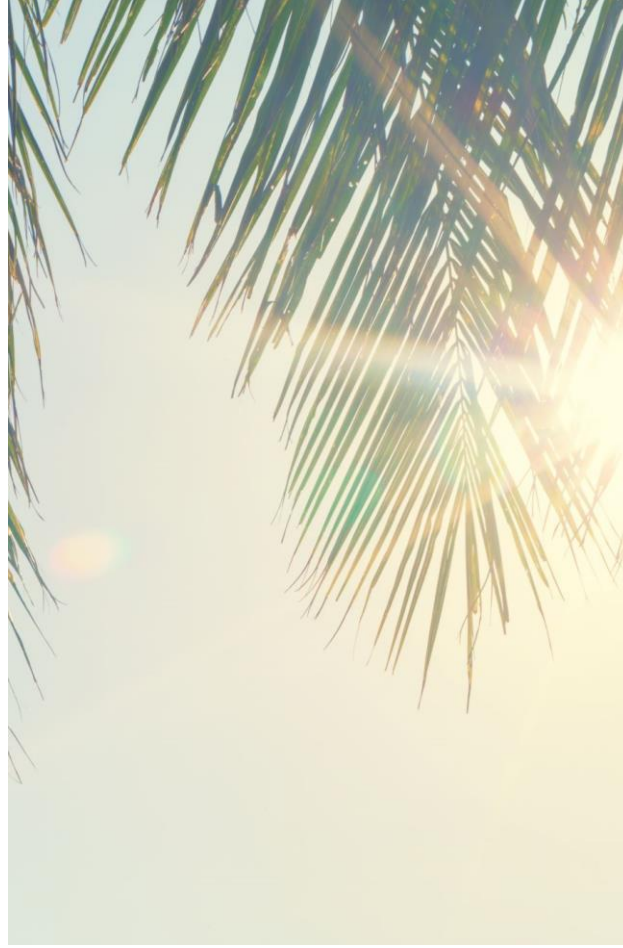


WHAT´S UP WITH WATER:
Pouring Water into Corporate Strategy

Episode 16: Climate Change and Water

28-Jun-22

WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

OUTLINE

1. Introduction
2. Rationale, Philosophy and Objectives
3. What´s up with water I: Contexts
4. What´s up with water II: The essence
5. Water as an earth component
6. The cycle of water production explained
7. Water in the oceans
8. Water on earth
9. Water beyond your skin
10. Water for human consumption
11. Water and cities
12. ~~Why is water so crucial for all?~~
12. When water kills
13. Climate Change and water
14. Loving water is caring for us
15. Look around: Everything is water
17. The concept of agility in corporate strategy
18. Strategic Agility has been misunderstood
19. Strategic agility is beyond the supply chain management
20. Strategic agility is not only NAIQIs
21. Agility has insane drawbacks
22. Understanding and applying strategic agility correctly and well
23. How to foster strategic agility at the corporate level?
24. Is strategic agility the right way to fix our environment
25. Pouring strategic agility to water into our corporate strategy
26. Research Agenda about water in our corporate strategy for the next 15 years
27. Summary and conclusions

28-Jun-22

WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

Sun Radiation vs Infrared Radiation and Greenhouse gases

- *Qualitatively, the scientific essence of the greenhouse effect is that the earth ' s atmosphere is largely transparent to some frequencies of electromagnetic radiation (EMR), but substantially reflects others.*
- *Frequencies well transmitted include much of the visible and ultraviolet (UV) radiation of the sun, although much of the infrared (heat) radiation from the sun is reflected (figure 4.8). Why, then, is the earth ' s surface warmed by the sun? Some of the sun ' s UV and visible EMR that reach the earth ' s surface is converted by chemical and biological processes into heat energy. Further, some of that heat energy is reemitted by the earth ' s surface in the form of infrared (IR) radiation.*
- *However, gases in the earth ' s atmosphere, such as water vapor and CO 2 among many others, are not transparent to all IR frequencies, and so some of the IR from the earth' s surface is absorbed by these gases and then reradiated toward the earth' s surface as IR radiation. The net effect is to provide additional warming to the earth ' s surface and to the lower atmosphere (figure 4.8).*
- *Gases that perform this function of IR absorption and reradiation are called greenhouse gases (GHGs). Human impacts on global climate can arise if human actions disrupt atmospheric concentrations of GHGs to the point that fluxes of IR radiation or reradiation to the earth ' s surface are substantially reduced (global cooling , e.g., owing to lower GHG concentrations) or increased (global warming , e.g., because of higher GHG concentrations).*

