# Inconvenient Truth 2.0

## Ecole Polytechnique – Paris
## 3 October 2024

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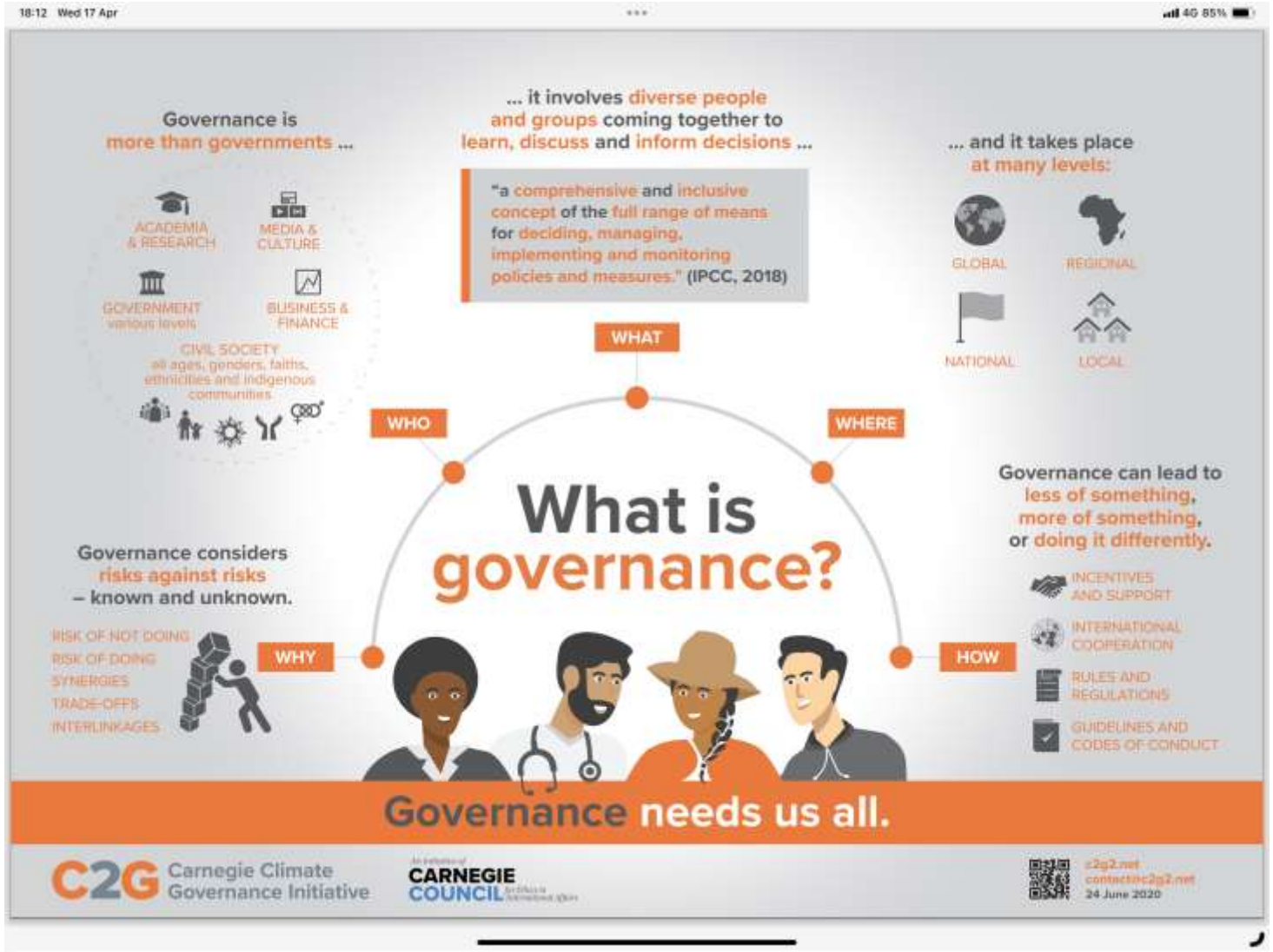
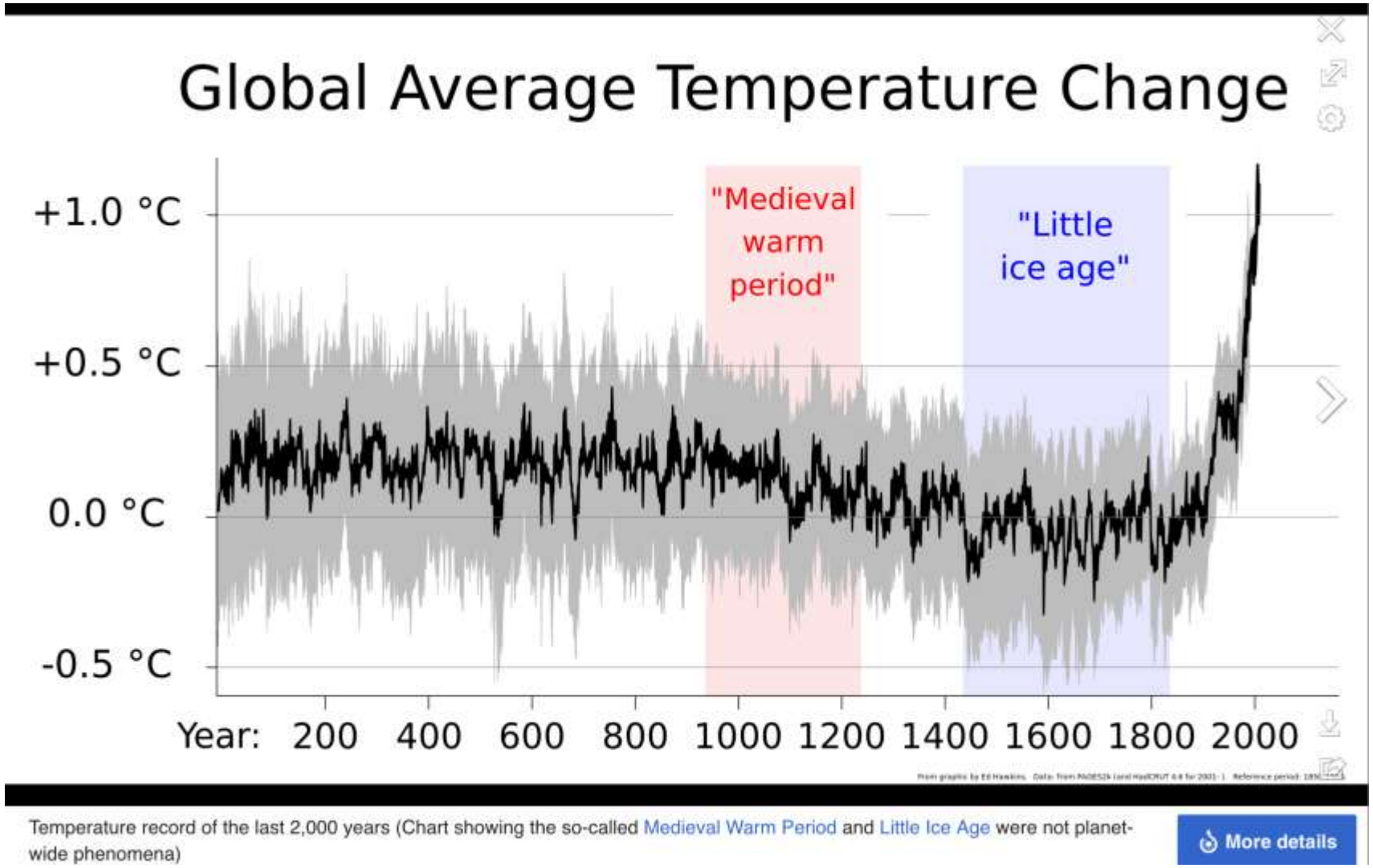
# Outline

