

DOD & Corporate Risk

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1. Introduction

This will be a strange post / paper. I will treat the U.S. Department of Defense NOT as the defender of our nation (and quite a few others), but as a huge enterprise, similar to major corporations. Having been in the military (Army Air Defense Command (ARADCOM), late 1960s to early 1970s), and also having worked on several military projects as an energy-engineer, I know the military can be rather “distinct” as compared to other enterprises. This is mainly because of their unique focus on their main mission (see above), and the unique management elements and organization needed to accomplish this mission.

However, the military is also very focused on keeping their organization, supply chains, and infrastructure intact:

The Department of Defense (DOD) has identified climate change as a critical national security issue and threat multiplier and top management challenge. Climate change will continue to amplify operational demands on the force, degrade installations and infrastructure, increase health risks to our service members, and could require modifications to existing and planned equipment. Extreme weather events are already costing the Department billions of dollars and are degrading mission capabilities. These effects and costs are likely to increase as climate change accelerates. Not adapting to climate change will be even more consequential with failure measured in terms of lost military capability, weakened alliances, enfeebled international stature, degraded infrastructure, and missed opportunities for technical innovation and economic growth.¹

The Department must take bold steps to accelerate adaptation to reduce the adverse impacts of climate change. These adaptation efforts must align with our strategic objectives and mission requirements, ensuring that our military can deter aggression and defend the nation under all conditions. DOD will build upon previous work (see inside back cover). Other DOD actions include scientific and engineering research to understand adaptation requirements, new policies and guidance, improved construction codes and standards, tools to assess and evaluate climate exposure at installations, and a requirement for comprehensive installation master planning.

However, since I’m treating DOD as a large enterprise / corporation, I will use the above referenced document and others, cherry-picking actions to mitigate climate change that are most applicable to large enterprises / corporations.

2. First Step

The DOD has already taken an important first step and is working on a first action that large corporations need to emulate. All major corporations have a mission statement. In the Introduction, I briefly described DOD’s mission as “defending our nation (and quite a few others). It took me a while to find a formal mission statement for DOD, but I did find it in an older website:

¹ Department of Defense (DoD), Office of the Undersecretary of Defense (Acquisition and Sustainment), DoD Draft Climate Adaptation Plan. Report Submitted to National Climate Task Force and Federal Chief Sustainability Officer. 1 September 2021, <https://www.sustainability.gov/pdfs/dod-2021-cap.pdf>

The mission of the Department of Defense is to provide a lethal Joint Force to defend the security of our country and sustain American influence abroad.²

I'm not going chaise-down mission statements of other large corporations, nor go into the development of a mission statement other than to say it would be good if a large corporation's mission statement was (1) succinct and (2) stated, as briefly as possible, the functions of the corporation that its leaders feel are really important.

Starting with a mission statement and an understanding of the likely effects of climate change (real-world, not fantasy), every major corporation should develop a "Climate Risk Analysis." DOD has done this and this analysis is referenced here.³

The Climate Risk Analysis should start with a brief opening statement that describes the main elements of the risk. DOD calls this "Forward," and it is below.

To keep the nation secure, we must tackle the existential threat of climate change. The unprecedented scale of wildfires, floods, droughts, typhoons, and other extreme weather events of recent months and years have damaged our installations and bases, constrained force readiness and operations, and contributed to instability around the world. Climate change touches most of what this Department does, and this threat will continue to have worsening implications for U.S. national security.

To meet this complex challenge, the Department of Defense (DOD) is integrating climate change considerations at all levels, including in our risk analyses, strategy development, planning, modeling, simulation, and war gaming. The DOD Climate Risk Analysis (DCRA) is a critical step for incorporating climate change security implications at a strategic level. As the global and cross-cutting consequences of climate change increase the demands on the Department, the DCRA provides a starting point for a shared understanding of the mission risks of climate change—and lays out a path forward.

For example, climate considerations will be included in key DOD documents, such as the forthcoming National Defense Strategy, which guides the ways that DOD meets national security challenges. Coupled with the Climate Adaptation Plan, which will help the Department operate under changing climate conditions, the DCRA reflects the Department's focus on confronting climate change.

Climate change presents serious risks, but DOD, along with the entire U.S. government, as well as our allies and partners, is determined to address this common threat. The Department will work to prevent, mitigate, and respond to the defense and security risks associated with climate change. By doing so, we will ensure that we continue to fulfill our mission of defending the United States.

