Corrosion Resistant Alloy (CRA) Solution for CCUS & CCS

Carbon Capture, Utilisation & Storage and Carbon Capture & Storage

The transportation and injection of CO_2 in the CCUS/CCS industry present challenges due to the corrosive effects of CO_2, especially when mixed with impurities such as water and hydrogen sulphide (H_2S).

While traditional solutions rely on dehydration units to prevent corrosion, it can significantly increase capital expenditures and operational complexity.
Cladtek's solution eliminates the need for dehydration units, streamlining operations and reducing costs.

Extended Lifespan
Increases the durability of CO_2 transport and injection systems.

Cost Savings & Reliability
Reduces both operating and capital costs by minimising the need for frequent repairs and downtime, while enhancing overall system reliability compared to dehydration units.

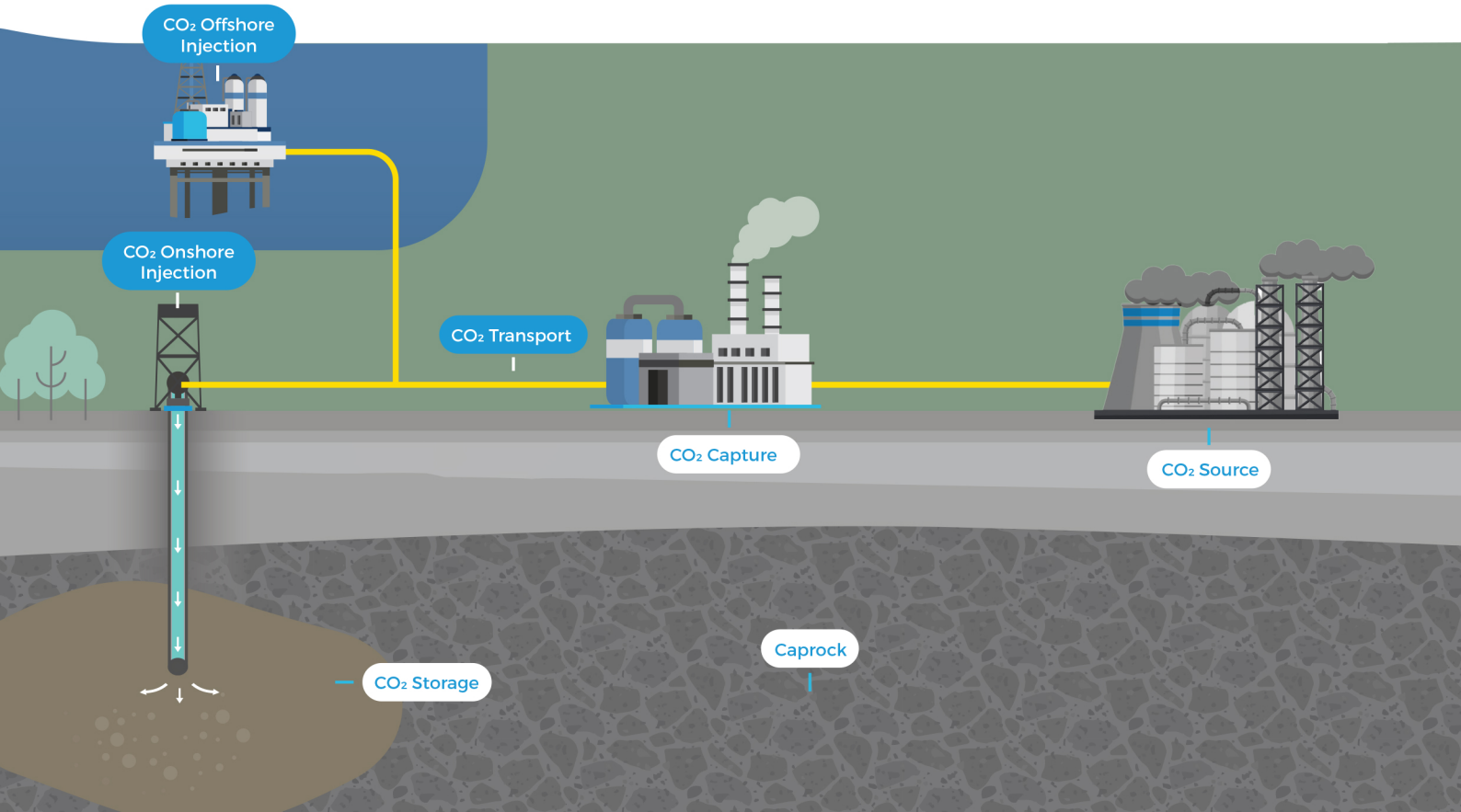
Improved Safety Operations
Reduces the risk of leaks and failures in critical systems, which are more common in dehydration units.

Eco-Friendly
Reduces CO_2 emissions, supporting more sustainable operations.

Suited for Harsh Conditions
Built for high-pressure, high-temperature environments, ensuring lasting performance.

CRA Products

Mechanically Lined Tubulars (MLT)



CO_2 Transportation – Made Easy & Reliable

Traditional carbon steel pipelines in the CCUS/CCS industry rely on dehydration units to remove moisture and prevent corrosion during CO_2 transportation. Despite these efforts, residual moisture can still cause corrosion, leading to expensive repairs and potential downtime.

Cladtek's CRA solutions eliminate the need for dehydration units, offering the following benefits:

Reduced Total Cost of Ownership
Reducing both capital and operational expenditures over the design life.

Improved Durability & Corrosion Protection
Enhances pipeline reliability and reduces unplanned shutdowns.

Operational Simplicity
Simplifies operation and maintenance with long-term corrosion resistance.

CO_2 Injection – Durability for Downhole Applications

CO_2 injection into underground reservoirs in CCUS/CCS projects subjects infrastructure to extreme pressures and corrosive conditions, which can weaken downhole components over time. Maintaining the integrity and longevity of these components is critical for the success of CCUS/CCS operations, as failures in injection wells can lead to significant operational disruptions and safety risks.

Cladtek's Mechanically Lined Tubular (MLT) is designed to address these challenges by combining the mechanical strength of carbon steel with the corrosion resistance of CRA liners. Incorporating MLT into CO_2 injection systems provides:

Reliable Protection
Offers strong protection against harsh CO_2 injection conditions, reducing failure risks and extending injection well service life.

Cost-Effective Sustainabilty
Lowers maintenance costs, making CCUS/CCS projects more sustainable and economical in the long term.