

BUILDING CONFIDENCE ACROSS THE CCUS VALUE CHAIN

Carbon Capture, Utilisation and Storage (CCUS) Assurance

BUILDING CONFIDENCE ACROSS EVERY STAGE OF THE CCUS LIFECYCLE

Carbon capture, utilisation and storage (CCUS) is becoming essential to achieving net zero, particularly for hard-to-abate industries where emissions cannot be eliminated entirely. As projects scale globally, organisations face increasing pressure to demonstrate safety, compliance, operational integrity and credible carbon reporting.

LRQA helps organisations build trust across the CCUS lifecycle through independent assurance, inspection, verification and advisory services. From capture and transport through to storage and monitoring, we help organisations manage risk, strengthen compliance and build confidence in project delivery and emissions data. For projects using biogenic CO₂, we also support the development and verification of carbon removal claims, helping organisations unlock value through voluntary carbon markets and emerging regulatory frameworks such as the EU Carbon Removal Certification Framework (CRCF).

WHY CCUS NOW?

The scale and urgency are growing

Global CCUS deployment must accelerate rapidly to meet climate goals.



This means hundreds to thousands of new CCUS projects will need to be developed globally over the coming decades.

At the same time:

- Heavy industries continue to face unavoidable emissions
- Carbon is now priced and under penalty, creating new costs, risks and value opportunities
- Governments are increasing regulatory and reporting requirements
- Investors demand measurable and verified climate performance
- AI and data centre growth are driving rising global energy demand
- Organisations must balance decarbonisation with operational continuity and energy security

CCUS is becoming critical infrastructure for the low-carbon economy.

WHY TRUST MATTERS IN CCUS

Scaling CCUS requires more than technology

CCUS projects rely on confidence that:

- CO₂ is accurately measured and reported
- Infrastructure performs safely and reliably
- Storage remains secure over the long term
- Supply chains meet quality, transparency and compliance requirements
- Carbon claims withstand regulatory and investor scrutiny
- Monitoring and verification data is credible and auditable

As projects scale in complexity, assurance, transparency and independent oversight become increasingly important.

LRQA helps organisations strengthen confidence across every stage of the CCUS value chain.

EXPERT ASSURANCE ACROSS THE CCUS VALUE CHAIN

Supporting confidence from project development through long-term operation

CCUS Stage	LRQA Support
Project Design and Development	CCUS workshop, feasibility study, financial pro-forma analysis or review, project due diligence, risk assessment and financial structuring, asset development consulting, carbon intensity estimation
Capture	Equipment inspection, emissions verification, operational assurance
Compression & Transport	Infrastructure assurance, supplier oversight, risk management
Utilisation	Compliance support, process assurance, technical advisory
Injection & Storage	Site integrity verification, material traceability, safety assurance
Monitoring & Verification	GHG verification, carbon reporting assurance, regulatory compliance support
Biogenic CCUS	Eligibility for monetization under voluntary carbon markets or governmental programs such as EU Carbon removal and carbon farming certification framework (CRCF) or California Low-carbon fuel standard (CA-LCFS)

HOW LRQA SUPPORTS CCUS PROJECTS

Technical assurance

Supporting infrastructure integrity, operational safety and equipment compliance across complex CCUS environments.

Services include:

- Inspection and certification
- Design and specification review
- Site permanence review
- Supplier and vendor inspections
- Equipment certification
- Pressure equipment compliance
- Material testing verification

Regulatory confidence

Helping organisations navigate evolving standards, frameworks and reporting obligations.

Services include:

- Regulatory monitoring and compliance support
- Road mapping and advisory
- ISO-aligned assurance services
- HSE and CO₂ safety consultancy
- Project verification and certification support

Data credibility

Building confidence in emissions data, carbon reporting and sustainability claims.

Services include:

- GHG emissions verification
- ISO 14064 and ISO 14067 verification
- Carbon footprint verification
- Lifecycle assessment support
- Climate and carbon assessments
- Monitoring and reporting assurance

Supply chain and operational resilience

Strengthening quality, traceability and performance across CCUS supply chains.

Services include:

- Supplier verification
- Vendor training
- Material traceability
- Supply chain assurance programmes
- ESG and quality performance monitoring

WHY LRQA?

LRQA combines deep assurance expertise with global industry experience to help organisations manage risk and build confidence throughout the CCUS lifecycle.

We support organisations with:

- Global assurance and inspection capability
- Expertise across energy, infrastructure and industrial sectors
- Independent verification and compliance support
- Experience supporting complex supply chains
- Insight into evolving climate and carbon regulations
- A connected risk management approach across operations, sustainability and governance

From inspection and certification to climate performance and supply chain assurance, LRQA helps organisations move from ambition to credible delivery.

READY TO STRENGTHEN CONFIDENCE IN YOUR CCUS PROJECT?

Whether you are developing new infrastructure, navigating regulatory complexity or strengthening carbon reporting credibility, LRQA can help you build trust across every stage of the CCUS lifecycle.

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