

How International Subject Matter Experts in CCUS Impact Legal Frameworks and Policy Making

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SME impact through standardization bodies



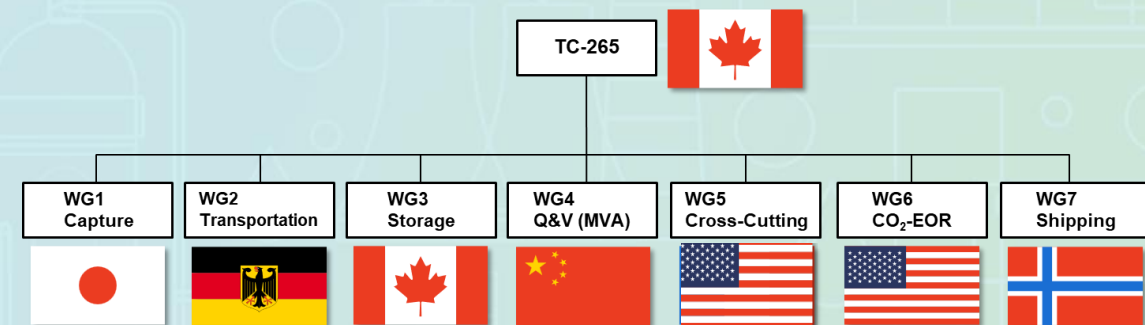
What are standards?

- **Private acts of recommendations**, meant for **repeated use**, providing specifications, guidelines or characteristics, typically produced for certification of e.g. products or processes, testing methods and technical or safety criteria
- «*An international standard provides rules, guidelines or characteristics for activities or of their results, aimed at achieving the optimum degree of order in a given context. It can take many forms. Apart from product standards, other examples include: test methods, code of practice, guideline standards and management systems standards*» (International Organization of Standardization)



ISO/TC 265

- Intent: *“prepare International Standards for the design, construction, operation, environmental planning and management, risk management, quantification, monitoring and verification, and related activities in the field of CCS”*
- Committee started in 2011
 - The TC is comprised of subject matter experts (SME) who writes the standards
 - SMEs represent, inter alia, industry, academia, NGOs and regulators
- A wide range of stakeholders and countries involved
 - 6 working groups
 - 28 countries participating
 - 18 observing countries
 - 10 liaisons (+ liaison ISO committees)
- 15 publications and counting
- 5 ongoing projects
- Regularly used in legal frameworks



ISO/TC 265

- Standards
 - Developed based on a consensus of the members
 - Voluntary – not rules or laws, therefore not mandated to use
 - If there is a regulation or law, the standard cannot be preferred, however:
 - Standard may be incorporated or adopted into regulation, in whole or in part

TC/265 standards in frameworks, processes and projects

- Referred to in legal frameworks and regulatory processes, such as:
 - **Norwegian** CO₂ safety regulation guidelines refer to both ISO:27913 (pipelines) and ISO:27914 (geological storage)
 - **United States**' IRS refers to ISO:27916 in 45Q tax credits for CO₂-EOR (CO₂-EOR)
 - The **European Union taxonomy**, e.g. ISO:27914
 - MRV Plans in **Alberta, Canada**
 - Recommended guidelines for planning and evaluating CO₂ storage resources in **Japan**
 - **ASEAN** has developed a taxonomy framework for the region. The framework references ISO:27914 as an applicable standard for the exploration and operation of CO₂ storage sites to enable recognition of the investment in CCS activities under the taxonomy. (Guide, not mandated)
 - Increased interest in using the standards in emerging frameworks in e.g., developing countries
- Used in known demonstration projects, such as:
 - The risk management approach in the **Norwegian** Longship project
 - Well design, inspection and testing, as well as CO₂ delivery specifications in the **Dutch** Porthos project
 - **Danish** permitting and tender processes for CO₂ storage in the Greensand project
 - Site feasibility of the Obskiy (Yamal) and Tadebyayakhinskiy (Gydan) licenses in **Russia**
 - The **Canadian** Aquistore project to assess e.g., injectivity, containment and capacity

CEN/TC 474: New standardization efforts in Europe



- European (EN) Standards are a key component of the European Single Market
- 34 countries are part of CEN (European Committee of Standardization)
- European Technical Committee (CEN/TC 474) initiated by the Netherlands to develop European Standards across the CCUS value chain
 - First plenary in Brussels 5-6 February 2024
 - More focus on the “U” and carbon accounting than ISO/TC 265
 - The new CEN/TC 474 aims to build on existing ISO/TC 265 standards, supplementing them with homegrown documents tailored to the needs of European stakeholders.
 - In the coming months, new work items and working groups may be established, as experts recruited.
 - Currently proposed standardization activities focus on CO₂ stream composition and quality, pipeline transportation, and transportation by shipping.
 - May be asked by the European Commission to develop standards as an integrated part of EU frameworks.
 - Joint ISO/TC 265 and CEN/TC 474 plenary in March 2025

Industrial Carbon Management (ICM) Forum

- 2023 Forum in Aalborg – Four Working Groups were established
 - CO₂ infrastructure
 - CO₂ standards
 - Public perception
 - The Carbon capture and utilisation
- The Working Group on CO₂ standards will advise the Commission on relevant issues for standardization by drawing upon key action points.
- The Working Group should seek to complement the ongoing European standardization work streams, addressing issues such as:
 - CO₂ composition, purity, pressure and temperature as well as common guidelines regarding incidental associated substances from the source, capture or injection process that will support a competitive, integrated EU-wide CO₂ market by striking a balance between safety, reliability, cost effectiveness and risks across the CO₂ value chain.

Summary

- ISO and CEN standards developed by SMEs are increasingly used by regulators in national frameworks, and by industry for deploying and regulating CCUS.
- With the increasing relevance of standards in policy and legal frameworks, SMEs have the ability to influence the content of regulatory frameworks for CCUS both nationally and internationally, ensuring they are fit for purpose, practical, and aligned with emerging technologies and commercial value chains.

Acknowledgement

CLIMIT

Thank you!



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