

# Why should the ENGO community value CCS?

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smarter climate policy

# Summary

- How is CCS perceived by the environmental community?
- What's the value of CCS, from a climate perspective?
- How can CCS get large scale ENGO backing?

# How is CCS perceived?

# CCS (and NETs) as risk mitigation

- Goalkeeper analogy
- The final five percent
  - CCS is a limited backup in the case that some difficult other sectors do not reach zero
- Economic benefit in the transition
  - Reuse of similar O&G skills.

# CCS (and NETs) as risk multiplier

- Hard decisions put off until later
- Waiting for a future silver bullet which might not materialise – Not yet proven at scale
- Promise allows for continued unabated fossil fuel use, and plant/supply-chain lock-in
- Long-term storage liability

**What's the value?**

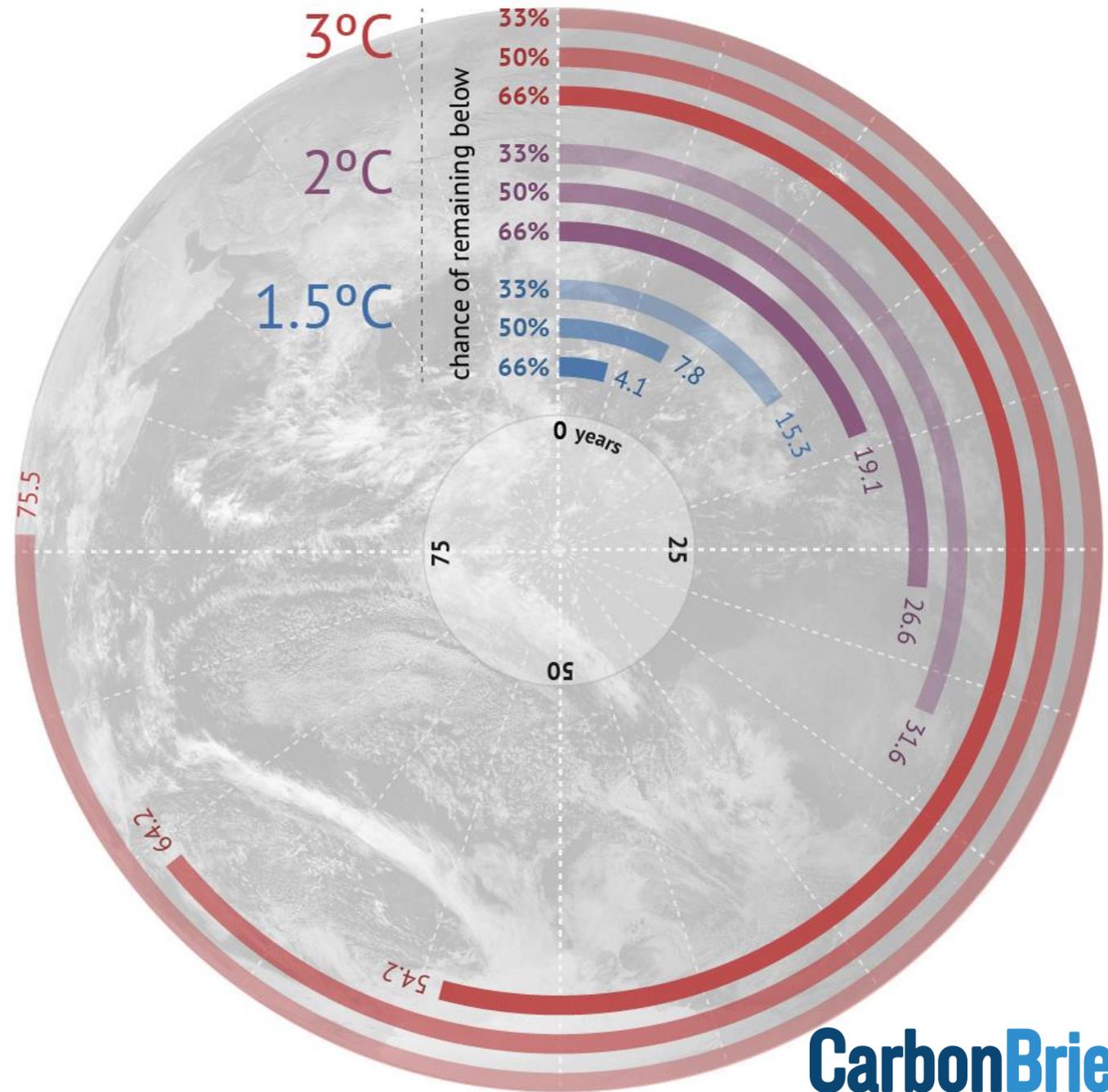
# What's the value of CCS?

