

CLIMATE RADAR

HOW CLIMATE CHANGE IMPACTS BUSINESS

BLOG SERIES BY MANTLE314 INC.



CLIMATE CHANGE AND POWER UTILITIES

In this edition of our blog series on the implication of climate change for various sectors, we will be exploring the issues as they relate to power utilities. The Financial Stability Board's Task Force on Climate-related Financial Disclosure's (TCFD) has identified electric utilities as one of the sectors potentially most affected by climate change with a wide range of possible financial implications. As with our previous installment on the financial sector we will explore climate change risks and opportunities for power utilities, discussing both the financial and non-financial drivers and translating them into decision-useful considerations. We hope this discussion will help provide clarity and propel internal discussions and management of climate-related risks and opportunities within the sector and beyond. Full article with links to more information at mantle314.com.

Climate change disrupts the business of power utilities. It does so in a variety of ways linked to both the need to reduce carbon to mitigate climate change and the imperative to adapt to a changing climate.

Firstly, power utilities are impacted by the transition to a lower-carbon energy system. As a major contributor to greenhouse gas (GHG) pollution globally, power utilities were an early and logical target for GHG reductions across society. Likewise, solutions aimed at reducing

societal GHGs (smaller scale renewables, on-site generation, distributed energy, and smart grid technologies, to name a few) can disrupt the traditional business model of power utilities.

Secondly, the physical impacts of climate change are already having significant effects on the sector. Increased extreme weather events and changing climatic conditions are impacting infrastructure, causing more and prolonged power outages and leading to changes in how we manage, maintain and plan (e.g. in many

areas of Canada we have shifted from using more energy in the winter for heating, to using more energy in the summer for cooling).

Utilities have been leaders in awareness and action on climate change. An acceptance of the science is not the challenge for them, instead, the challenge is how to navigate an increasingly complex business landscape in light of a changing climate and move to a low-carbon economy.

Although not a comprehensive list of all the climate-related impacts for power utilities, we have identified these priority areas of potential business impacts for utilities:

1. Seek to understand and manage physical risk to infrastructure and equipment

As climate impacts emerge, utilities face both acute and chronic challenges to infrastructure and equipment. This needs to be better understood so it can be managed. Acute risks include those related to increased frequency and severity of floods, extreme wind and other climatic events. How will utilities deal with more frequent events and the challenges that they pose to infrastructure and equipment? Chronic risks are related to the slow but steady changes we are seeing, such as increased temperature variability transmission line capacities, or water supply issues impacting hydro-electric generation.



Climate modeling is beginning to be downscaled and translated into business-relevant information, but it is still largely understood at a more academic level. Additionally, models are really good at predicting mean/average changes, but utilities should care as much or more about projected extremes, which are more difficult to predict using models. Never-the-less, information is evolving rapidly and utilities should be integrating the best modelling into decision-making wherever possible.

Lastly, a lack of applicable expectations and standards make it a challenge to convince all stakeholders that this is a requirement and decide on a standard approach to integrating climate projections into decision-making. Standards are evolving and being updated constantly, and helpful resources like the new report from the Expert Panel on Climate Change Adaptation and Resilience Results are moving the needle. The challenge will be for all organizations to identify and apply the specific data and information they need, which will vary across organizations and locations.

2. Facilitate, and not be overwhelmed by, the low-carbon transition

Many fossil-fuel based companies are realizing the need to diversify and transition to lower-carbon energy. As renewable energy becomes less “alternative”, leading utilities are increasingly investing in renewable sources (wind, solar and energy storage are changing the game in many jurisdictions). The challenge of shifting our energy system to low-carbon is daunting. A combination of regulatory and market drivers are needed to meaningfully shift the emissions profile of the sector, but industry leadership and a longer-term view of business opportunities can push companies into a more economically sustainable direction over the medium to long-term. Utilities will need to constantly refresh investment plans and strategies and keep the “lens” of low-carbon decisions front and centre, in light of evolving market and regulatory developments. Which leads us to the third key business challenge to highlight...

3. Keep up with the speed of change

The clarity of the science and indeed our international commitments call for rapid efforts to mitigate and adapt to climate change. In

order to do this, many utilities will need to go through what essentially amounts to a change-management exercise. This change will need to happen while keeping on top of rapid policy and market developments like carbon pricing policy, electric-vehicle standards and market uptake rates, changes to environmental assessments and government pre-conditions for funding, evolving codes and standards to incorporate climate information, just to name a few.

Change management is difficult at the best of times. When there is impetus for change and evolution we see natural groups emerge: the leaders (those who take risks and get out in front), the fast followers (those who see the leaders and move quickly to keep up), the slower followers and the laggards. With climate change, the leaders have already made strides and the fast followers are now catching up. The slower followers and even the laggards will soon be forced to understand, manage and disclose climate risk and opportunities to continue to have access to financing and investment while satisfying regulators.

The rate and scale of change that is necessary to support this transition present unique challenges for all business – on one hand, the challenges are longer-term, but on the other hand the speed at which expectations are changing is quick. These rapid developments are even more difficult to process in industries like energy utilities that have longer-term horizons and significant institutional bureaucracy and regulatory oversight.



Utilities need to innovate in this space and ensure the organization has engagement on climate issues from the board through to senior executives, staff and external stakeholders. Transitional innovation needs to permeate corporate culture. In sum, not only are the technicalities of climate change mitigation and adaptation challenging, but the speed of change provides another layer of complexity for organizations like utilities to manage.



Our suggestions for steps to address these top challenges include:

A. Advocate for and develop standards to integration climate considerations. Utility companies know their business best, they need

to work both internally and through association with other utilities to develop and promote standards on how to measure, monitor and integrate climate-relevant issues into decision making. It's also crucial to work with partners like academia, think tanks and insurers to incorporate the best available information at various stages. Updated standards and guidelines should include those aimed at both reducing emissions and using best available climate-science and pragmatic solutions to adapt to climate change and increase resiliency. Getting industry players on the same page and supporting best-practices towards resiliency is crucial to turn the dial towards mitigating climate risk and seizing opportunities to become more resilient with each investment.

B. Understand and track climate's role in planning and operations. Organizations need to ensure they have a process to identify inflection points for climate-relevant issues to integrate into planning and operations. They also should identify which functions and team members can take on leadership roles and have responsibility for measuring progress. This is the type of action being recommended by the Task Force on Climate-related Financial Disclosures, and investors, to ensure business strategy and operations understand and adequately manage climate-related issues.

C. Ensure transparency within the organization and externally to stakeholders. Investors and activist alike are asking tough and pragmatic questions on how energy utilities are planning on assessing and managing climate risk. From the risk of stranded assets to business continuity planning in light of increased extreme weather-related losses, stakeholders expect these issues to be addressed head-on and managed with pragmatism. It is important that those within organizations have a clear and consistent view of how climate-related risk and opportunity are being managed and can communicate that with clarity to external stakeholders. That sounds easier than it is, and will require a coordinated effort and prioritization of these issues among other, sometimes seemingly more pressing, concerns. Organizations need to avoid reliance on historical positioning and craft pragmatic climate change communication plans. We believe that organizations that are thoughtful, systematic and transparent with their communications will be better placed to succeed in the climate-adjusted future.

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