







#### **Climate Powers**

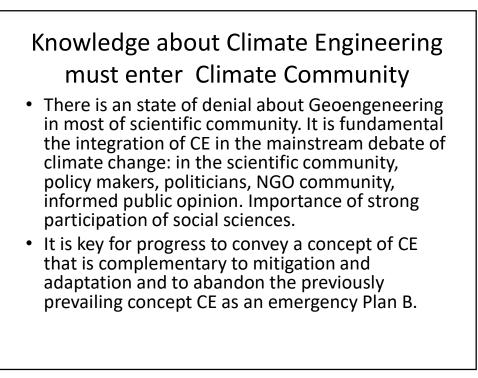
- China, 31% of global emissions, very late peak of emissions in Paris. Despite renewables and nuclear continuing growing fóssil and exportation of coal power plants.
- USA, 15% of global emissions, federal gov. negative, many states positive.
- E.U., 9% of global, heterogeneous, loss of leadership.
- India, 8%, growing strongly.

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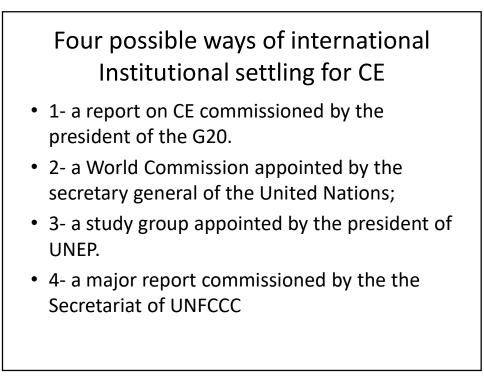
# Three ways of development climate engineering

- 1- Based in international cooperation among major powers, this way seems difficult now.
- 2- Based in geopolitical rivalry, extremely dangerous. Militarization.
- 3- Intermediate between cooperation and rivalry.
- Major powers will be key in the dynamic.



#### Oxford Principles for Geo-engineering in response British Parliament

- Geo-engineering to be regulated as a public good.
- Public participation in Geo-engineering decision making.
- Disclosure of Geo-engineering research and open publication of results.
- Independent assessment of impacts.
- Governance before deployments.



### Disseminate new vision of CE as complementary to M & A

- The most important task for the scientific community in the near future is to disseminate a new vision/concept of CE, following the Oxford Principles. This should be prior to the advance in settling of governance mechanisms.
- Fundamental a clear moving away from previous prevailing consensus as an alternative emergency Plan B after failing mitigation and adaptation.



# Geopolitical implications of unilateral deployment of SRM

- In a semi-anarchical international system, attempts of unilateral deployment by major powers that will self-perceive as very vulnerable to climate change will likely emerge. Likely powers with future unilateral capacity: USA, China, Russia, EU, Japan, India.
- Coalition of the rest for containing likely successful.
- Almost impossible unilateral deployment by a country that is not a major power.