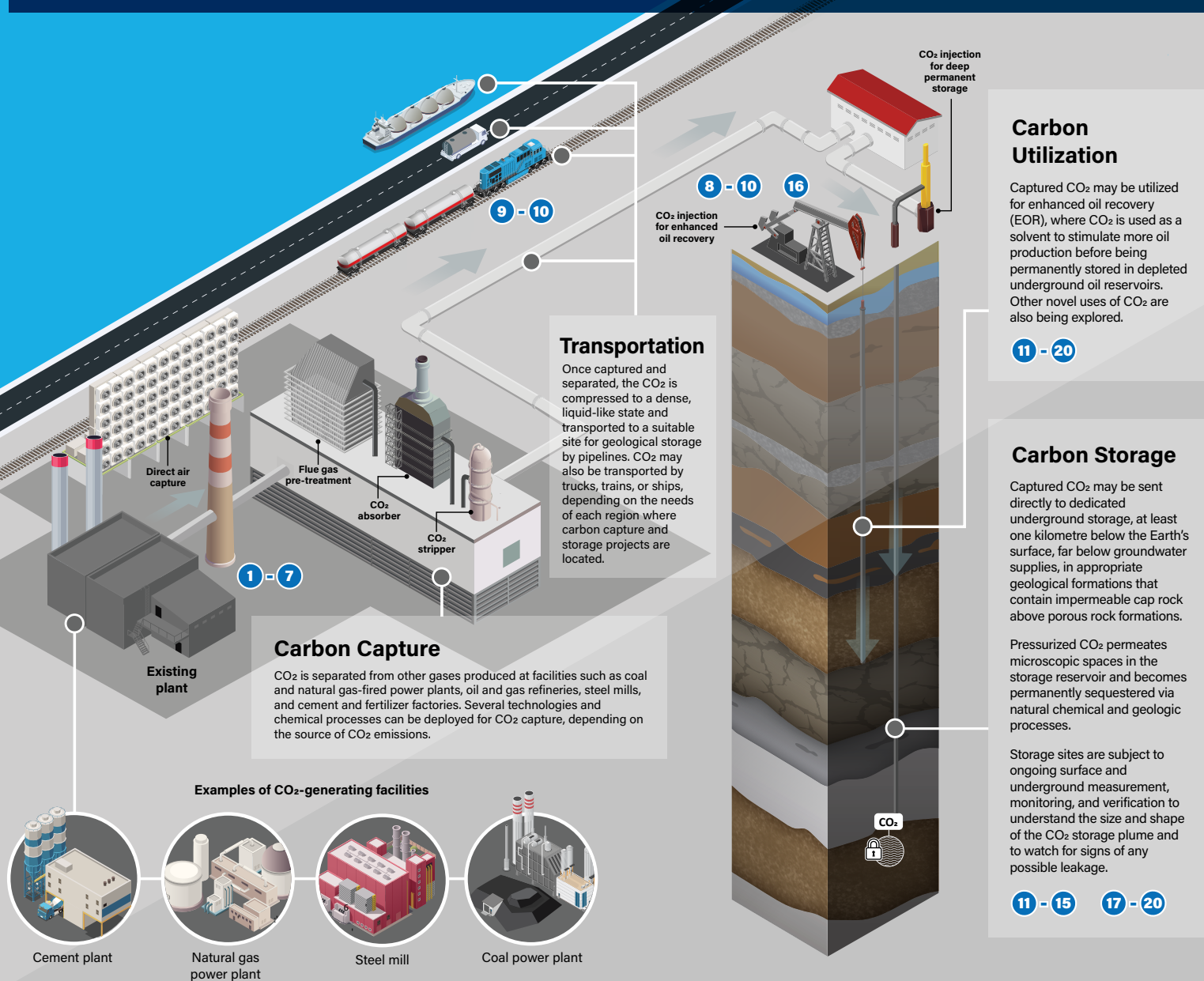


Standards and guidelines for carbon capture, utilization and storage

As a leader in research and standards development, CSA Group is engaged in multiple initiatives facilitating the safe and efficient development of large-scale carbon capture, utilization, and storage (CCUS) infrastructure.