- Sticking to the 1.5C Paris Agreement target without CCS is not possible
- Buys time and allows for a slower and more orderly (cheaper) transition to a low-carbon energy system.
- Takes the pressure off of hard-to-mitigate end-uses such as steel and cement production, some agricultural emissions.
- Risk mitigation if the most difficult lifestyle/behaviour changes fail to occur (such as large scale switch from meat eating; dramatic reduction in air travel).



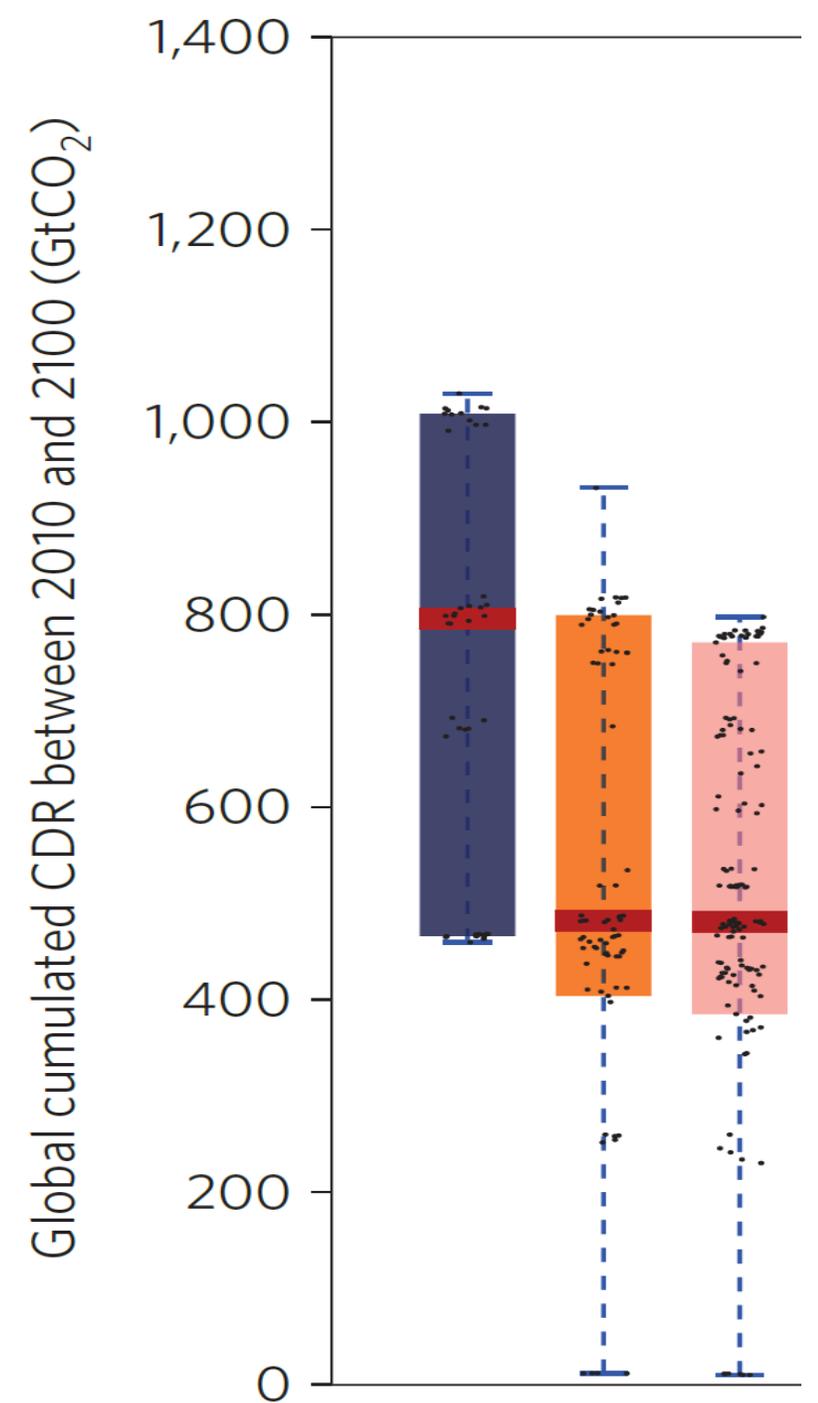
# What's left of the carbon budget?