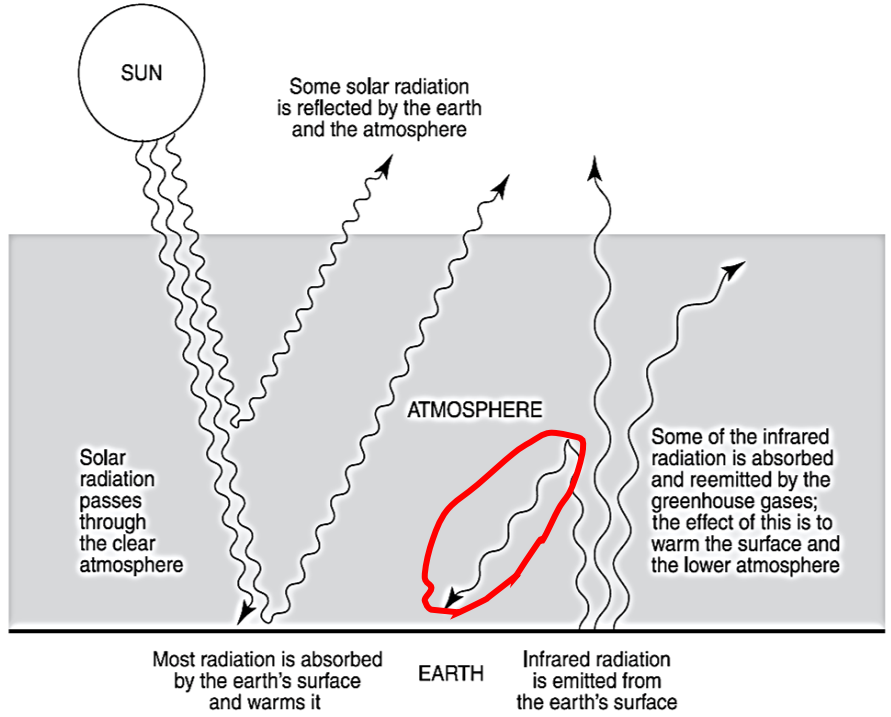
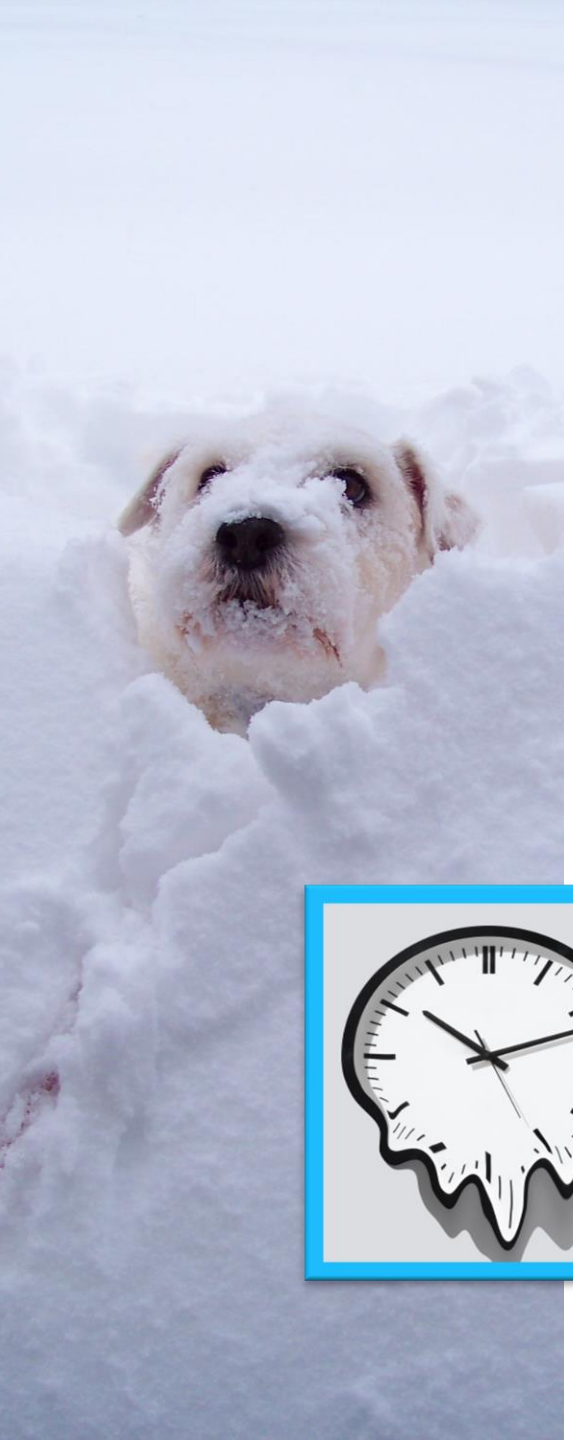


Figure 4.8
Simplified illustration of the mechanism of the "greenhouse" effect. Source: IPCC (1990). Reprinted with permission of IPCC.

