Wood et. al, Locked away – geological carbon storage, The Royal Society, October 2022
Ringrose, Philip. "How to store CO2 underground: Insights from early-mover CCS projects." (2020): 978-3.

Drivers

geological CO_2 storage

To keep temperatures *below* the 1.5-1.7°C rise, we need to *safely* store

- 7 – 8 $GtCO_2$/ yr by 2050
- *cumulatively* 350 – 1200 $GtCO_2$ by 2100

Requires *commissioning* of 7000 – 8000 offshore “Sleipners”, @1 Mt/yr by 2050

- *deployment* of *300 – 400 wells* per year
- *monitoring* of CO_2 migration to *control* subsurface distribution & verification
- *assurance* of *safe* operations
- *transfer of liability* to national governments at *end of life cycle*

Geological Carbon Storage
North Sea Saline Aquifer

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Only *scalable* net-negative emission technology

Supercritical CO_2 injected for 1920 days

Total of 6.4 Mt CO_2 injected over 4y at 1.2 Mt/yr & at 0.7 Mt/yr over 1.2y