- Four years left of carbon budget (without negative emissions)
- 66% chance of 1.5C gives a remaining carbon budget of 162Gt



# Scale of negative emissions required for 1.5C

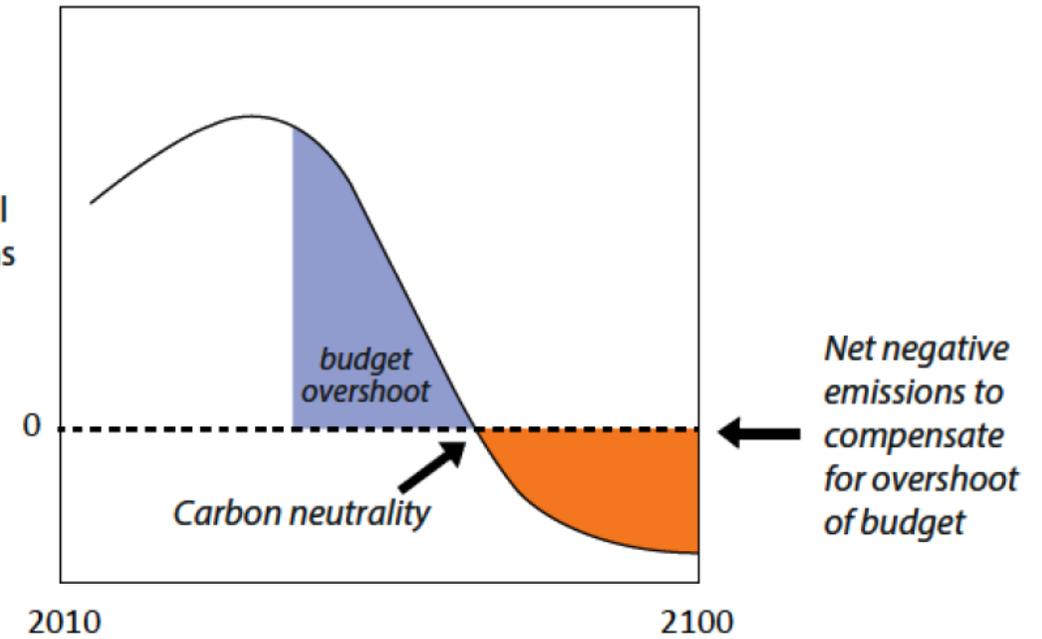
- ~450 to ~1000GtCO<sub>2</sub> total negative emissions to 2100
  - i.e. 6 - 13Gt/yr
  - Including LULUCF drawdown



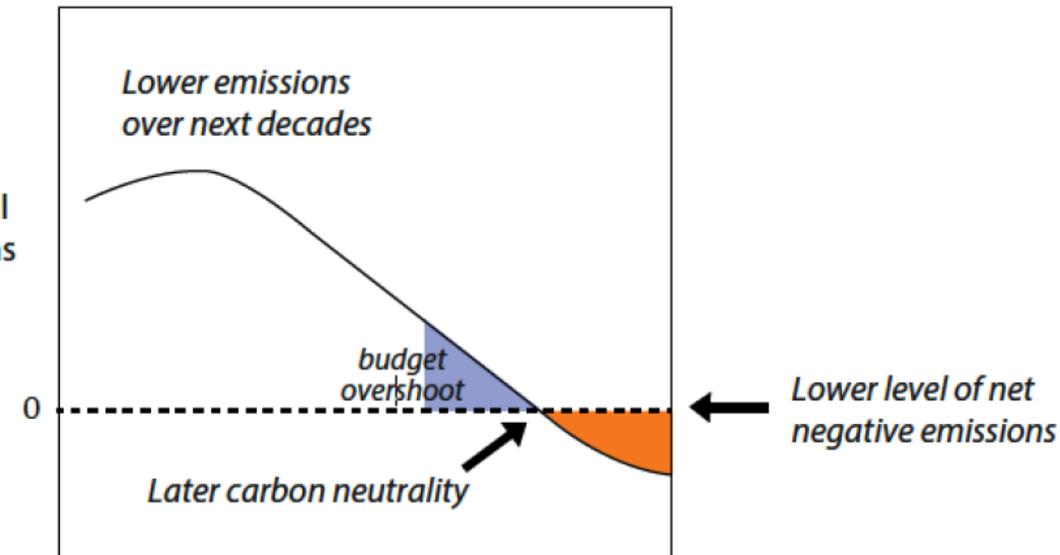
# Overshoot

- Earlier we turn the tap off, the less bailing out to do in future
- Less risk if CCS doesn't work at scale
- Moral imperative to minimise responsibility for future generations