- Definitions/Clarifications/Background
- The Climate Crisis
- Technology Issues
- Governance Issues
- Conclusions

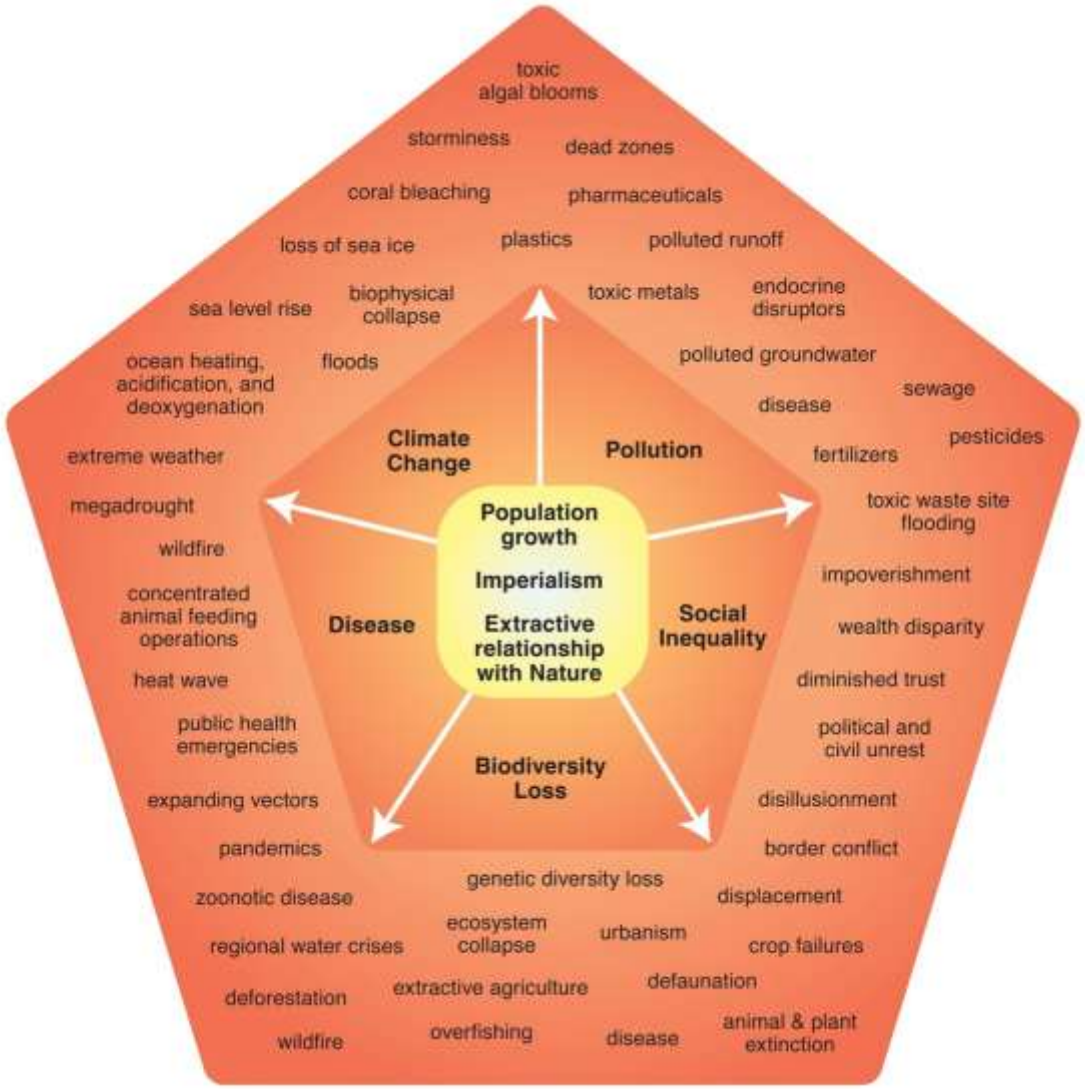

18:12 Wed 17 Apr
4G 85%
Governance is more than governments ...
ACADEMIA & RESEARCH
MEDIA & CULTURE
GOVERNMENT various levels
BUSINESS & FINANCE
CIVIL SOCIETY all ages, genders, faiths, ethnicities and indigenous communities
... it involves diverse people and groups coming together to learn, discuss and inform decisions ...
"a comprehensive and inclusive concept of the full range of means for deciding, managing, implementing and monitoring policies and measures." (IPCC, 2018)
... and it takes place at many levels:
GLOBAL
REGIONAL
NATIONAL
LOCAL
WHAT
WHO
WHERE
What is governance?
WHY
HOW
Governance considers risks against risks – known and unknown.
RISK OF NOT DOING
RISK OF DOING
SYNERGIES
TRADE-OFFS
INTERLINKAGES
Governance can lead to less of something, more of something, or doing it differently.
INCENTIVES AND SUPPORT
INTERNATIONAL COOPERATION
RULES AND REGULATIONS
GUIDELINES AND CODES OF CONDUCT
Governance needs us all.
C2G Carnegie Climate Governance Initiative
CARNEGIE COUNCIL
c2g2.net
contactme2g2.net
24 June 2020



