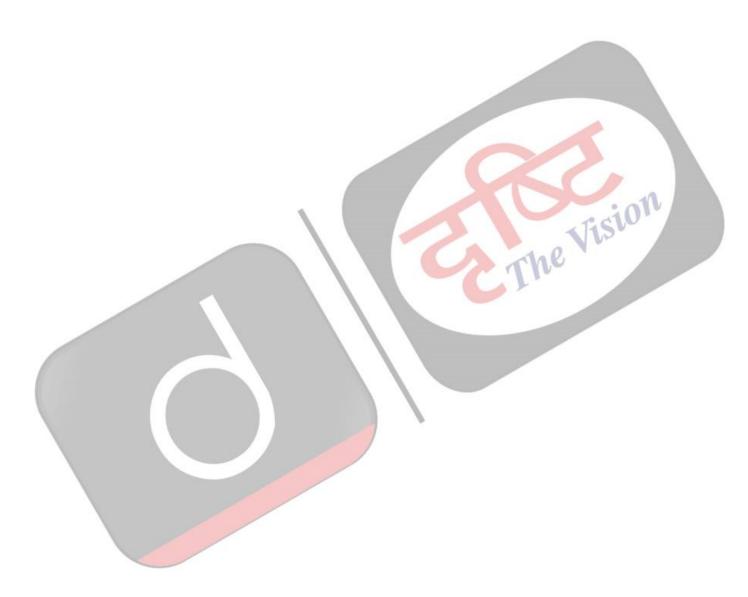


# **Geo-Engineering**

<u>//\_</u>



#### Geoengineering means manipulating the earth's climate to lower its temperature to counter global warming **TYPES OF GEO-ENGINEERING CARBON DIOXIDE REMOVAL** Technology/ Method Proposed Proposed Effects/actions Feasibility/Cost Side Effects Effectiveness Land Use Afforestation/ High feasibility, Minimum Reforestation Side Effects Low Cost Management Bio-energy with carbon Biomass harvested Potential land Comparatively capture and storage (BECCS) and used as fuel use conflict expensive Direct CO. Industrial Minimal High technical feasibility Capture **Process** Fertilization Feasible but not Increased CO<sub>2</sub> absorption High potential for of the ocean by promoting algae growth adverse side effects cost-effective

### **SOLAR RADIATION MANAGEMENT**

Pulverization of

silicate rocks

Stratospheric aerosol Injection	For reflecting sunlight back into space	Likely impact on the hydrological cycle	Feasible and potentially highly effective
Marine cloud	Seeding of marine clouds	Likely impact on precipitation pattern	Low to medium cost
brightening	with seawater aerosol		and feasible at scale
Giant deflectors	Mirror placed in	Regional climate	Capital-intensive and long gestation
in outer space	near earth orbit	effects	
Surface albedo approaches	Painting the roof of the building bright white, Installing desert reflector	Major Impact on Desert Ecosystem	High labor and maintenance cost

## REGULATION

Accelerated

Weathering

No specific international or Indian regulations on geoengineering.

### INDIA'S EFFORTS

- (v) Department of Science and Technology:
  - Geoengineering climate-modelling research programme (since 2013)

#### (y) IISc:

 Initiative to understand the implications of solar geoengineering for developing countries

Potential respiratory

health impact

Could be combined

with crop production, a feasible option at scale

 Scientists simulated injecting 20 million tonnes of sulphate aerosols into the Arctic stratosphere



Read More...