Annual global CO<sub>2</sub> emissions



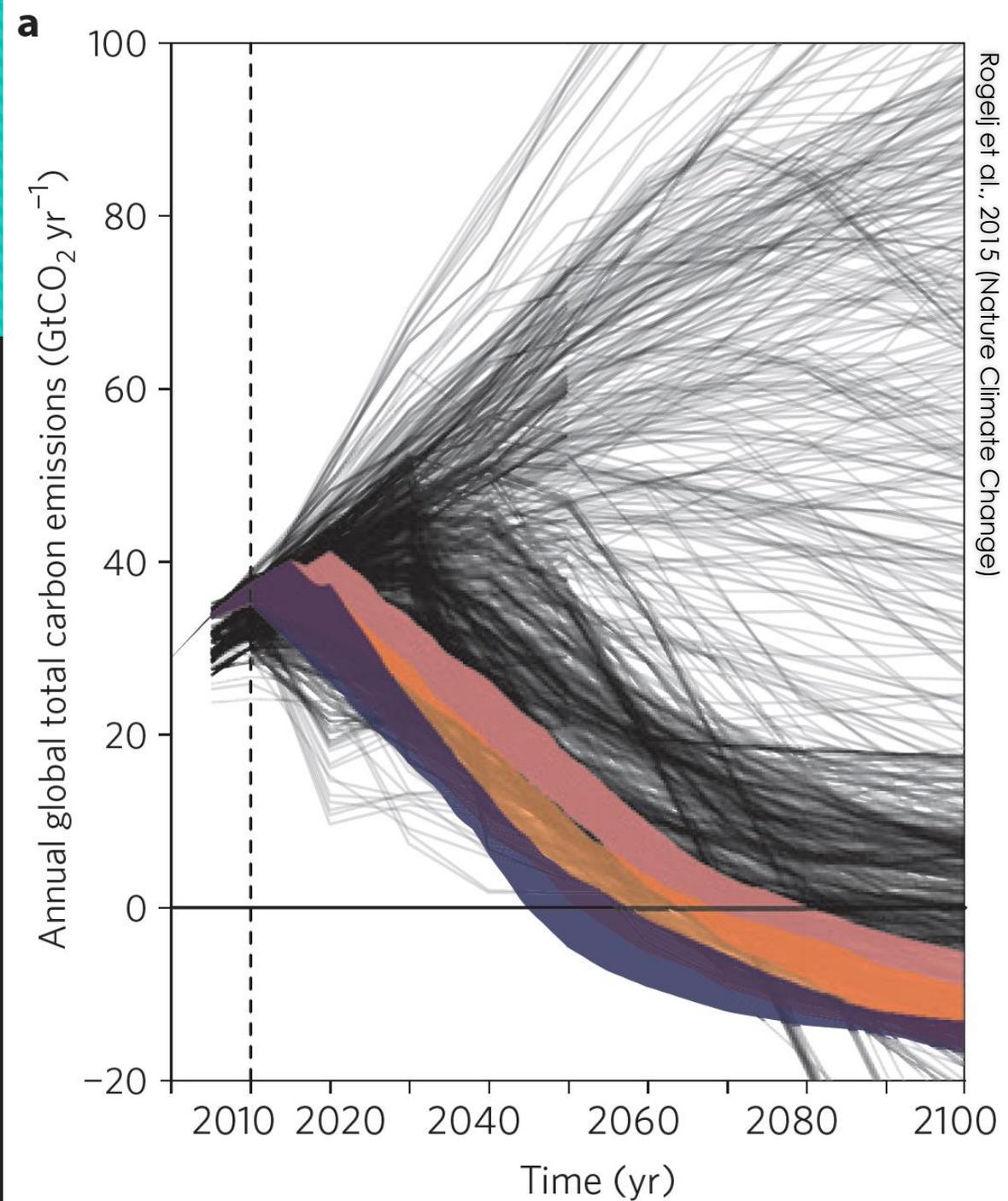
Annual global CO<sub>2</sub> emissions



# What can't CCS do?

# IEA Beyond 2 Degrees

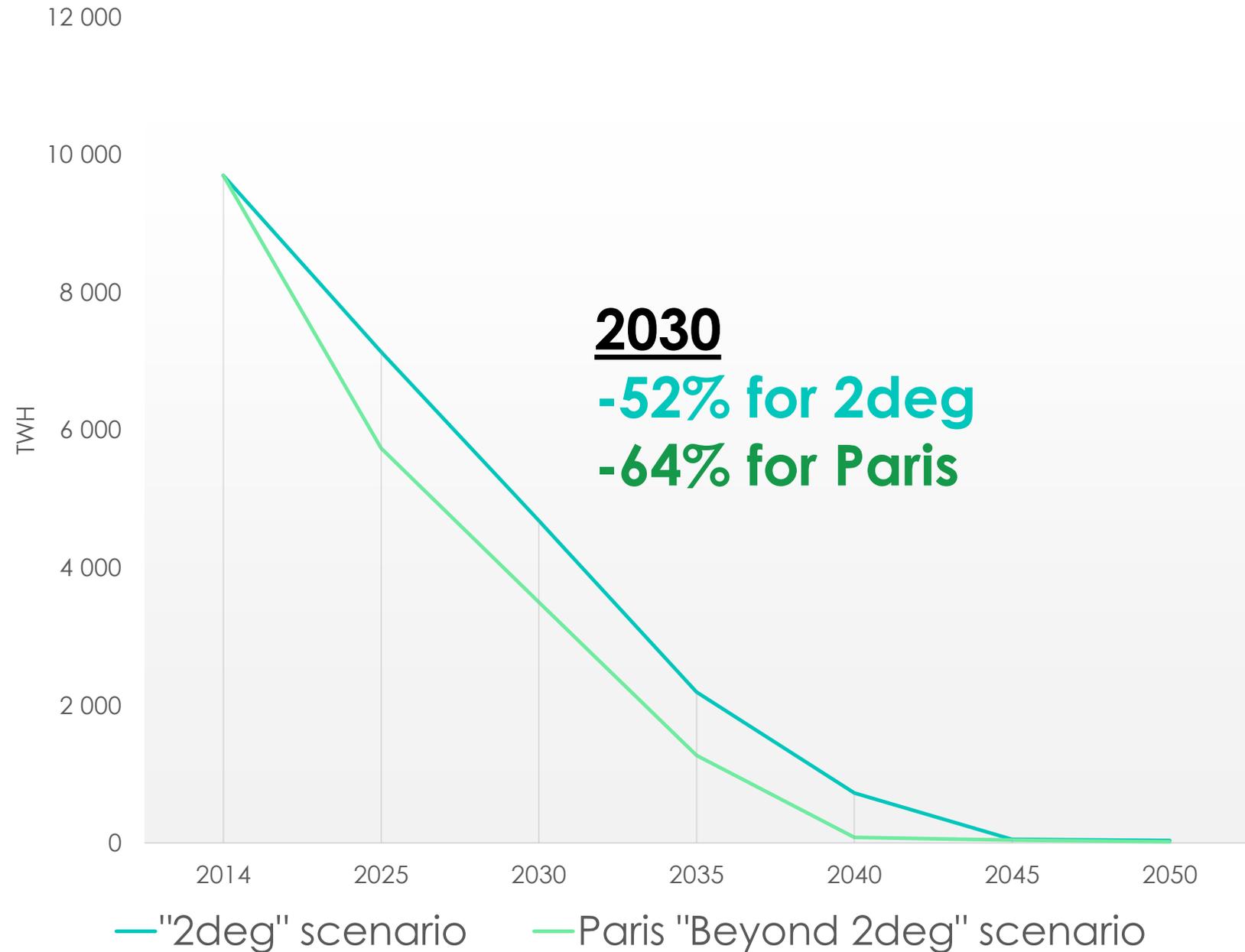
