The Ethics of DAC

And some considerations for researchers

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Presented at
UKCCSRC/CO2Chem/IMechE Air Capture Workshop
Institution of Mechanical Engineers, London
20 February 2015,

Outline of presentation

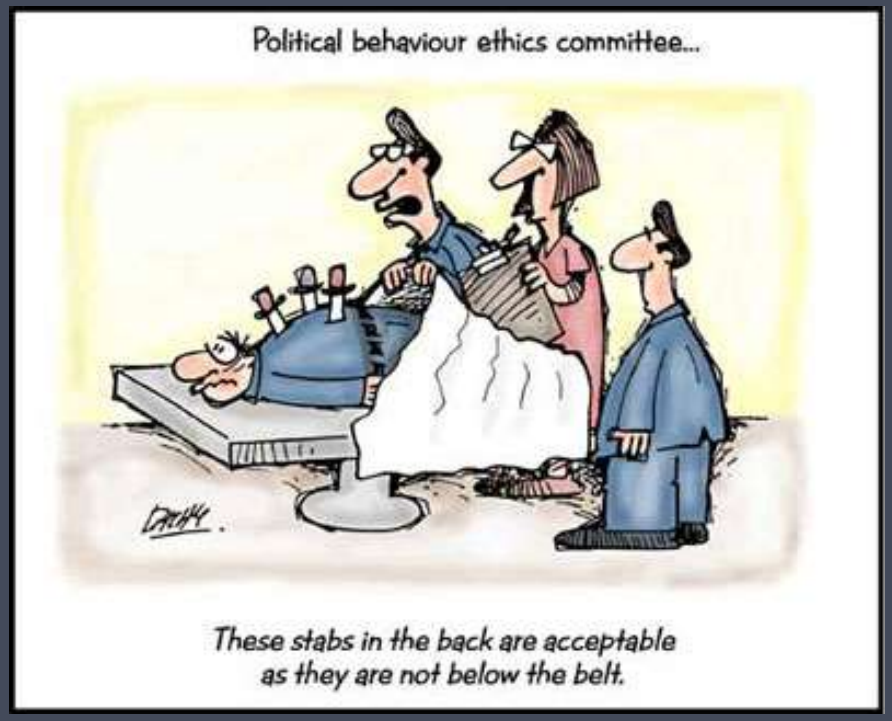
- Definitions and frameworks
- DAC and climate ethics
- Comparative ethics of CDR
- Key ethical questions for DAC
- Practical recommendations
- Reflection: Should we call DAC 'mitigation?'

Definition and scope of ethics

Ethics is concerned with the moral principles that govern behaviour or the conduct of an activity. It addresses questions of right and wrong, and of responsibilities and rights, with respect to both means and ends

Ethical approaches are diverse and contested and ethics are matters of judgement.

Major ethical approaches include **deontological** (justice, fairness, rights), **consequential** (utilitarian, common good) and **virtue** (character) – these can all differ in their judgements.



DAC is a way of tackling climate change: does this alone make it ethical?

- Climate change and moral corruption
- Negative and positive duties
- Lesser evils
- Arming the future?

DAC is not necessarily ethical simply because it helps address the harms of climate change

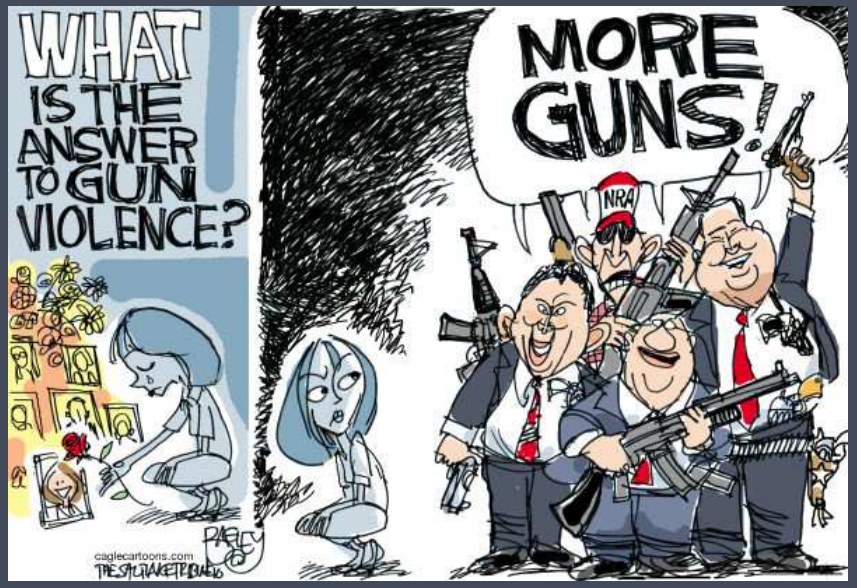
Some comparative ethics of CDR technologies

- Ends and means
- Scalable options are limited
- "Choose your poison"… energy, biological productivity or material impacts
- DAC looks to have an ethical edge …

DAC may be the most ethical scalable CDR … but it still raises serious ethical issues

- Technology lock-in (energy demand, EOR …)
- Carbon 'dumping' and distributional justice
- Risk adjustment and domination
- Technological hubris and the control dilemma

Some practical measures to reduce ethical risks in DAC R&D



"Technologies are 'morally charged' … they create different moral landscapes and different potential courses of action. They create different choices …"

- Use a responsible innovation framework
- Avoid offsetting
- Be alert to distributional effects
- Engage in early and genuine public dialogue
- Avoid or declare conflicts of interest
- Support fair and open decision making procedures

Should we call DAC a form of mitigation?

- Mitigation is primarily a negative duty … DAC is not, even if it may become a positive obligation
- Consequentalism might view them as similar … Virtue ethics suggests DAC involves new risks of hubris
- Politically and practically, rebranding rarely fools the public …

Concluding reflections

- The current generation cannot argue that its **ethical obligations to the future** are fulfilled by the development of CDR technology
- In the short term the most ethical choice is almost certainly to **accelerate mitigation** in the rich world …
- … but in the medium term finding **ethical and sustainable ways to deliver negative emissions** is likely to be essential
- To make DAC as ethical as possible will likely require **significant shifts in research practice**
- In ethics both ends and means matter, but 'a stable climate' might be best considered not an end in itself, but a means towards a bigger end, such as **a just and sustainable society**. In that case, how we deliver climate stability matters intensely.

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