



To: SilverLining
From: Patrick Ruffini & Eleanor O'Neil
Re: National Survey Findings on Geoengineering and Climate Intervention
Date: November 12, 2020

Since 2015, when the National Academy of Sciences issued a report on the topic, there has been variable use of the terms “geoengineering” and “climate intervention” to refer to approaches to rapidly and intentionally reducing warming in climate. The older term, “geoengineering” is widely used in historical literature and media (and is prominent in internet searches) and is used primarily by subject matter experts and enthusiasts. “Climate intervention” was introduced in 2015 by the NAS study as a potentially more accurate and accessible designation, and its use has been concentrated in U.S. agencies, policymakers, certain non-profits and some recent literature and media.

From October 16 to 22, Echelon Insights surveyed a national audience of 1,006 registered voters in 2020’s likely electorate to gauge understanding and perceptions of both terms.

Splitting survey respondents randomly into two groups, we asked one group for specific reactions to the term “geoengineering” and another group for their reactions to “climate intervention.” Then we asked all respondents to rate each term along key dimensions, asking them how different attributes apply to each term.

Key findings include:

- **Familiarity with both terms is low, but climate intervention is more familiar.** Both terms have yet to be fully defined in the public mind, but more say they’ve heard of climate intervention (35 percent have heard a lot or some) versus geoengineering (19 percent). Low familiarity with the term “geoengineering” indicates that understanding of the term hasn’t penetrated beyond expert audiences.

- **There is better comprehension of what climate intervention refers to.** Not surprisingly, there is considerably less confusion that climate intervention relates to climate change. When given a list of the same possible definitions for each term, 57 percent are able to correctly identify that climate intervention is about efforts to combat climate change versus 22 percent who say this of geoengineering. Moreover, a 53 percent majority responded as ‘unsure’ versus choosing any definition. Whereas, even among respondents who say they have heard nothing at all about the term climate intervention, nearly half (46 percent) were able to correctly identify that it refers to efforts to respond to climate change and global warming. In contrast, just 11 percent of those who had not heard anything about the term geoengineering could identify that it referred to such efforts.
- **When asked which of the two terms “sound safer,” respondents choose climate intervention over geoengineering by a nearly 3-to-1 ratio.** Thirty-two percent say climate intervention sounds safer, compared to 11 percent who say geoengineering does.
- **Climate intervention is viewed more favorably than geoengineering by respondents who are concerned about climate change.** Each of the terms draws a majority neutral or unsure reaction from respondents in general, with 24 percent positive and 19 percent negative on climate intervention, and with 12 percent positive and 11 percent negative on geoengineering. However, climate intervention draws a far higher net-positive reaction among respondents who are very concerned about climate change (45 percent positive to 4 percent negative) than does geoengineering (15 percent positive to 8 percent negative). When asked which of the terms sounds safer, respondents concerned about climate change choose climate intervention over geoengineering by a ratio of nearly 4 to 1 (42 percent vs. 11 percent).

CLIMATE INTERVENTION AND GEOENGINEERING HEAD-TO-HEAD

In addition to asking about which term sounds safer, we also tested which term respondents think is harder to understand, and which they think relates to climate change. Climate intervention is the optimal term to use across all of these attributes, particularly on relating to climate change (chosen by a ratio of more than 9 to 1). By a 4-to-1 ratio, respondents are also more likely to say geoengineering sounds harder to understand.

Thinking about the two terms below — “geoengineering” and “climate intervention” — which term do you think . . . ?

	1. Geo-Engineering	2. Climate intervention	3. Both terms	4. Neither term	5. Unsure
Sounds harder to understand	45%	10%	18%	8%	18%
Sounds safer	11%	32%	16%	17%	24%
Relates to climate change	5%	47%	27%	4%	17%

METHODOLOGY

Survey questions were fielded in Echelon Insights’ Verified Voter Omnibus, an online survey of 1,006 registered voters in likely electorate conducted from October 16–22, 2020 using a voter file-matched sample. The sample was weighted to known characteristics of the “Likely Electorate” population, a frame which takes into account demographic and turnout characteristics of the 2020 electorate. This includes weighting by gender, age, race/ethnicity, education, and region. The margin of sampling error for the total sample of 1,006 registered voters in the likely electorate is +/- 4.3 percentage points. For the questions measuring familiarity, understanding, and positive or negative reaction to a term, we split the sample into two groups. The margin of error for the group asked about climate intervention (Form A, n=495) is +/- 6.2 percentage points, and the margin of error for the group asked about geoengineering (Form B, n=511) is +/- 5.9 percentage points.

