Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Breakout event

Governance of Solar Geoengineering and Carbon Removal

CCDA-IIV, Nairobi, Kenya
Friday 12th October 2018

www.c2g2.net

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

The challenge

- Paris Agreement (temp, E-R=0, net negative)
- Pathways/Scenarios (IPCC AR5) include large R
- Science on large scale removal and solar radiation management
- Precautionary and Risks management
  - Cost & potential benefits
  - Acceptability
  - Takes time

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Our mission

- Catalyze the creation of effective governance
- Shift the conversation from science to policy
- Encourage a broader, society-wide discussion
- C2G2 is impartial: not for or against a technology and outcome of decisions regarding them
- C2G2: no decision without good governance (knowledge, participation, reporting, decision making etc)

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Our priorities

1. **Governance of Solar Geoengineering**
   - *Prevent deployment unless…*

2. **Governance of Research**

3. **Governance of Carbon Removal Technologies**
   - *Local, national, global, UNFCCC sufficient?*

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Our approach

Catalyse, Learn, Decide

CATALYSE

- Bring issue to governments, international organizations, civil society
- Highlight urgency and risks

LEARN

- Understand better the risks and potential benefits
- Develop governance and monitoring frameworks

DECIDE

- National, international fora agree to rules and guardrails to prevent hasty, unilateral, ungoverned deployment
- Decide whether or not to deploy

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

CBD 2018
Development of Research Agenda

UNFCCC 2018-2022
Carbon Removal & Research

UNGA 2022
'No solar geo deployment unless…'

UNEA 2019
Resolution including 'No solar geo deployment unless…'

Science & Research Bodies (e.g., Future Earth, Belmont Forum, ISC, etc.)

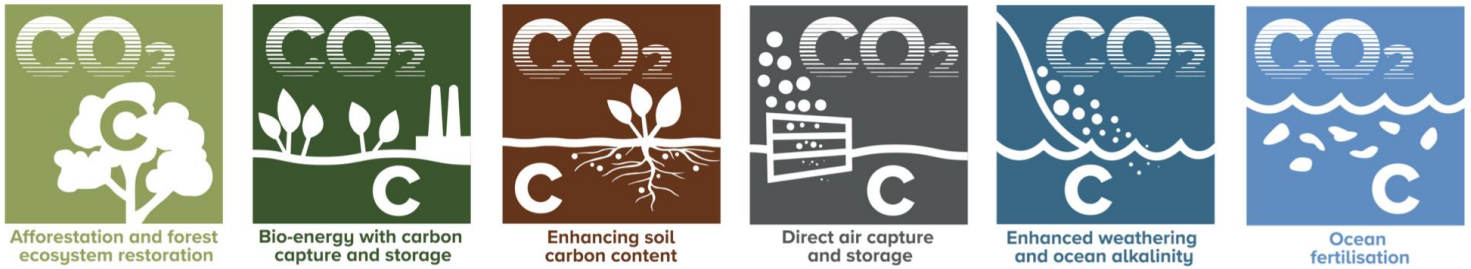
Other IG Processes (e.g., OECD, G20, G7, Arctic Council, AU, EC)

