

Heat Transfer Between Pipeline and Soil

- The CO₂ entering the pipeline will in almost all cases be 60-110 °F due to constraints on cooling water temperature at the capture facilities
- Impact on soil temperature near the surface is negligible for pipeline at 5-foot depth (see following slides)
- Results of the heat transfer modeling for example cases with “warm” (110 °F) and “cool” (60 °F) CO₂ are summarized on the following slides.
- CO₂ will reach the soil temperature at steady state over long distances
- Impact on soil temperature near the surface is negligible compared to environmental and seasonal variations for pipeline at 5-foot depth
- *Temperature impact of soil cooling or heating is limited to zone of less than a foot around the pipeline*

Warm CO₂ Soil Temperature Profile

