path for adaptation/avoidance (i.e. change the location of your headquarters, transition to virtual work, etc.). Consequently, it may appear to the reader of such an analysis that the business is claiming climate change will not significantly impact its capacity to function.

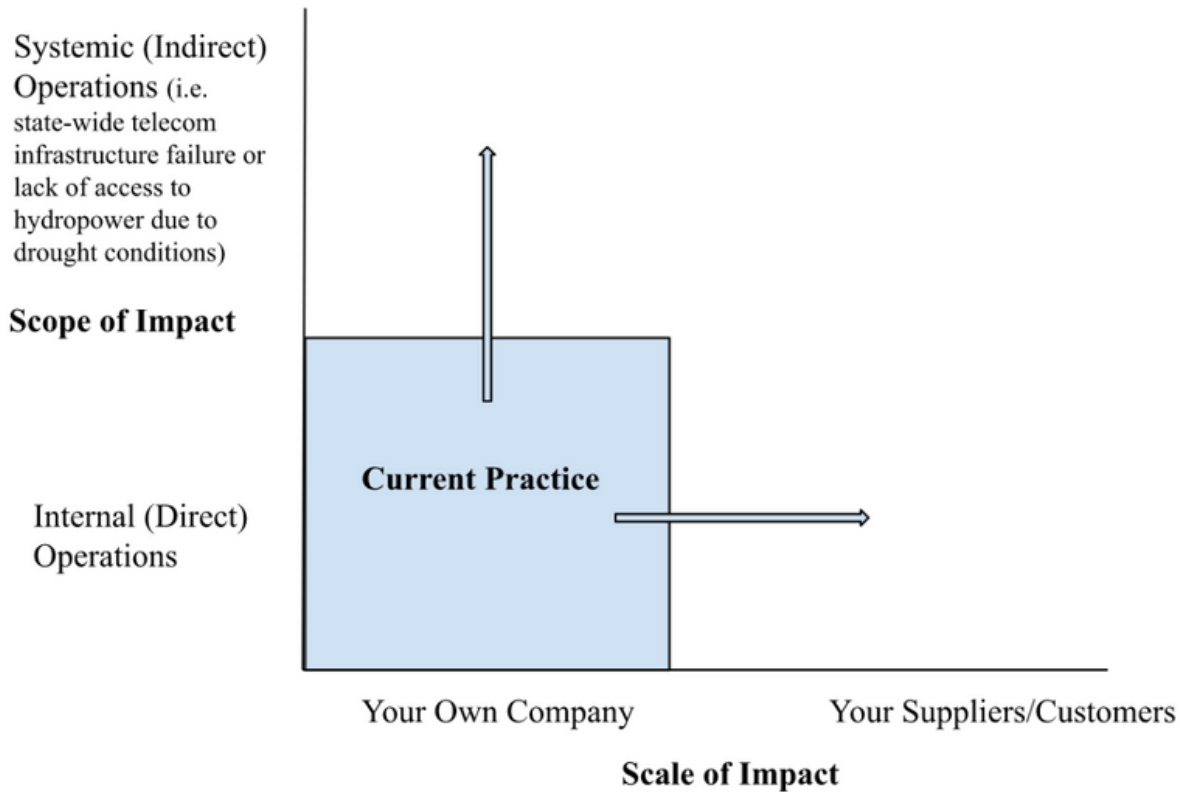
However, under high scenarios, there are a number of second-order impacts that will certainly affect the capacity for businesses— and communities more broadly— to function. Geostrategists have long forecasted these impacts and their implications on society and the security of nation states; the Stockholm

International Peace Research Institute (SIPRI) published a [2016 report](#) detailing many of these systemic risks, including food and water security, mass forced migration, and increased levels of conflict. The manifestation of these conditions will alter the ability of workers and consumers to lead stable lives, let alone participate towards a thriving economy and society. Unfortunately, there seems to be a continued dissonance between this geostrategist perspective of impending global climate risk and the more mainstreamed frameworks used for corporate climate risk assessment.