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

The technologies

Carbon Removal



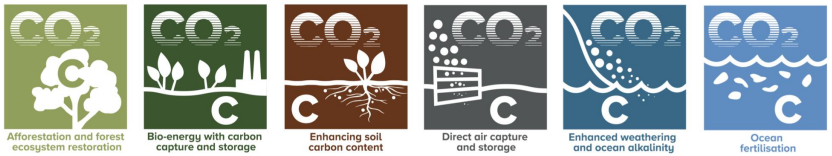
Solar Geoengineering

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

The technologies

Carbon Removal



Solar Geoengineering

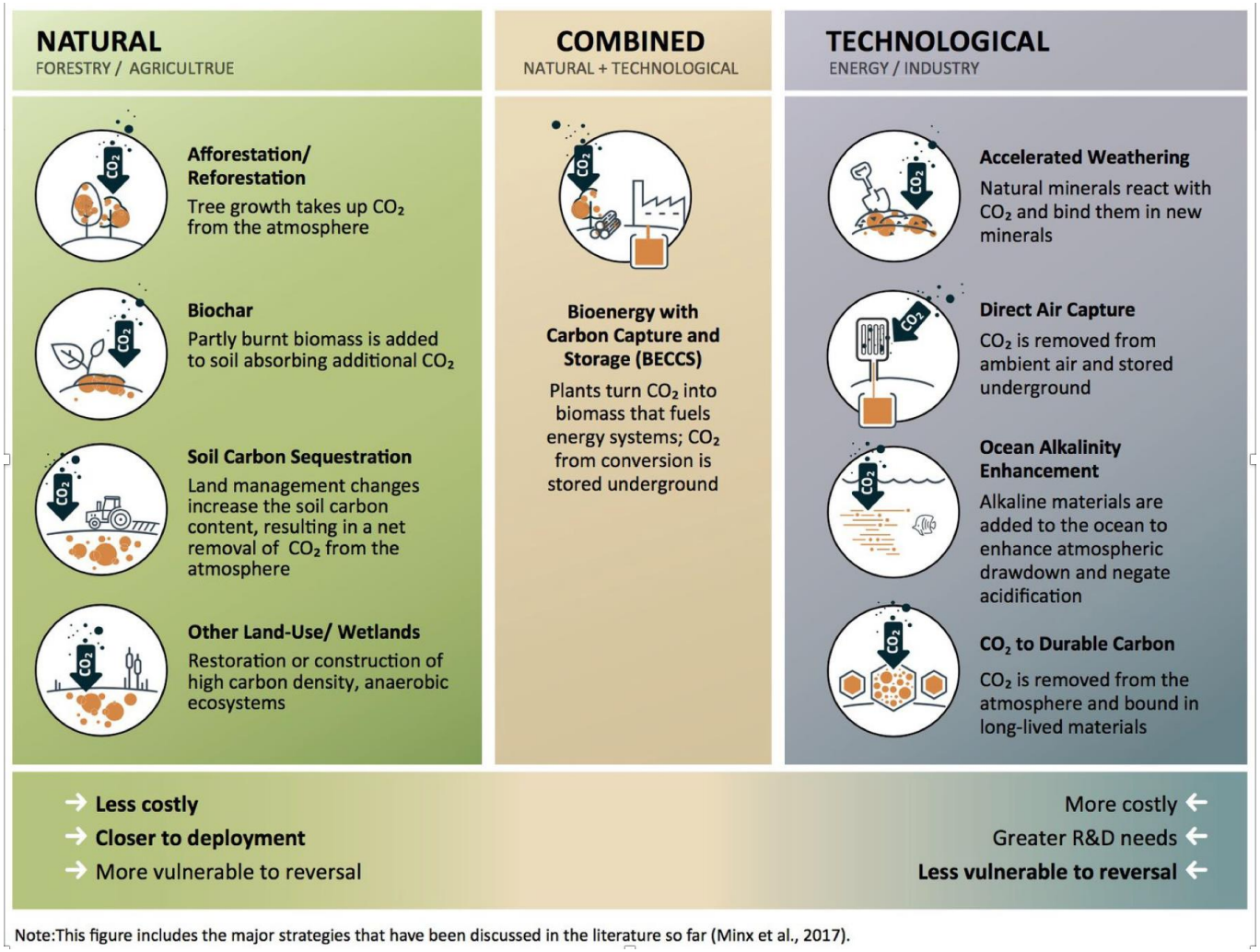
What we already know-

- World **MUST reduce emissions** from fossil fuels- none of what is being discussed changes that.
- No method or technology alone can "solve" climate change.
- Some of these proposals MAY potentially play an ADDITIONAL role in climate policy, if
- IPCC 1.5C pathways call for BOTH **rapidly reducing emissions** AND removing carbon from the atmosphere for storage.