- Lloyd J. Austin III, Secretary of Defense

In the referenced document there is an Introduction (section 1) which elaborates the above statement. This is followed by a statement of climate policy. The responsibilities within DOD for carrying out the elements of this policy are defined (section 2). Section 3 starts analyzing the risks. This starts out with each hazard from climate change, followed by analyses of each of the impacts of this hazard and implications for mission elements (for DOD this is main mission is security, see the figure below for an example).

² U.S. Department of Defense, <https://dod.defense.gov/Home-2018/>

³ Department of Defense (DOD), Office of the Undersecretary for Policy (Strategy, Plans, and Capabilities). 2021. DOD Climate Risk Analysis. Report Submitted to National Security Council, <https://media.defense.gov/2021/Oct/21/2002877353/-1/-1/0/DOD-CLIMATE-RISK-ANALYSIS-FINAL.PDF>

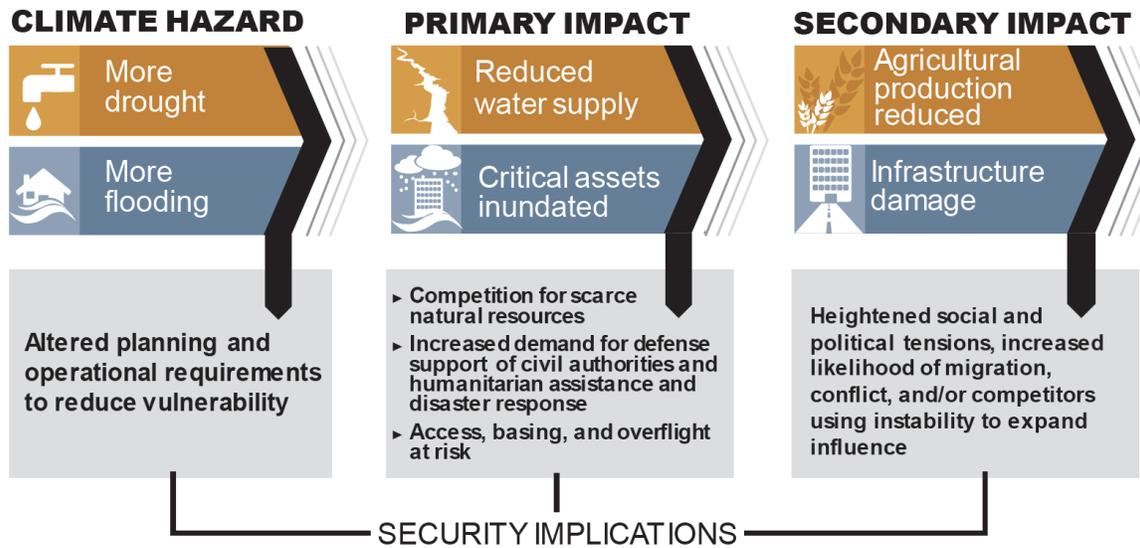


Figure 1. Examples of connections between climate hazards, primary and secondary climate impacts, and security implications.

The above is a reasonable way to analyze the impacts of known future climate change effects.

The next section (4) starts developing methods to incorporate the risk analysis into future strategy development, planning, personnel management, budget management and partner activities. Although these management activities may be somewhat different for each corporation, I thought they were close enough (as I reinterpreted them) to be widely applicable.

Section 5 focuses on “Informing and Funding Future Climate Risk Analyses.” I thought there were three elements of this that were widely applicable. The first is a formal method for bringing scientific information that is of interest (in this case, to DOD) into the organization. This is important enough to DOD such that they have dedicated organizations to do this (for instance, “...the Climatology Division at Fleet Numerical Meteorology and Oceanography Center”).

The second element was their use of “Intelligence Products.” Certainly DOD is embedded in one of the largest intelligence cultures in the world, and intelligence is intrinsic to their main mission, but each major corporation has an intelligence function (of a different sort) and climate change will be an increasingly important part of this function (for instance how competitors and customers are being effected by climate change hazards).

The third element is funding future climate-risk assessments and responses. This is particularly important in large corporations. These organizations have a really bad habit of killing activities that don’t contribute to today’s bottom line (don’t get me started), and then being utterly surprised when a competitor steals the march on them.