CSA Group's research and standards-based solutions address various key aspects of CCUS in the North American context and include adoptions of some of the ISO standards to help reduce carbon dioxide (CO₂) emissions and support Canada in reaching its greenhouse gas (GHG) reduction and net-zero targets.

CCUS encompasses technologies that are used to prevent large amounts of CO₂ generated by burning fossil fuels and by other chemical processes from being released into the atmosphere and contributing to climate change. CCUS is considered a critical tool for achieving a net-zero future, as it enables deep and rapid cuts to emissions from the world's heavy-emitting industries and the reduction of legacy emissions through the direct removal of CO₂ from the atmosphere.





Standards and research publications

For over a decade, CSA Group has been managing the secretariat to the International Organization for Standardization Technical Committee ISO/TC 265 — Carbon dioxide capture, transportation, and geological storage, putting Canada at the forefront of international standardization efforts in this field. ISO/TC 265 has spearheaded the development of more than 12 international standards for CCUS.

CSA Group and ISO standards address key areas of the CCUS value chain, from the capture of CO₂ at industrial sources to the transportation of high-pressure CO₂ to designated storage sites, and permanent underground storage in deep geologic formations.

Carbon Capture

- 1 - **ISO/TR 27912**, Carbon dioxide capture — Carbon dioxide capture systems, technologies, and processes
- 2 - **ISO 27919-1**, Carbon dioxide capture — Part 1: Performance evaluation methods for post-combustion CO₂ capture integrated with a power plant
- 3 - **ISO 27919**, Carbon dioxide capture — Part 2: Evaluation procedure to assure and maintain stable performance of post-combustion CO₂ capture plant integrated with a power plant
- 4 - **ISO/TR 27921**, Carbon dioxide capture, transportation, and geological storage — Cross Cutting Issues — CO₂ stream composition
- 5 - **ISO/TR 27922**, Carbon dioxide capture — Overview of carbon dioxide capture technologies in the cement industry
- 6 - **CSA SPE-112**, CarbonStar®: Technical specification for concrete carbon intensity quantification and verification
- 7 - Environmental Footprint of Carbon Capture Technologies in Hydrogen production (undergoing research project)

Transportation

- 8 - **CSA Z662**, Oil and gas pipeline systems
- 9 - **CSA Z767**, Process safety management
- 10 - **ISO 27913**, Carbon dioxide capture, transportation, and geological storage — Pipeline transportation systems

Utilization and Storage

- 11 - **CSA Z624**, Well integrity management for petroleum and natural gas industry systems
- 12 - **CSA Z625**, Well design for petroleum and natural gas industry systems
- 13 - **CSA Z741**, Geological storage of carbon dioxide
- 14 - **ISO 27914**, Carbon dioxide capture, transportation, and geological storage — Geological storage
- 15 - **ISO/TR 27915**, Carbon dioxide capture, transportation, and geological storage — Quantification and verification
- 16 - **ISO 27916**, Carbon dioxide capture, transportation, and geological storage — Carbon dioxide storage using enhanced oil recovery (CO₂-EOR)
- 17 - **ISO/TR 27923**, Carbon dioxide capture, transportation, and geological storage — Injection operations, infrastructure, and monitoring
- 18 - **ISO 27917**, Carbon dioxide capture, transportation, and geological storage — Vocabulary — Cross cutting terms
- 19 - **ISO/TR 27918**, Lifecycle risk management for integrated CCS projects
- 20 - **CSA TS-226**, Measurement, Monitoring, and Verification Plans for the geological storage of CO₂ (in progress)

For more information on standards-based solutions for carbon capture, utilization, and storage, contact the CSA Group Environment and Natural Resources team at

✉ environment@csagroup.org or join  [CSA Environment and Natural Resources Community](#)