APPENDIX: FULL SURVEY QUESTIONS

Note: These questions were preceded by Echelon Insights' standard monthly omnibus survey questions

FORM A: ASK QSLHeardClimate, QSLFavClimate, AND QSLMeaningClimate.

FORM B: SKIP TO QSLHeardGeo.

1. [QSLHeardClimate] How much have you heard about the term “climate intervention”?

(n=495)

A LOT/SOME	35%
NOT MUCH/NOTHING AT ALL	58%
1. A lot	5%
2. Some	30%
3. Not much	25%
4. Nothing at all	33%
5. Unsure	7%

2. [QSLFavClimate] Regardless of how much you know about it, do you have a positive or negative reaction to the term “climate intervention”?

(n=495)

VERY/SOMEWHAT POSITIVE	24%
VERY/SOMEWHAT NEGATIVE	19%
1. Very positive	7%
2. Somewhat positive	17%
3. Neither positive nor negative	35%
4. Somewhat negative	11%
5. Very negative	8%
6. Unsure	22%

3. [QSLMeaningClimate] Which of the following do you think best describes what “climate intervention” is about? [RANDOMIZE 1-6]

	(n=495)
1. Efforts to combat climate change and global warming	57%
2. Developing more environmentally-friendly home heating and cooling systems	8%
3. Developing wearable technology to protect people in different environments	3%
4. Building infrastructure in coastal cities to withstand the effects of rising sea levels	3%
5. Engineering another planet to support human life	1%
6. Excavation and mining that reshapes the land where people live	2%
7. Something else (Please specify)	1%
8. Unsure	24%

FORM A: SKIP TO SL Geoengineering vs. Climate Intervention Battery.

FORM B: ASK QSLHeardGeo, QSLFavGeo, AND QSLMeaningGeo.

4. [QSLHeardGeo] How much have you heard about the term “geoengineering”?

	(n=511)
A LOT/SOME	19%
NOT MUCH/NOTHING AT ALL	71%
1. A lot	3%
2. Some	16%
3. Not much	28%
4. Nothing at all	44%
5. Unsure	10%

5. [QSLFavGeo] Regardless of how much you know about it, do you have a positive or negative reaction to the term “geoengineering”?

	(n=511)
VERY/SOMEWHAT POSITIVE	12%
VERY/SOMEWHAT NEGATIVE	11%
1. Very positive	2%
2. Somewhat positive	10%
3. Neither positive nor negative	45%
4. Somewhat negative	9%
5. Very negative	3%
6. Unsure	32%

6. [QSLMeaningGeo] Which of the following do you think best describe what “geoengineering” is about? [RANDOMIZE 1-6]

	(n=511)
1. Efforts to combat climate change and global warming	22%
2. Developing more environmentally-friendly home heating and cooling systems	7%
3. Developing wearable technology to protect people in different environments	4%
4. Building infrastructure in coastal cities to withstand the effects of rising sea levels	5%
5. Engineering another planet to support human life	3%
6. Excavation and mining that reshapes the land where people live	5%
7. Something else (Please specify)	1%
8. Unsure	53%

ASK ALL:

7. **[SL Geoengineering vs. Climate Intervention Battery] Thinking about the two terms below — “geoengineering” and “climate intervention” — which term do you think . . . ?**
 [RANDOMIZE 1-2] [RANDOMIZE A-C]

	1. Geo-engineering	2. Climate intervention	3. Both terms	4. Neither term	5. Unsure
A. Sounds harder to understand	45%	10%	18%	8%	18%
B. Sounds safer	11%	32%	16%	17%	24%
C. Relates to climate change	5%	47%	27%	4%	17%

8. **[QSLClimateConcern] How concerned are you about global climate change?**

VERY/SOMEWHAT CONCERNED	65%
NOT TOO/ NOT CONCERNED AT ALL	31%
1. Very concerned	37%
2. Somewhat concerned	28%
3. Not too concerned	19%
4. Not concerned at all	12%
5. Unsure	4%