The Bell Creek Story
Denbury’s Bell Creek oil field in Montana is the site of an innovative oil recovery/greenhouse gas storage project that benefits the economy and the environment:

- Carbon dioxide (CO₂) (from natural underground processes) comes to the surface with raw natural gas.
- Natural gas processing facilities capture this CO₂ instead of releasing it into the atmosphere (the current practice elsewhere).
- The CO₂, separated from the raw natural gas at the processing facility goes by pipeline to the Bell Creek oil field where it is injected into an oil reservoir to help produce more oil. This practice is called CO₂ enhanced oil recovery, or EOR. Eventually, the injected CO₂ is trapped in the underground injection zone.
- Monitoring helps ensure that the CO₂ remains securely stored.

This greener form of oil and natural gas production results in less CO₂ ending up in the atmosphere and extends the lifetime of an existing oil field.

CO₂ injection began May 2013, and as of July 1, 2014, 1 million metric tons had been injected.

Making Raw Gas Sweet Nets CO₂
Raw natural gas has to be purified before it can be consumed. This happens in a gas processing facility that first removes the CO₂ impurities in the atmosphere by the combustion. The CO₂ produced by this process is captured and separated from other gases. It is reinjected into the reservoir where it is dissolved in the oil. As the oil is produced, the CO₂ is released back into the ground to help produce more oil. Over time, the CO₂ will be continually renewed.

Removing the Oil...Some CO₂ Remains Trapped
In the enhanced oil recovery or EOR process, the injected CO₂ dissolves into the oil, and is then carried to the production well. Some CO₂ remains buried in the reservoir for many years and is generally not recovered.

Keeping Oil and CO₂ in Place
Shale is a barrier rock that holds gases and liquids in place underground. The CO₂ EOR zones of the Bell Creek oil field are surrounded by shale and not only surrounded by shale but are overlain by thousands of feet of rock. These rock layers are very thick and will hold the CO₂ in place. In the central interior of North America and is one of seven regional partnerships that make up the Regional Carbon Sequestration Partnership Program managed within the U.S. Department of Energy’s Office of Fossil Energy by the National Energy Technology Laboratory (NETL).

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