- Emissions peak before 2020 and then fall rapidly



# Coal

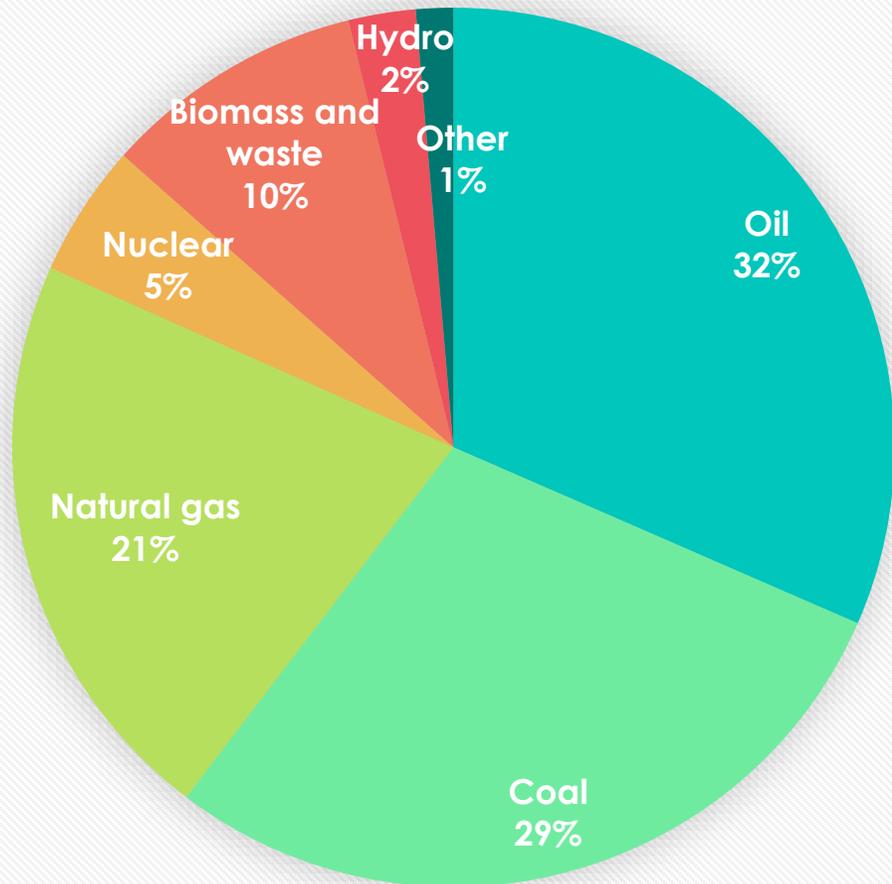
- Unabated coal is
  - zero by 2030 in OECD
  - zero by 2040 globally

