# Engineering Tripos Part IIA Project, GC5: Climate Repair, 2025-26

### Leader

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### co-leader

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### Timing and Structure

Thursdays 11-1pm, and Mondays 9-11am plus afternoons.

### Prerequisites

None

## Aims

The aims of the course are to:

- understand the timelines and stresses that we're facing as a result of climate change, and guided by The Napkin Diagram explore the options available to avert excessive global warming and arctic melting.
- explore the literature of some of the Climate Repair techniques available and compare them in terms of their impacts, costs, scalability and social acceptability.
- take one particular option for Climate Repair and carry out a detailed quantitative analysis and to perform a public consultation exercise.  Together these might be used to guide policy makers.

## Objectives

As specific objectives, by the end of the course students should be able to:

- To explore the options for Climate Repair given that mitigation (ie Emissions reduction alone) is no longer sufficient to prevent irreversible changes to the climate, for instance melting of polar sea ice

## Content

Emissions reductions alone is no longer sufficient to prevent irreversible changes to the climate, for instance melting of polar sea ice.

enhancing the Earth's albedo - reflecting more light.)

#### FORMAT

leading to a corresponding section of the final report.

Familiarisation with the concept of the Napkin Diagram and developing an understanding of the range of Climate Repair options. First interim report.

Deep dive into a subset of geoengineering options and the formation of small teams to take a specific Climate Repair proposal forward. Second interim report.

Scalability detailed analysis of a particular Climate Repair proposal, including effectiveness, cost, report and group presentation.

## Further notes

The NOAA website gives good background on SRM

https://www.climate.gov/news-features/understanding-climate/solar-radiat... [3]

Also see the "Napkin Diagram"

https://www3.eng.cam.ac.uk/~hemh1/climate/napkindiagram.jpg [4]

## Coursework

| Coursework | Due date | Marks |
|---|---|---|
| First *Individual* report | end week 1 | 15 |
| | | |
| Second *individual* report | end week 2 | 15 |
| Second report  individual + team | final report | 40 = 20+20 |

## Examination Guidelines

Please refer to Form & conduct of the examinations [5].

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**Links**
[1] mailto:hemh1@cam.ac.uk
[2] mailto:sdf10@cam.ac.uk
[3] https://www.climate.gov/news-features/understanding-climate/solar-radiation-modification-noaa-state-science-factsheet

[4] https://www3.eng.cam.ac.uk/~hemh1/climate/napkindiagram.jpg
[5] https://teaching.eng.cam.ac.uk/content/form-conduct-examinations