

Additional Topics

Submitter's Name/Affiliation: John Coequyt / Geenpeace US

If there is an additional topic related to the design of a mandatory market based program that you would like to address, please submit comments on this form.

Global Warming Impacts

No one knows how much warming is "safe". What we do know is that climate change is already harming people and ecosystems. Its reality can be seen in melting glaciers, disintegrating polar ice, thawing permafrost, dying coral reefs, rising sea levels, changing ecosystems and fatal heat waves. And it is not only scientists that are witnessing these changes. From Inuit in the far North to islanders near the equator - people are already struggling with the impacts of climate change.

But all of this is only the beginning. We are already experiencing dangerous climate change and we need to act to avoid catastrophic climate change by limiting global warming to 2oC. While not all regional effects are yet known, here are some likely future effects if we allow current trends to continue:

Relatively likely and early effects of small to moderate warming

- Sea level rise due to melting glaciers as global temperature increases.
- Massive releases of greenhouse gases from melting permafrost and dying forests.
- A high risk of more extreme weather events such as heat waves, droughts and floods.
- Severe impacts on a regional level. For example, flooding, drought, erosion and wetland loss will increase substantially.
- Natural systems, including glaciers, coral reefs, mangroves, arctic ecosystems, boreal forests, tropical forests, prairie wetlands and native grasslands will be severely threatened.
- An increase in existing risks of species extinction and biodiversity loss.
- The greatest impacts will be on the poorer countries least able to protect themselves from rising sea levels, spread of disease and declines in agricultural production in the developing countries of Africa, Asia and the Pacific.

Longer term catastrophic effects if warming continues

- Greenland and Antarctic ice sheet melting or disintegration. Unless checked, global warming may trigger the irreversible meltdown of the Greenland ice sheet, which would add up to twenty feet of sea-level rise over several centuries; there is new evidence that the rate of ice discharge from the West Antarctic is accelerating from a region that has long been recognized as a source of potential instability as a consequence of global warming.¹²³

¹ Oppenheimer, M. and R. B. Alley (2005). "Ice sheets, global warming, and Article 2 of the UNFCCC." Climatic Change 68(3): 257-267.

² Mercer, J. H. (1968). Antarctic Ice and Sangamon Sea Level. Commission of Snow and Ice: Reports and Discussions, Bern, International Association of Scientific Hydrology.

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- The Atlantic Gulf Stream current slowing, shifting or shutting down, having dramatic effects in Europe, and disrupting the global ocean circulation system;
- Catastrophic releases of methane from the oceans leading to rapid increases in methane in the atmosphere and consequent warming.

³ Mercer, J. H. (1978). "West Antarctic Ice Sheet and Co2 Greenhouse Effect - Threat of Disaster." Nature 271(5643): 321-325.