Realistically, this selective reporting of direct, concretely manageable risk may be somewhat purposeful in order to appear to investors as particularly resilient, or to avoid potential complications with disclosures made to the SEC in alignment with their drafted [Climate Disclosure Rule](#). These concerns are unfortunately much to the detriment of the larger goal of sustainability reporting, which is to encourage transparency in order to influence and track mitigation efforts. Therefore, the scenario analysis process needs to better encourage companies to take their analyses a step further to consider and prepare for the second-order, systemic risks of a warmer world.

For a tangible current example, with increased extreme heat related-outages and storm events, climate risk includes risk to our global telecommunications infrastructure.² Hurricane Irma in 2017 impeded 55.2% of Puerto Rico and the US Virgin Islands' cell sites, and another 27.4% once it made landfall in Florida.³ As these events become more commonplace as the climate warms, widespread infrastructure failure could lead to a crippling of communication services that the business community (and society more generally) takes for granted as fully functional today. Therefore, any and all companies whose business model and operations are built and reliant upon those functions may be rendered dormant "overnight." Furthermore, Puerto Rico is the fifth largest pharmaceutical manufacturing location globally, including plants for Pfizer, Johnson & Johnson, and AstraZeneca; this storm event would certainly have interrupted the production supply chains of these companies, all of whom are peers to a number of SR Inc Member-Clients.⁴ Current scenario analysis practice doesn't consistently prompt companies to take these more indirect, and yet substantially relevant, disruptions into account.

Expanding Considerations of Risk during Scenario Analysis Exercise



Current best practice for scenario analysis is generally limited to considerations of your own company and your direct operations. SR Inc recommends that best practice evolves to better promote the consideration of your value chain and systemic operations under climate scenarios as well.

As such, the exercise is being significantly underutilized. One Director of Sustainability at a utility company has shared that they perform scenario analysis largely to check the box of reporting requirements: “To be frank, at this point, we use scenario analysis primarily for disclosure, to meet TCFD-type requirements. When it comes to really shaping our strategy, it’s still a bit removed.”⁵ Consistent with that perspective, [TCFD’s 2022 Status Report](#) found that 23% of survey respondents conduct scenario analysis but do not use the results in their strategic decision-making process.⁶ This disconnect is one that can and should be improved upon, to the benefit of both the corporation’s internal strategy and external risk communication.

Some organizations have begun presenting frameworks for scenario analysis that address these gaps. In November 2022, ERM released their [“Better Blueprint for Corporate Climate Scenario Analysis,”](#) which explicitly calls out this issue of assumed linear climate impacts. In order to better incorporate sudden, non-linear impacts, ERM recommends that companies develop bespoke scenario narratives with information drawn from a wider variety of sources (policy trends, technological developments, social activism, etc.), rather than using singular pre-existing scenarios (it should be noted that TCFD does include custom scenarios as a viable option in their scenario analysis guidance). In this approach, business executives can better create a “longlist” of any and all potentially material climate impacts and facilitate the consideration of a greater array of risks. Practically speaking, though, this proposed process is less than actionable, as it entails a significantly greater commitment of time and effort, and investors find it difficult to utilize bespoke scenarios.⁷

Consequently, SR Inc advocates for two efforts to shift TCFD scenario analysis to become a more insightful and impactful exercise. The first is a very near-term, two-part recommendation, which begins with companies continuing to pursue TCFD scenario analysis and disclosing the results as aligned with current best practice. At the same time, separate from that TCFD disclosure, companies should include a statement in their corporate reporting that acknowledges the unprecedented level of societal impacts that the world will face in a 3°C+ climate, and that there are systemic risks that will impact the state of commercial activity as we know it. The intention of this statement is to explicitly signal that corporate executives recognize the full extent of risk that a warmer climate brings, and that the limited number of physical risks identified through their scenario analysis exercise do not exist in a vacuum.

The second recommendation is more comprehensive, advising that companies begin integrating climate scenario analysis into their enterprise-wide strategic planning and risk assessment program. Corporate sustainability functions in many companies remain under-resourced, whereas risk management departments are often exponentially larger and better-established, which can facilitate more detailed analyses. Technology company [Agilent](#), for example, has implemented this structural transition and integrates the analysis of climate risk

into their Enterprise Risk Management program. This function employs strategic processes to identify all material risks and ensure those risks are addressed, including identifying internal ownership of each risk, detailed documentation and risk tracking, and the establishment of specific workflows to develop mitigation and/or adaptation plans.⁸ This sort of process incorporation will help move scenario analysis away from being a largely siloed and limited process to meet a minimum reporting requirement to ultimately be an appropriately resourced exercise that commands executive focus and resource commitment, just like other core business strategic planning initiatives.