Source: https://mitpress.mit.edu/books/sustainable-energy-second-edition. Chapter 4



WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

Climate Change Variables by the World Meteorological Organization.

2016 Essential Climate Variables (ECVs)

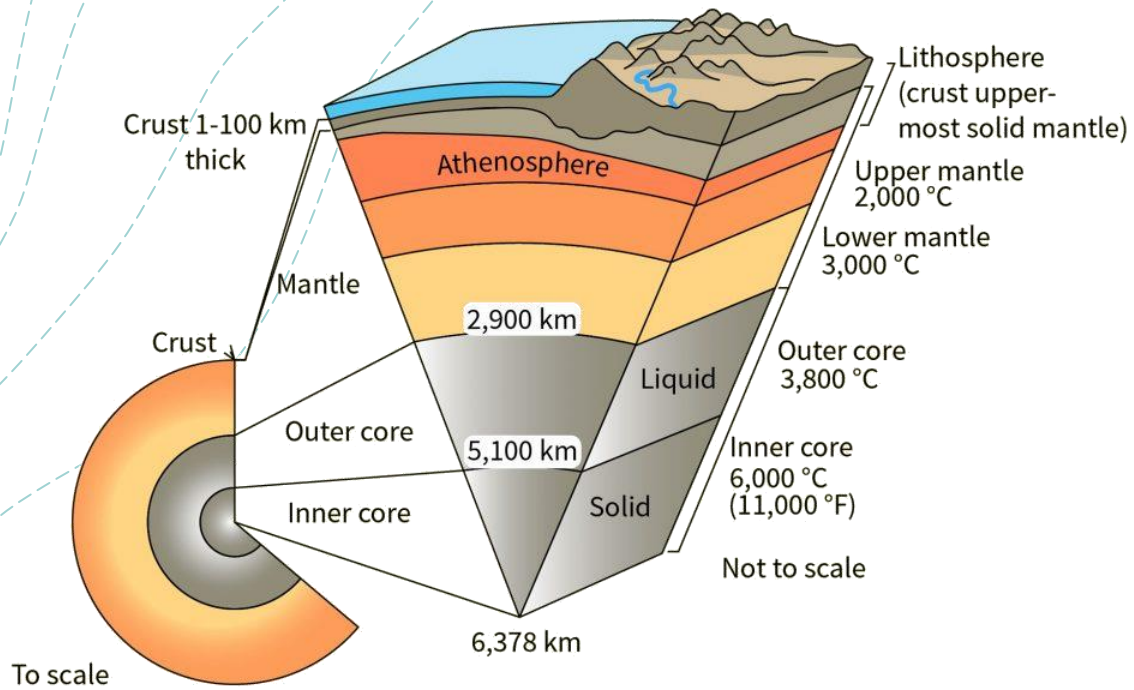
Atmospheric	Surface	Precipitation, surface pressure, surface radiation budget, surface wind speed and direction, surface temperature, surface water vapour	Oceanic	Physical	Ocean surface heat flux, sea ice, sea level, sea state, sea-surface salinity, sea-surface temperature subsurface currents, subsurface salinity, subsurface temperature
	Upper air	Earth radiation budget, lightning, upper-air temperature, upper air water vapor, upper-air wind speed and direction		Biogeochemical	Inorganic carbon, nitrous oxide, nutrients, ocean colour, oxygen, transient tracers
	Composition	Aerosol properties, carbon dioxide, methane and other greenhouse gases, cloud properties, ozone, aerosol and ozone precursors		Biological/ecosystems	Marine habitat properties, plankton
Terrestrial	Hydrology	Groundwater, lakes, river discharge, soil moisture			
	Cryosphere	Glaciers, ice sheets and ice shelves, permafrost, snow			
	Biosphere	Above-ground biomass, albedo, fire, fraction of absorbed photosynthetically active radiation, land cover, land surface temperature, latent and sensible heat fluxes, leaf area index, soil carbon			
	Human use of natural resources	Anthropogenic greenhouse gas fluxes, anthropogenic water use			

Figure 26. Essential Climate Variables (ECVs) identified by GCOS

Source: World Meteorological Organization
https://library.wmo.int/index.php?lvl=notice_display&id=22080#.YrtqpnbMKHt

WHAT´S UP WITH WATER:
Pouring Water Into Corporate Strategy.

Is the temperature rising from inside out of the planet? .



https://ugc.berkeley.edu/background-content/earths-internal-heat/