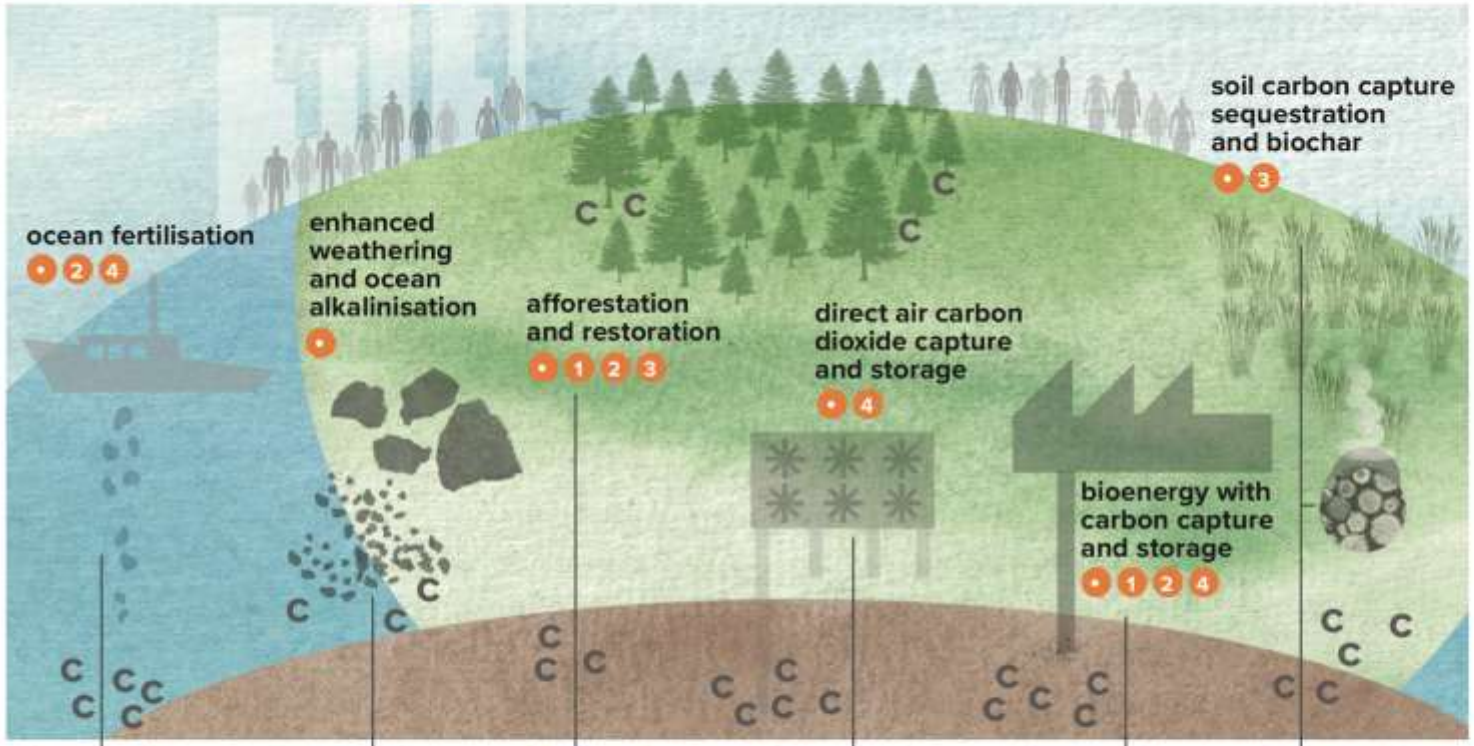

Temperature record of the last 2,000 years (Chart showing the so-called Medieval Warm Period and Little Ice Age were not planet-wide phenomena)

More details

# The ”polycrisis”



# Governing Carbon Dioxide Removal




Fertilising ocean ecosystems to accelerate phytoplankton growth, which partly sinks to transport carbon from atmosphere to seabed

Enhancing natural weathering of rocks by extracting, grinding, and dispersing carbon-binding minerals on land, or adding alkaline minerals to the ocean to increase carbon uptake

Planting forests and restoring ecosystems, for long-term carbon storage in above- and below-ground biomass

Using chemical process to capture $CO_2$ directly from ambient air; using or permanently storing the $CO_2$

Burning biomass for energy generation; capturing and permanently storing the resulting $CO_2$

Burning biomass under low-oxygen conditions, yielding charcoal "biochar" to add to soil and enhance soil carbon levels

November 2018

## Shared Governance Challenges include:

- Measurement and reporting;
- Speed/scale issues;
- Potential public concerns, including transparency of information, accountability, involvement in decisions;
- Liability and compensation.

## Specific Governance Challenges include:

1. Managing the competition for land use and related impacts on the SDGs at domestic and transboundary levels;
2. Managing risks and potential implications for biodiversity;
3. Addressing permanence of $CO_2$ isolated from atmosphere;
4. High costs — land use, capital, deployment, energy — mean policy signals, e.g., price on carbon or other regulation, are needed.

