

## Is CCS the same as “fracking”?

No, CCS is different to fracking. The principles of CCS and CO<sub>2</sub> storage are completely different from those of shale gas extraction using hydraulic fracturing, or “fracking”. The purpose of CO<sub>2</sub> storage is to ensure the CO<sub>2</sub> remains safely and permanently stored in a geological formation. Given this purpose, significant efforts are made to maintain the structural integrity and trapping ability of the storage formation and the cap-rock. For example, when characterizing the storage, site samples will be taken of the cap-rock and then tested in a laboratory to understand the pressure at which this rock will fracture. When this limit is well understood, the project operator will ensure that the pressure on the cap-rock in place never comes close to this fracture pressure – in the USA, the law says that CO<sub>2</sub> project operators must stay below 90% of the fracture pressure when injecting CO<sub>2</sub>.

The purpose of fracking on the other hand is to extract natural gas from the very tight pores in a rock under the surface. To access this gas, the fracking operator must inject fluids into the formation at a pressure above the fracture pressure in order to fracture the rock and release the natural gas.

The locations in South Africa with the potential for CO<sub>2</sub> storage are very different from those with the potential for shale gas extraction using fracking, given the very different set of geological requirements each process needs.