

TIER Fact Sheet on Carbon Capture Treatment

If information in this document conflicts with the Standard for Developing Benchmarks (the “Standard”), the Technology Innovation and Emissions Reduction Implementation Act (the “Act”) or the Technology Innovation and Emissions Reduction Regulation (the “Regulation”), then the Standard, Act and/or Regulation prevail over this document.

Overview

The Technology Innovation and Emissions Reduction (TIER) regulation is at the core of emissions management in Alberta. TIER implements Alberta’s industrial carbon pricing and emissions trading system. TIER provides incentive for regulated facilities to invest in the capture and permanent storage of carbon dioxide (CO₂). Facilities regulated under TIER may have the status of Large Emitter, Opt-In or Aggregate. There are several carbon capture scenarios described, and shown below, including how to report the CO₂ in the TIER annual compliance report. It is the responsibility of those sequestering CO₂ to ensure they have appropriate approvals in place with the Alberta Energy Regulator to do so.

Large emitter or opt-in facility captures CO₂ and geologically stores on site, or sends for acid gas disposal

In this scenario, the facility would see direct benefit from the stored CO₂ not being emitted or not being included in total regulated emissions in the annual compliance report. The required reporting fields are in Section B4 of the compliance report form, for on site injection of CO₂ and for export for disposal as Acid Gas. Acid Gas is any carbon dioxide removed from raw gas and disposed of, as an acid gas stream, to an underground formation through a Class III well in a scheme approved under section 39(1)(d) of the Oil and Gas Conservation Act. See Figure 1, 1A. and 1B.

Large emitter or opt-in facility captures CO₂ and sends it to another large emitter or opt-in facility

The regulated facility that captures CO₂ to be geologically stored at another regulated facility (other than acid gas injection) reports it in Section B4 of their compliance report as exported CO₂. It is not reported as an emission in sections B1-B3 of the compliance report. This exported CO₂

is added to total regulated emissions to account for potential subsequent release. See Large Emitter 1 in Figure 2.

Large emitter or opt-in facility receives and geologically stores CO₂ from another large emitter or opt-in facility

The receiving facility would see benefit from importing the CO₂ and geologically injecting it on-site. The stored CO₂ is not an emission in the annual compliance report for this facility and imported CO₂ is subtracted from total regulated emissions. The import and injection of CO₂ are required reporting fields in section B4 of the compliance report form where a further description is provided. See Figure 2, Large Emitter 2. This benefit is not available to an aggregate facility under TIER, but would apply to an opt-in facility under TIER.

Large emitter, opt-in facility or aggregate facility captures CO₂ and sends it to an offset project for CCS or EOR storage

The CO₂ sent from a regulated facility to be geologically stored at an offset project using the Carbon Capture and Storage (CCS) or Enhanced Oil Recovery (EOR) quantification protocol is eligible for emissions offsets. The facility that captures the CO₂ reports it in Section B4 of their compliance report as exported CO₂. It is not reported as an emission in sections B1-B3 of the compliance report. This exported CO₂ is added to total regulated emissions (TRE) to account for potential subsequent release.

The offset project would be the owner of the verified and serialized emission offsets. See Figure 3. Note: acid gas injection is not an offset opportunity. There may be a contractual relationship between CO₂ exporter and the offset project.

Credit generated by EOR and CCS projects

The offset project quantifies the emission offsets by the difference of the injected mass of CO₂ and the emissions needed to support the project, including any discount or holdback required by the protocol. Emission offset reports must be verified before serialization. See Figure 3.

FIGURE 1.

CO₂ is not included in the compliance obligation for the TIER regulated facility that captures CO₂ and sends it to acid gas injection (AGI), or geologically stores it on site.

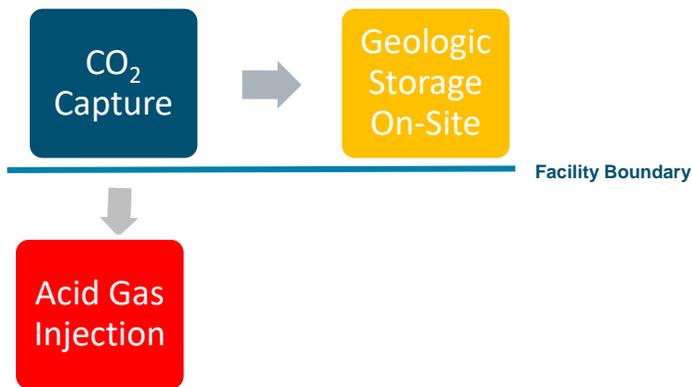


FIGURE 1A.

CO₂ is sent offsite for acid gas disposal. It is not added to the Total Regulated Emissions (TRE) for the originating site.

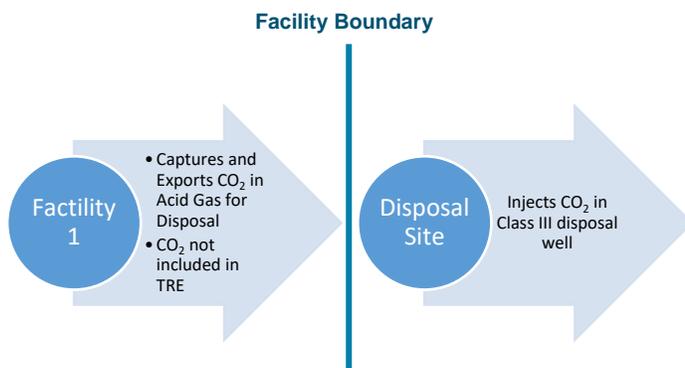


FIGURE 1B.

CO₂ is disposed of on site where captured. It is not reported in TRE, but is reported as stored on site in section B4 of the compliance report.

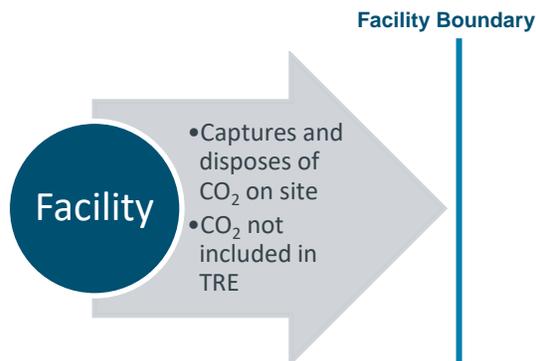


FIGURE 2.

CO₂ is imported by facility 2 and disposed of on site. CO₂ is included in TRE for Facility 1 and deducted from TRE for Facility 2.

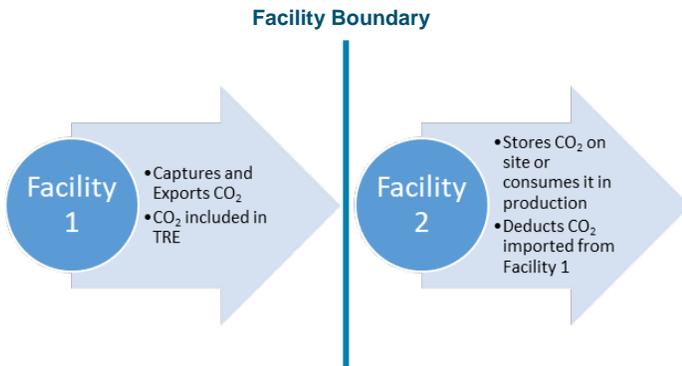


FIGURE 3.

CO₂ is included in compliance obligation for facility that captures CO₂ and exports it to a geological storage offset project that receives credit for net sequestration.