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Carbon Removal

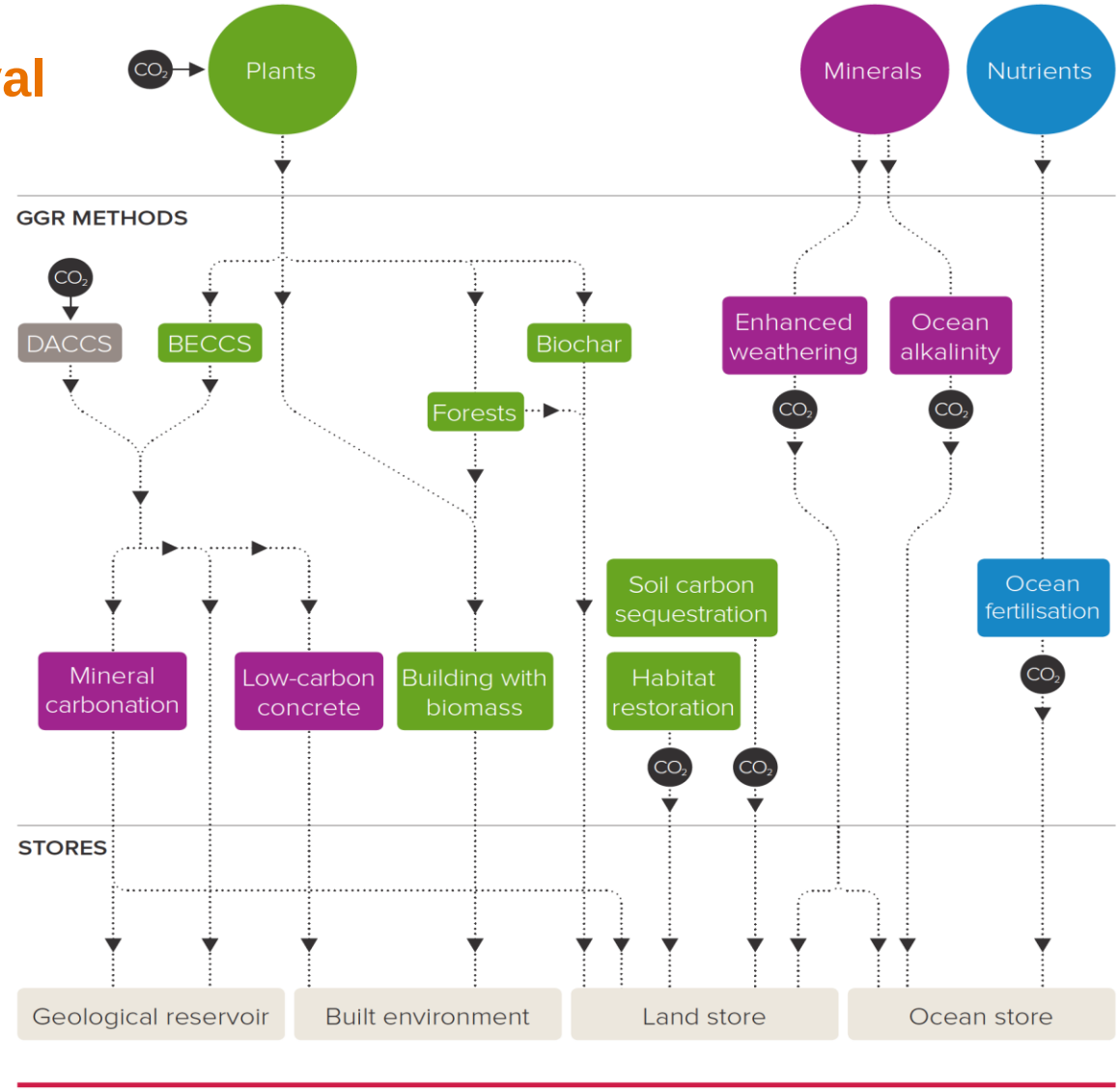


Note:This figure includes the major strategies that have been discussed in the literature so far (Minx et al., 2017).

