Carbon sequestration

What is it?

- The process of capturing and storing carbon.
- Reduces the greenhouse effect as CO_2 is removed.
- Can be part of the solution to decarbonise economies.
- Can help to mitigate climate change.

https://www.sciencedirect.com/
https://unece.org/
https://www.teagasc.ie/
https://pmc.ncbi.nlm.nih.gov/articles/PMC9804235/

Biological

The storage of carbon dioxide in:

Forests act as a carbon sink by capturing CO_2 and through photosynthesis, turn it into biomass such as leaves - Increased via afforestation.

Oceans absorb, release and store large amounts of CO_2, especially cold parts. Potential to enhance this natural sink is being researched e.g. injecting CO_2 at depth or fertilising the oceans with microalgal nutrients.

Soils or plant material can capture and store CO_2. Carbon is good for soils as it increases water-holding capacity and productivity.

Bogs can be changed from carbon sources to carbon sinks by rewetting peatlands.

Geological

Oide

The long term storage of carbon in rocks:

CO_2 is pumped deep underground via pipelines and is stored in rock pore spaces of sealed geological formations.

Common geological sequestration methods include the use of coal seams, deep saline reservoirs, depleted oil and gas field and mineralisation.