

Technical Advisory and Consultancy Services

CO2Tech
A CO2CRC Company

CO2Tech

CO2Tech offers multi disciplinary technical consultation, advisory and project management services across the CCUS value chain including project conceptualisation, technical and commercial feasibility studies, project design, implementation, operation, as well as desktop studies.



Geological characterisation & technical development

Regional geological analysis

Site screening and storage capacity estimation

Reservoir characterisation

- Digital core analysis
- Seal capacity analysis
- Geochemical analysis: batch reaction & core-flooding
- Geomechanical testing
- Log interpretation

Reservoir studies, appraisal and development planning

- Seismic processing and interpretation
- Static modelling
- Petrophysical interpretation
- Reservoir engineering and geological data analysis
- Dynamic modelling
- Well integrity
- Well modelling
- Risk and uncertainty analysis
- Probabilistic dynamic modelling
- Probabilistic plume modelling

Experience

CO₂ storage assessment including geological storage system characterisation, injection & plume migration modelling, geomechanical evaluation, geochemical analysis, dynamic modelling and due diligence studies of various basins including the Darling, Gippsland, Cooper and Perth basins in Australia

Regional storage assessment of the potential for CO₂ storage in South West Western Australia, Otway Basin, Bowen/Surat Basin, Gippsland Basin, New Zealand, Ireland and the Asia Pacific region.

M&V solutions

Storage monitoring and surveillance design, implementation, interpretation and integration

- | On-demand monitoring solutions
- | Continuous subsurface monitoring solutions
- | Automated and Machine Learning solutions
- | In-zone, above zone, risk-targeted
- | Risk based and fit-for-purpose solutions, suitable for effective decision making

Field trials and testing

Testing innovative well and surface-based technologies

- | Seismic acquisition
- | Bottomhole and wellhead tools
- | Wirelines

Experience

- | Field-testing Helically Wound Cables (HWC) for monitoring CO₂ underground
- | Validation of emerging performance and assurance monitoring technologies such as u-tubes, tracer, pressure tomography and DAS for the deep and near surface environments

Acquisition types

- | Permanent or re-deployable solutions
- | Gauge or distributed solutions
- | Areal or downhole (inside & outside casing) solutions

Experience

- | The review, assessment and verification of the Gorgon Joint Venture's program for the injection and monitoring of CO₂
- | Quantitative risk assessment and reactive transport modelling for Chevron Australia
- | Two decades of design, implementation and analysis of M&V solutions at the Otway International Test Centre

Well integrity

- | Experience in Field scale experiments in deep or shallow wellbore for mitigating well integrity issues



Technical feasibility and modelling studies & project management

Stakeholder engagement

Multiple projects developed and executed at Otway over the last 17 years

Access to almost two decades worth of stakeholder engagement experience around CO₂ storage

CO2Tech can assist in the regulatory and legislative requirements and advise on solutions for positive local community engagement based on real world experience

CCUS projects require a variety of different disciplines and specialists and project management is key to achieving a successful project. CO2Tech offer project management services across the whole CCUS chain

Experience

Reduction of Greenhouse Gas Emission in Steel Production – Investigate and evaluate emission reduction strategies for BlueScope

Retrofit Study of a coal fired power station with post-combustion capture based on an Australian reference plant

Review of the techno-economic feasibility of CO₂ sequestration for the Abadi Field Development



CO₂ capture and utilisation solutions

Pre-feasibility & Feasibility FEED

- Rating, ranking and selection of most suitable capture and utilisation technologies

- Techno-economic analysis

Bench & Pilot scale development and demonstration

- Concept development

- Project development

- Innovative technologies

- Process simulation

- Process Integration

- Scaling up

- Advancing Technology Readiness Level (TRL)

Consultancy & Advisory Services

- Concept validation

- Legislative & regulatory advice

- Risk assessment

- Environmental impact assessment

- Technology collaboration

- Project Management

CO₂ utilisation studies including effective CO₂-EOR, EGR, ECBM, and Circular Economy

- Screening analysis and basin wide studies

- Analytical and numerical modelling

- Techno economic analysis

- Technology & process optimisation

Experience

Hydrogen Energy Supply Chain Project – Feasibility & FEED study and Design and supply of the gas clean up and hydrogen purification pilot plant

Screening Australia's geological basins for their potential for enhanced oil recovery utilising CO₂ and associated CO₂ storage

Assessment on using CO₂-EOR to reduce the energy sector's GHG emissions and improve oil recovery from Australia's mature onshore oil fields



The Otway International Test Centre

The Otway International Test Centre enables field scale research and development of CCUS technologies for commercial deployment

Seven purpose drilled CO₂ storage wells (>1.5km deep), within a ~1 km² area, for CO₂ injection and monitoring activities

Readily available supply of CO₂ from an in-situ CO₂ gas field

Variety of storage reservoir types, structures and seals

State-of-the-art seismic monitoring array for observing and benchmarking subsurface technologies and processes

All necessary regulatory approvals and support of local communities to complete CCUS investigations

CO2Tech provides tailor made solutions

We provide solutions for small and large companies, government and industry in Australia and around the world.

Contact us now to find your solution

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