Member-Client [Bloomberg](#) has also taken steps to internally redefine climate risk as a central aspect of overall corporate risk management. In its [2022 scenario analysis exercise](#), Bloomberg conducted five workshops involving a total of 20 cross-functional participants representing a range of departments and key functions across the organization, avoiding the previously mentioned common siloing of the analysis within the corporate sustainability arm. Additionally, rather than leaving engagement in climate scenario analysis as a one-off annual event, Bloomberg has developed an internal ESG taxonomy to intimately familiarize staff with terminology around sustainability and better equip them to consider climate as a central part of any discussion around corporate risk. Bloomberg has further worked to normalize “horizon scanning” as a day-to-day consideration, which encourages employees to maintain a forward-looking view of the climate as they make operational decisions (strategic, purchasing, etc.). Choices that promote greater efficiency and optimization are often naturally aligned with greater sustainability, but this is not always the case. By keeping an eye towards the materialization of climate impacts and integrating that perspective into regular decision making, Bloomberg consistently prepares itself against future climate-related risk, just as it would for other sources of risk.

SR Inc looks forward to evolving our guidance for TCFD scenario analysis alongside other leading Member-Clients as best practices advance towards more fully matured risk assessment and strategic planning processes.

Footnotes

1. "...most scenarios have been developed for global and macro assessments of potential climate-related impacts that can inform policy makers. These climate-related scenarios do not always provide the ideal level of transparency, range of data outputs, and functionality of tools that would facilitate their use in a business or investment context...Organizations should undertake scenario analysis in the near term to capture the important benefits for assessing climate-related risks and opportunities and improve their capabilities as tools and data progress over time." Task Force on Climate-Related Financial Disclosures, "Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures," June 2017. <https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf>
2. "Widespread droughts will force governments to divert water traditionally used to cool data centers, resulting in unplanned outages. In coastal areas and river basins, catastrophic flooding, hurricanes, typhoons or monsoons will hit key infrastructure such as the electrical grid and telecommunication systems...The impact of extreme weather events on local staff, who may be unwilling or unable to get to their workplace, will put operational capability in jeopardy. The magnitude of extreme weather events – and their prevalence in areas that have not previously been prone to them – will create havoc for organizations that have not prepared for their impact." Durbin, Steve, "Extreme weather will inflict chaos on infrastructure," June 22, 2020, Information Security Forum. <https://www.securityforum.org/in-the-news/extreme-weather-will-inflict-chaos-on-infrastructure/>
3. US Federal Communications Commission, "Hurricane Irma: Communications Status Reports," September 7th and 11th, 2017. <https://www.fcc.gov/irma>
4. JLL, "Life Sciences Manufacturing Report: Puerto Rico," August 13, 2020. <https://www.us.jll.com/en/trends-and-insights/research/puerto-rico-life-sciences-manufacturing-report>
5. ERM, "A Better Blueprint for Corporate Scenario Analysis," November 2022. <https://www.sustainability.com/globalassets/sustainability.com/thinking/pdfs/2022/climate-scenario-analysis-blueprint-nov2022.pdf>
6. 28% of respondents conduct and use scenario analysis in decision making, 23% conduct scenario analysis but do not use in decision making, 44% do not conduct scenario analysis, 3% plan to conduct scenario analysis, and 2% are

Footnotes

undecided. Task Force on Climate-Related Financial Disclosures, “2022 Status Report,” October 2022.

<https://assets.bbhub.io/company/sites/60/2022/10/2022-TCFD-Status-Report.pdf>

7. “External stakeholders, such as investors, tend to consider in-house bespoke scenarios to be less transparent and less comparable than public scenarios.” Task Force on Climate-Related Financial Disclosures, “Guidance on Scenario Analysis for Non-Financial Companies,” October 2020.

https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Guidance-8.Scenario-Analysis-Guidance.pdf

Agilent, “Agilent’s Fiscal Year 2021 ESG Report,” 2022.

<https://www.agilent.com/about/esg/en/2021-agilent-esg-report.pdf>