## IEA Energy Technology Perspectives 2017: Unabated global coal generation

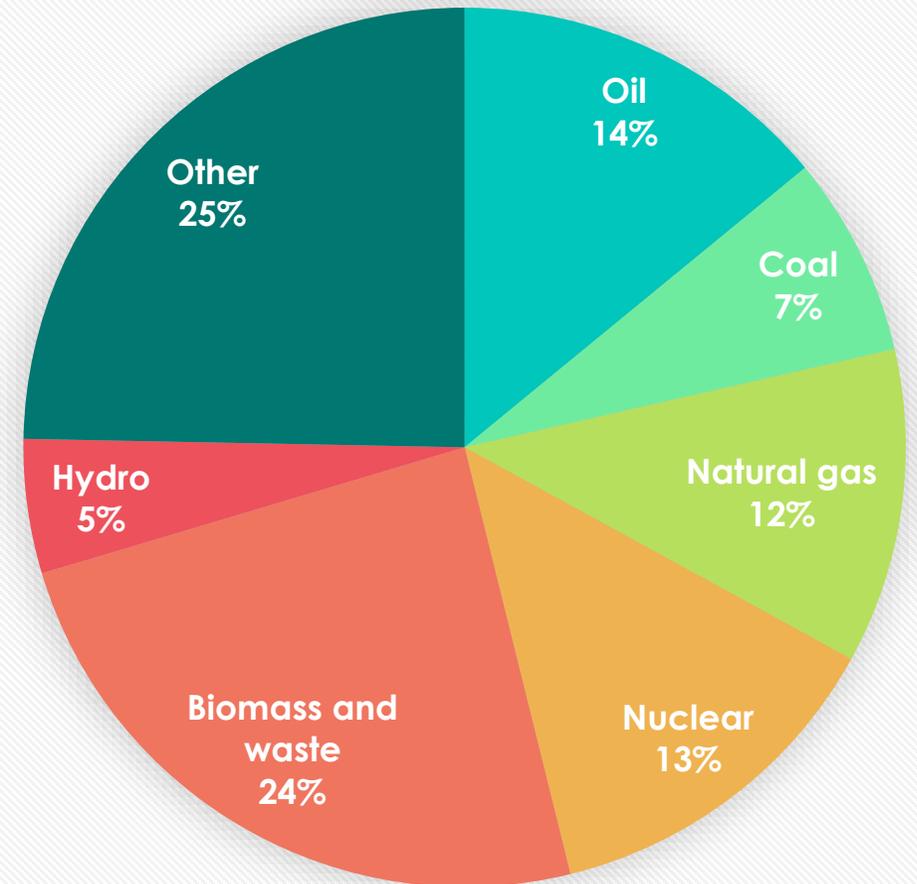


# Final energy demand (IEA B2DS)

2014 Energy Demand (569k PJ)

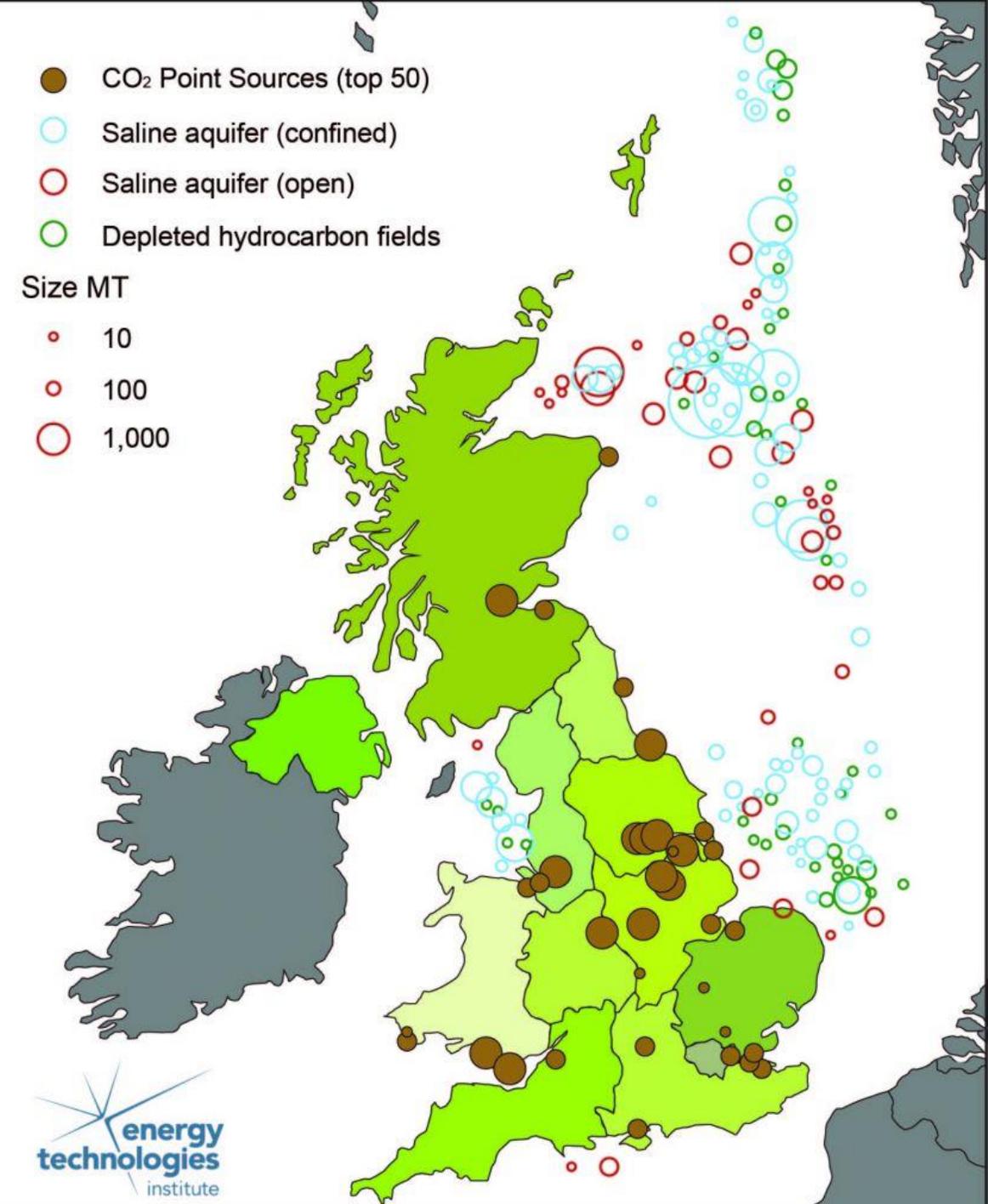


2050 Energy Demand (581k PJ)

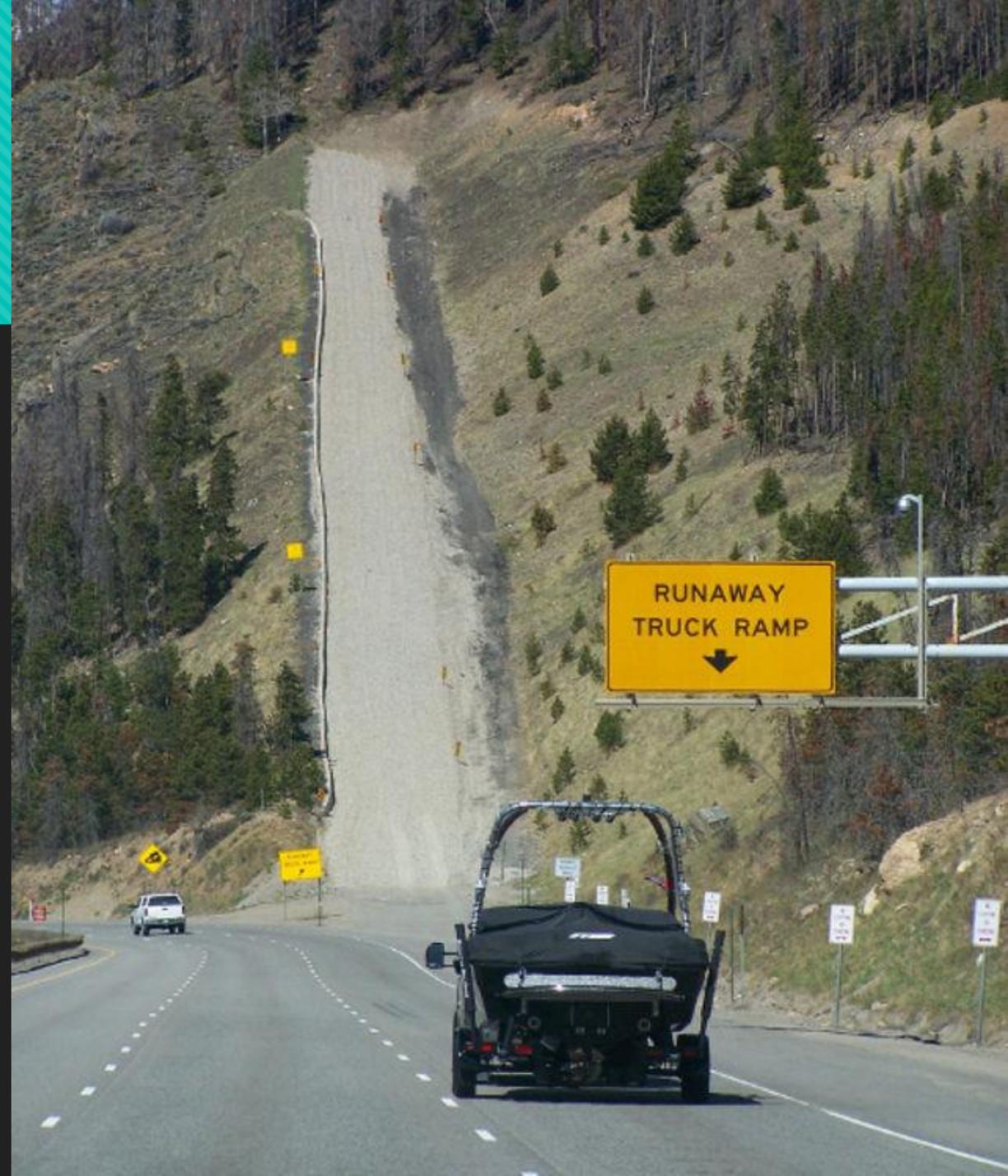