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

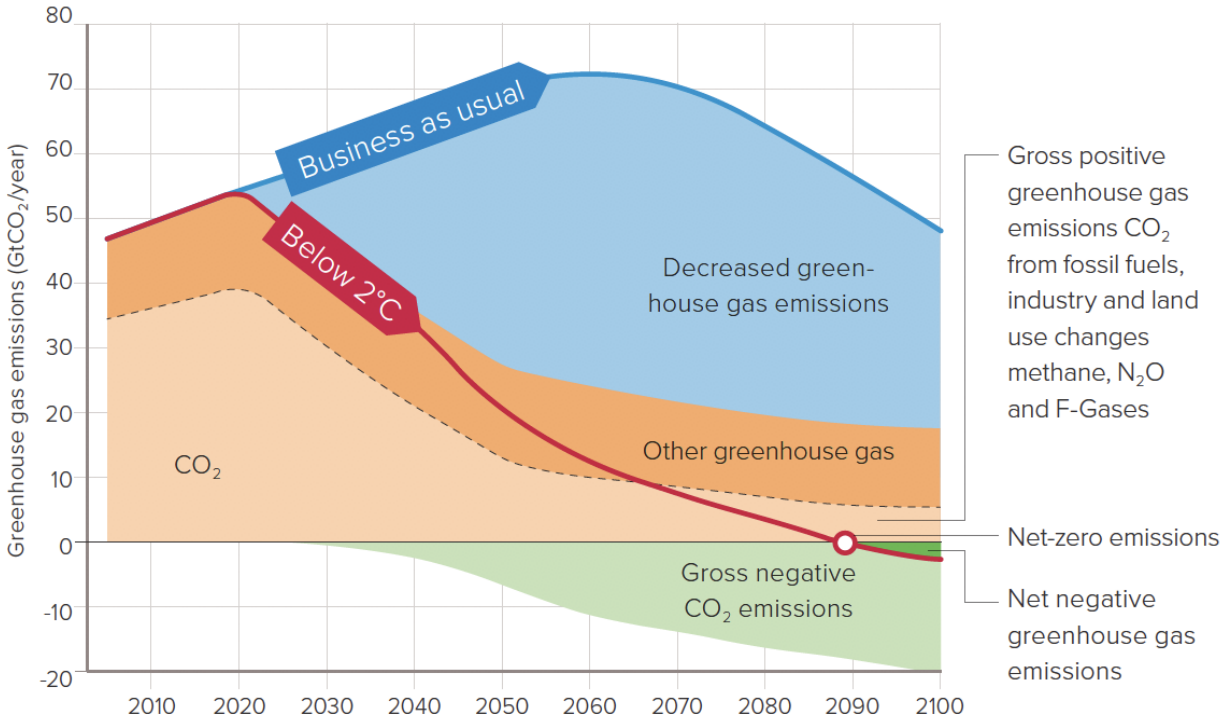
Carbon Removal



Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

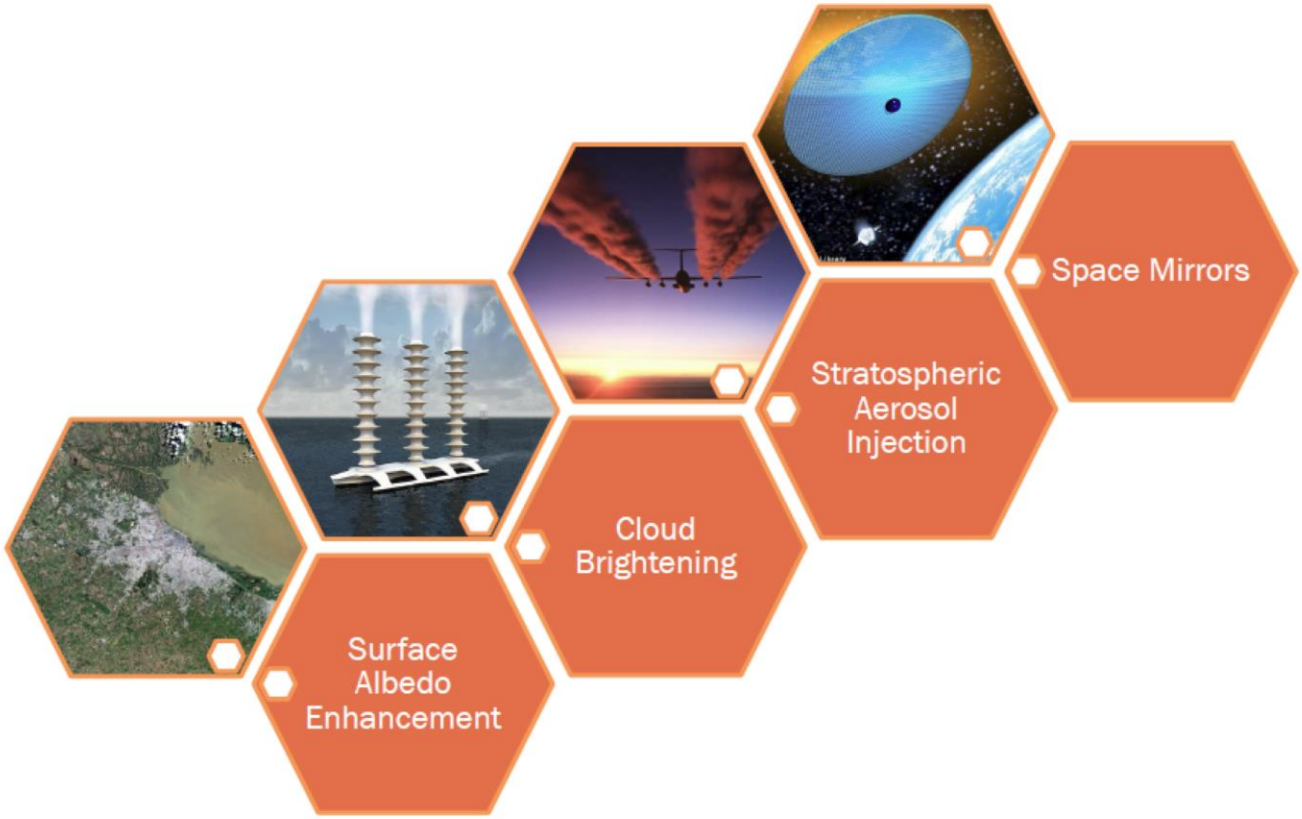
Carbon Removal



Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Solar geoengineering



Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

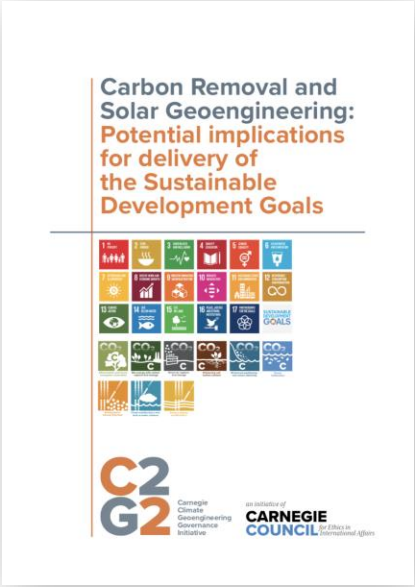
Carbon Removal and Solar Geoengineering: Potential implications for the delivery of the Sustainable Development Goals

www.c2g2.net

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Potential implications for the SDGs



- A report based on recent literature review, expert analysis and insights by international academics and practitioners.
- Two angles: technological - SDGs
- *At least 13 of the 17 of the SDGs affected.*

