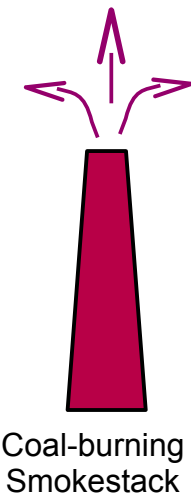


The initial carbon-capturing operation is much more expensive than the sequestering operation, by about a factor of 10.



Sequestration of carbon dioxide in porous basalt formations is up-scaleable. One cubic meter of basalt can securely sequester >50 kg CO₂. (>50 million tonnes per km³.)

It is more expensive than simple cavern sequestration by only a factor of 2.

Figure 4
CCS in Basalt Rock

Basalt Layer

oxides of magnesium, iron, calcium, etc.

chemically bonded to CO₂ molecules

Basalt is the most common igneous rock on the planet

basalt is porous

CO₂

CO₂

CO₂ bubbles

drilled penetration pipe

aquifer

Land surface

Water

water pump

compressor pump

CO₂ holding vessel

CO₂ capture

CO₂