Geoengineering Factsheet

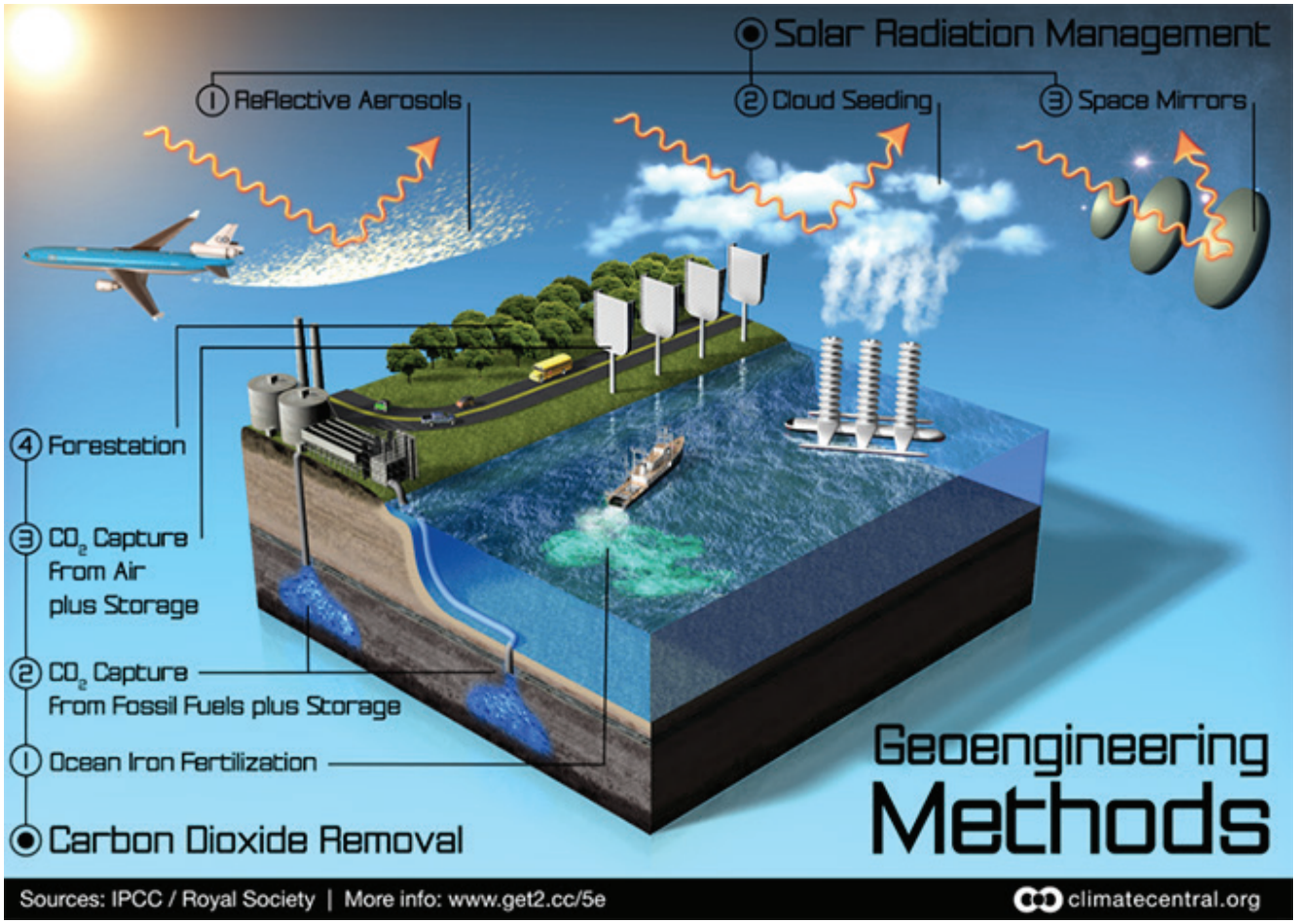
About geoengineering

Geoengineering is a term that describes how technology might be used to manipulate the climate and curb global warming and subsequent climate change. Essentially, some people propose that the only way to arrest catastrophic climate change is to use technology to keep our planet cool. There are a number of proposals for what this might look like which loosely fall under two categories:

- **Carbon reduction -** Carbon reduction refers to the two points looked at earlier: reducing carbon production and carbon sequestration.
- **Solar radiation management -** Solar radiation management refers to limiting the amount of heat from the sun entering the atmosphere, which would halt or slow global warming.

Geoengineering methods

This image presents a range of the geoengineering methods that have been proposed (more information about these methods available on the following page):



Source: https://www.climatecentral.org/gallery/graphics/geoengineering_schemes

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More information about these geoengineering methods

- **Ocean iron fertilization -** The idea of adding iron to iron-poor areas of the ocean surface to stimulate phytoplankton (such as algae) production. By doing this it is proposed that we accelerate carbon dioxide (CO_2) sequestration from the atmosphere as the phytoplankon would absorb the CO_2.

- **CO_2 capture from fossil fuels and storage -** This would theoretically work by capturing CO_2 from places where it is produced in large volumes (like at power plants) and depositing it underground.

- **CO_2 capture from the air and storage/use -** It has been proposed that we could capture CO_2 from the air using suckers (like large vacuum cleaners) and we could then use the CO_2 as fuel.

- **Forestation -** Plants absorb CO_2 so by planting many, swift growing plants (more mature plants absorb more CO_2 that juvenile plants), we remove CO_2 from the atmosphere.

- **Reflective aerosols -** Aerosols are minute particles suspended in the atmosphere; we notice their presence when the sky is hazy or where we have a sunset because they scatter and absorb sunlight. It has been proposed that we inject aerosol particles into the sky to create a global dimming effect. This could be similar to the dimming that occurred during the Mount Pinatubo eruption in 1991.

- **Cloud seeding -** This is a weather modification theory which requires a seeding agent being injected into suitable clouds to encourage the formation and growth of heavier clouds. These clouds would reflect sunlight away from Earth.

- **Space mirrors -** It has been proposed that we put mirrors in space to reflect the sunlight.