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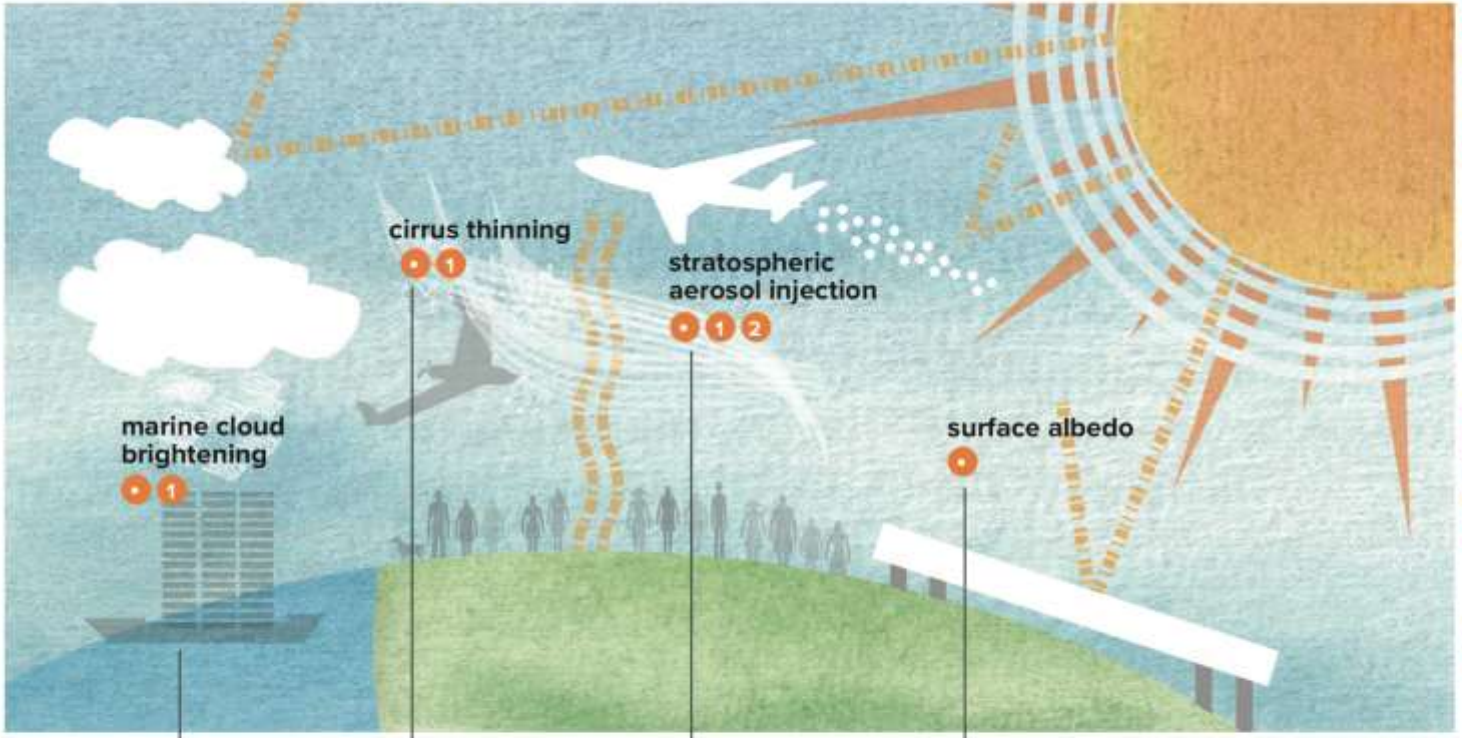
# Governing Solar Radiation Modification




**Seeding clouds above ocean surfaces (such as with self-steering, autonomous ships) or whitening clouds above land to reflect sunlight back into space**

**Thinning cirrus clouds to allow more infrared radiation to escape from the Earth**

**Injecting reflective aerosol into the lower stratosphere to increase planetary albedo (reflectivity), and reduce temperatures**

**Making surfaces (such as urban areas, roads, agricultural land, grasslands, deserts, polar ice caps, or oceans) brighter to reflect solar radiation**

## Shared Governance Challenges include:

- Codes of conduct, guardrails and public policy direction for research;
- Assessing the risks and potential benefits to sustainable development in a risk-risk framework;
- Monitoring, attribution and management of risks and impacts;
- Potential public concerns, including transparency of information, accountability, involvement in decisions;
- Liability and compensation.

## Specific Governance Challenges include:

1. Globally legitimate decision-making on whether or not to research; to consider for use; to decide whether or not to deploy;
2. Institutional guarantees against premature termination.

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Thank you – merci!

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