3. Climate Hazards

Since I’ve written about this frequently, I will send you some of my earlier posts. Although the ones below are in chronological order by date of posting, I frequently update important older posts (the first below is up to rev d).

Climate and Energy Part 1: The Future: This is a major update, of the "Climate and Energy" three-part series that I originally posted starting in June of 2018. Part 1 of this series is on Climate Science and what the future might hold for us, and includes a second (minor) update in January 2021, and a third update in December 2022.

<https://energycentral.com/c/ec/climate-and-energy-part-1-future-rev-c>

Stuck: I've known for some time that, in the U.S., in summer, weather patterns can stall in one place for some time, because I read an article in Scientific American about it in 2019, and consequently wrote the paper on the climate change effect that caused this. Note that the original paper was updated and is linked in the Introduction of this paper.

I occasionally use and reference writings by Dr. James Hansen. If you know anything about climate science, you know who Dr. Hansen is. Once or twice a month his team sends me a brief paper. The post linked below is an update of the above paper and includes additional content from Dr. Hansen's recent paper (7/13/2021). There are also words on the same effect from other sources.

<https://energycentral.com/c/ec/stuck>

Code-Red Tipping Points: Merriam-Webster defines a tipping point as: "The critical point in a situation, process, or system beyond which a significant and often unstoppable effect or change takes place."

An example is when a microphone and amplifier start experiencing positive feedback, and the slightest noise sets off an ear-splitting howl.

I frequently write about the primary, secondary and higher-order effects of climate change. Within the matrices of these effects are numerous tipping points, and therein lies extreme danger. Since the world's climate is a huge system, the effects of positive feedback don't happen within seconds as with the above example, but decades to centuries. This means we don't completely understand that we've passed these points until it is too late to easily fix them.

Our (the world's) society also experiences tipping points though major attitude adjustments, and these are needed to address our climate's tipping points.

This post is about recently identified and characterized tipping points in our attitude and climate.

<https://energycentral.com/c/ec/code-red-tipping-points>

Author's comments: All three of the above past posts are science-based and take a deep dive into the future, especially the last (and most recent) one.

Note that a particular corporation's relevant hazard might come through:

- Customers or Clients
- An organization's supply chain
- Transportation Infrastructure
- Other infrastructure
- New government requirements or restrictions

An example of transportation infrastructure adapting to climate change risks can be found in section 4.2 (PepsiCo) in the post described and linked below. Also in this post (section 6) are examples of government restrictions that will force major changes for some large corporations.

EVs Early Winter 2023: It's a busy time in the electric vehicle (EV) Market. My last post on this was under a month ago, but new, and significant information has been coming in at a rapid pace, and I'm expecting more before the posting date...

https://energycentral.com/system/files/ece/nodes/586840/evs_early_winter_2023.pdf

The following post has a major hazard that also may be an opportunity. This comes from an emerging government requirement.

Climate Risks & Large Corporations' Disclosures: This is a really complex issue, but an October 28 Issue of Science had an article that I found clearly explained these risks as they apply to large corporation, especially in energy industries.

Investors have known about climate change for decades. Yet it is only recently that several countries—including France, Japan, New Zealand, and the United Kingdom—have developed policies requiring large public companies to regularly disclose information about climate-related financial risks. In March 2022, the US Securities and Exchange Commission (SEC) proposed a climate disclosure rule that, distinctively, would affect all firms publicly traded in the United States regardless of their size or country of incorporation. With the policy's broad scope, the large size and exceptional liquidity of the US financial market, and the SEC's influence on securities regulations worldwide, this presents a major opportunity.

<https://energycentral.com/c/pip/climate-risks-large-corporations%E2%80%99-disclosures>

Also note that I post two papers a week to Energy Central, and many of these are on the subjects we are discussing herein. I maintain a directory of all of these papers with descriptions and links. I update this directory quarterly. Below is a link to the latest update. Read the Intro for instructions on how to use this resource.

Papers Directory, Fourth Quarter 2022 Update: This document contains links to all of the major / educational papers I have written and posted to Energy Central. I originally posted this document at the end of 2018. This quarterly update is at the end of the fourth quarter (December) of 2022.

<https://energycentral.com/c/ec/papers-directory-fourth-quarter-2022-update>