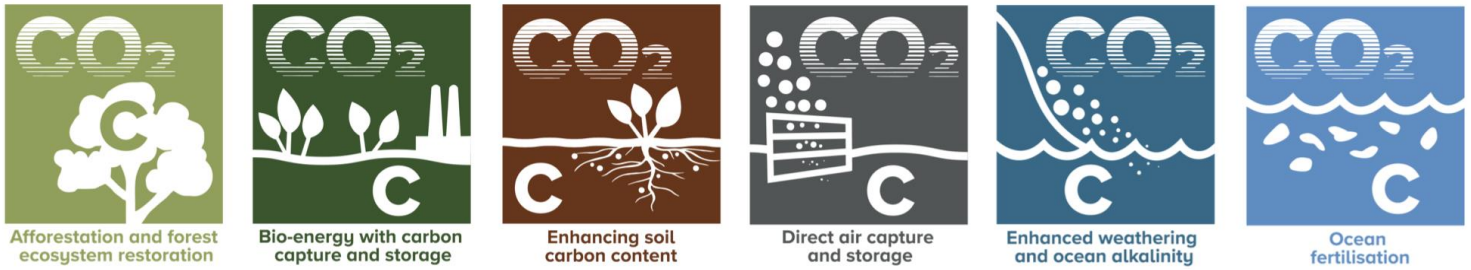
www.c2g2.net/geoeng-sdgs/

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Technologies

Carbon Removal

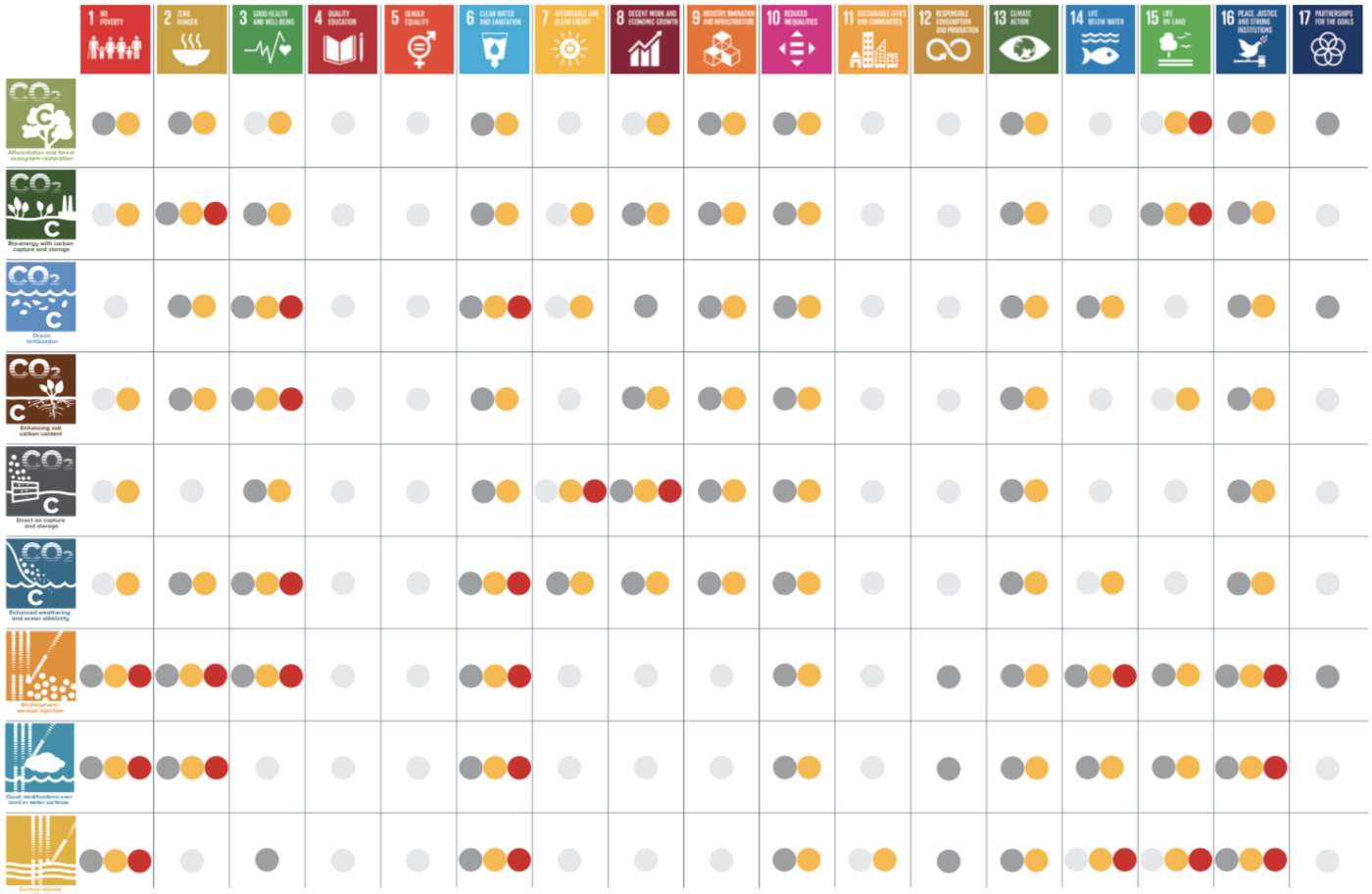


Solar Geoengineering

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Potential implications for the SDGs



- Potential research gap identified.
- Key research gap identified.
- Interaction identified
- Risk identified

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Potential Implications for the SDGs

- **Physical side effects (social, economic and environmental):**
  land-use and food security; water quality and availability; health; energy; economic productivity; and biodiversity.

- **Political implications:**
  Opportunity costs of technology, political tensions, governance demands.

www.c2g2.net/geoeng-sdgs/

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Recommendations for next steps

1. More transdisciplinary & geographically diverse research
2. Common assessment principles or metrics.
3. Comprehensive quantitative analysis of risks and benefits
4. More social science and humanities research
5. Integrated policy impact assessments for policy design
6. Governance of research and any potential future deployment

www.c2g2.net/geoeng-sdgs/

Carnegie Climate Geoengineering Governance Initiative

An initiative of CARNEGIE COUNCIL for Ethics in International Affairs

Kai-uwe Schmidt: kschmidt@c2g2.net

Nicholas Harrison: njharrison@c2g2.net

Michael Thompson: mthompson@c2g2.net

Natalia Rubiano: nrubiano@c2g2.net

www.c2g2.net

@C2G2net

25 YEARS Convention on Biological Diversity SAFEGUARDING LIFE ON EARTH