# Storage

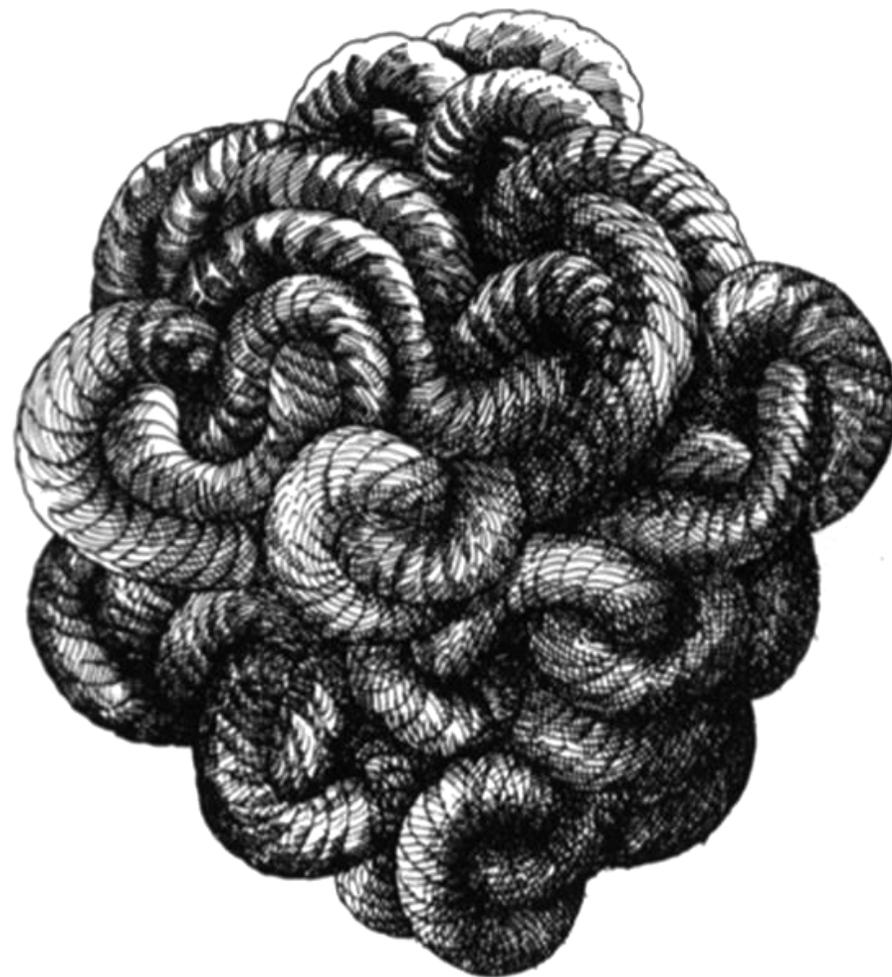
- Storage can take ~10 years to appraise
- Suitable storage is limited
- UK perhaps best appraised
  - Currently 78Gt storage potential
- Therefore storage best saved for essentials:
  - negative emissions
  - unavoidable emissions e.g. industry



# What will make ENGOS back CCS ?



# Tying CCS to rapid emissions reductions



# Breaking the link between CCS and coal



On a 1.5C pathway, CCS is going to be mainly for negative emissions



Thanks for your attention

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