

“Geopolitics and Governance of Geoengineering”

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1

Main trends of International system

- Globalization slowing down: trade, global value added chains and investments.
- Disruptive Technologies growing expon.: Artificial Intelligence, Synthetic Biology, 4th Industrial Rev.
- Production and Circulation of data growing exponentially.
- Gap between political economy and Science of climate change growing.
- Military expending growing fast, cyberwarfare and space weaponization.
- Crisis of democracies and rise of populism continuing

2

Main trends of International system 2

- Strengthening of Authoritarian regimes in China and Russia. Artificial Intelligence based social control.
- New High Tech Cold War between USA and China with potential to extension to allies (NATO, Japan and Russia)
- Turbulence in South America: humanitarian catastrophe in Venezuela, deep crisis in Argentina, risk of long term stagnation in Brazil.

3

Weakness of Paris Agreement

- Paris Agreement was a diplomatic success but very weak substantially, non binding commitments and keeping subsidies to fossil fuels.
- Situation in the international system has deteriorated significantly since 2015, erosion of global governance, increased nationalism and protectionism, new cold war.
- Emissions trends and public policies in most important countries since 2015 are not corresponding with promises of Paris.

4

Climate Powers

- China, 31% of global emissions, very late peak of emissions in Paris. Despite renewables and nuclear continuing growing fossil 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.

5

Three major philosophical views on Climate Engineering

- Extremely negative: it will undermine mitigation, it serves carbon intensive sectors global economy, high risk that will degrade the Earth precarious balance
- Moderate negative: Very risky but possible unavoidable. Mitigation advancing very slowly, increasing risk of dangerous or catastrophic climate change. Intensive research needed, but deployment will be a very difficult decision because of high risks.
- Relatively positive: humanity is already a highly technological specie, mostly successful. Artificial Intelligence Revolution will help. The good Anthropocene.

6

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.

7

Knowledge about Climate Engineering must enter Climate Community

- There is an state of denial about Geoengineering in most of scientific community. It is fundamental the integration of CE in the mainstream debate of climate change: in the scientific community, policy makers, politicians, NGO community, informed public opinion. Importance of strong participation of social sciences.
- It is key for progress to convey a concept of CE that is complementary to mitigation and adaptation and to abandon the previously prevailing concept CE as an emergency Plan B.

8

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.

9

Four possible ways of international Institutional settling for CE

- 1- a report on CE commissioned by the president of the G20.
- 2- a World Commission appointed by the secretary general of the United Nations;
- 3- a study group appointed by the president of UNEP.
- 4- a major report commissioned by the the Secretariat of UNFCCC

10

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.

11

Mechanism & Rules for Governing Research of CE: the good path

- Mechanism and rules for Governance of CE research will emerge first at the national level in the major powers: USA, UK, Germany, France, China, India, Russia and Japan.
- Secondly, after mechanisms being settled in some major powers, bilateral or plurilateral mechanism could be harmonized and developed among them.
- Thirdly, middle powers – South Korea, Canada, Brazil, Mexico, Turkey, Australia, Indonesia, Israel, South Africa – could be integrated by major powers bilaterally or plurilaterally.
- Fourthly, a universal system could be settled derived from mechanisms established by major powers.

12

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.