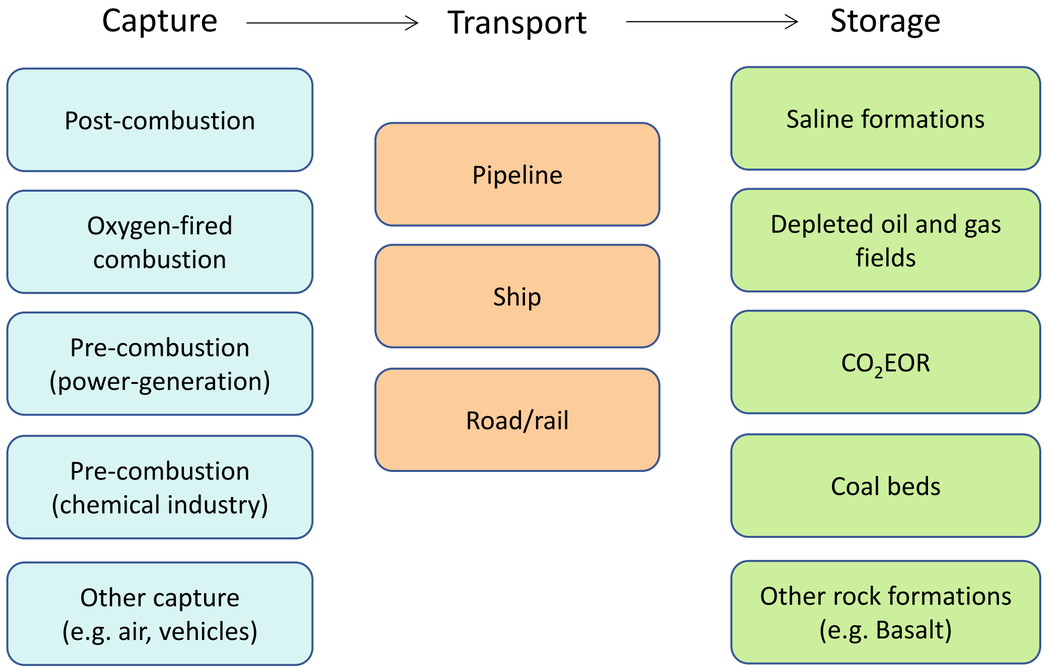
Why CCS?

- can’t stop using fossil fuels over night
- renewable energy needed for long-term near net-zero
- 80% current energy is from fossil
- renewable energy is intermittent
- need pragmatic approach
  1. improved efficiency
  2. new renewables
  3. switch from coal to natural gas
  4. add nuclear to the mix
  5. deploy CCS



Arguments why CCS is vital

- reduce CO2 power generation & industry
- faster energy transition
- need 10X increase by 2030 compared to current plans to meet Paris agreement

Needs to isolate CO2 from atmosphere for few thousand years

Permanent storage difficult to ensure

Overview CCS

1. depleted O&G reservoirs
   - well understood, low pressure, infrastructure in place
2. part of enhanced oil recovery (EOR)
   - part of CCUS, economical
3. saline aquifers
   - largest available volume at sea
4. coal bed
   - not much volume
5. other
   - mineralization of basalt, caverns in salt

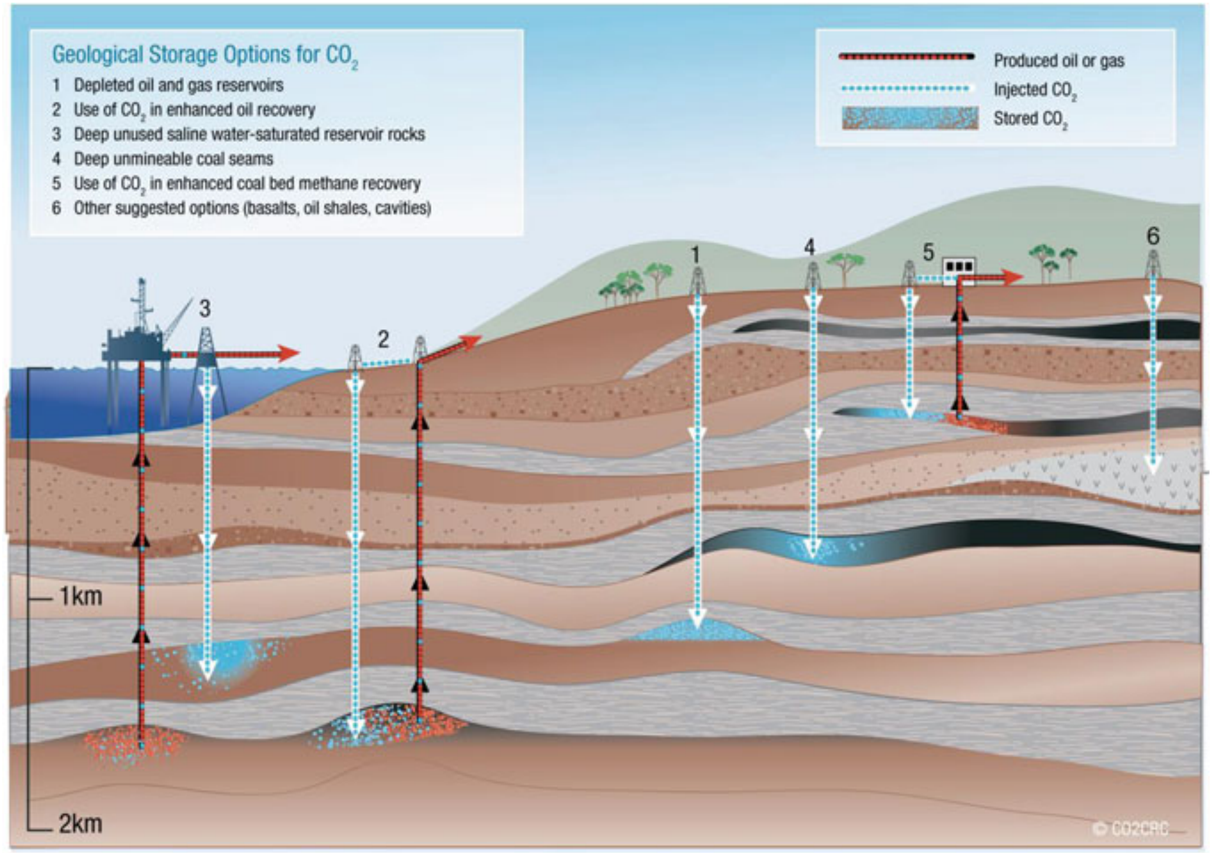


Fig. 1.5 Overview of geological storage options for CO_2 (©CO2CRC, image courtesy of CO2CRC Ltd)