



International

This is a preview of ISO 27914:2026. [Click here to purchase the full version from the ANSI store.](#)

**Carbon dioxide capture,
transportation and storage —
Geological storage**

*Captage, transport et stockage du dioxyde de carbone —
Stockage géologique*

ISO 27914

**Second edition
2026-03**



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of ISO 27914:2026. [Click here to purchase the full version from the ANSI store.](#)

Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Integrated project management	7
4.1 General.....	7
4.2 Storage project.....	7
4.2.1 Project phases.....	7
4.2.2 Project activities that run across multiple phases.....	7
4.2.3 Site screening and feasibility phase.....	8
4.2.4 Site characterization phase.....	8
4.2.5 Design and development phase.....	8
4.2.6 Operations phase.....	9
4.2.7 Post-injection phase.....	9
4.3 Project management plan.....	9
4.3.1 General.....	9
4.3.2 Project management plan specifications.....	9
4.3.3 Project description.....	10
4.4 Information management.....	10
4.4.1 Information management plan.....	10
4.4.2 Project register.....	10
5 Site screening, feasibility investigation and characterization	11
5.1 General.....	11
5.2 Site screening.....	11
5.3 Site feasibility investigation.....	12
5.4 Site characterization and assessment.....	13
5.4.1 General.....	13
5.4.2 Geological and hydrogeological characterization.....	13
5.4.3 Geophysical characterization and assessment.....	14
5.4.4 Geochemical characterization and assessment.....	14
5.4.5 Geomechanical characterization and assessment.....	15
5.4.6 Well characterization and assessment.....	16
5.5 Modelling and assessment.....	16
5.5.1 General.....	16
5.5.2 Geological static modelling.....	17
5.5.3 Dynamic modelling.....	17
5.5.4 Area of review.....	19
6 Risk management	19
6.1 General.....	19
6.2 Risk evaluation criteria.....	19
6.3 Risk management plan.....	20
6.4 Risk assessment.....	20
6.4.1 General.....	20
6.4.2 Risk identification.....	20
6.4.3 Risk analysis.....	21
6.4.4 Risk evaluation.....	21
6.5 Risk treatment.....	22
6.6 Review and documentation.....	22
6.6.1 Review.....	22
6.6.2 Documentation.....	22
7 Well infrastructure	23

This is a preview of ISO 27914:2026. [Click here to purchase the full version from the ANSI store.](#)

7.1.2	Documentation.....	23
7.2	Materials.....	23
7.2.1	Conditions for use.....	23
7.2.2	Materials selection.....	24
7.3	Design and construction.....	24
7.3.1	General.....	24
7.3.2	Risk mitigation.....	24
7.3.3	Wells.....	24
7.3.4	Tubulars.....	25
7.3.5	Cement and well barrier elements.....	26
7.3.6	Post-cementing evaluation and remediation.....	27
7.3.7	Completion and stimulation.....	27
7.3.8	Corrosion control.....	27
7.3.9	Conversion of legacy wells.....	28
7.3.10	Wellbore monitoring requirements.....	28
7.4	Recompletion and workover of wells.....	28
7.4.1	General.....	28
7.4.2	Conditions for recompletion and workover of wells.....	28
7.4.3	Well integrity.....	29
7.5	Abandonment of wells.....	29
7.5.1	General.....	29
7.5.2	Evaluation of existing abandoned wells.....	29
7.5.3	Abandonment.....	29
8	CO₂ storage site operations.....	30
8.1	General.....	30
8.2	Design of CO ₂ storage operations.....	30
8.2.1	General.....	30
8.2.2	Operating parameters.....	30
8.3	Operations management plan.....	31
8.3.1	General.....	31
8.3.2	Storage site description.....	31
8.3.3	Roles and responsibilities.....	31
8.3.4	Operations and maintenance procedures.....	31
8.3.5	Safety plan.....	32
8.4	Operating procedures.....	32
8.4.1	General.....	32
8.4.2	Initial (start-up).....	32
8.4.3	Continuous operations.....	32
8.4.4	Shutdown.....	32
8.4.5	Start-up following shutdowns.....	33
8.5	Maintenance procedures.....	33
8.6	Data acquisition, monitoring and testing.....	33
8.6.1	General.....	33
8.6.2	CO ₂ stream metering.....	34
8.6.3	Well integrity monitoring.....	34
8.6.4	Well testing during operations.....	34
8.6.5	Corrosion monitoring.....	35
8.7	Well intervention (workovers).....	35
8.8	Information management.....	35
9	Monitoring and verification.....	36
9.1	Purpose.....	36
9.1.1	General.....	36
9.1.2	Monitoring activities.....	36
9.1.3	Verification activities.....	36
9.2	M&V program periods.....	37
9.2.1	General.....	37

This is a preview of ISO 27914:2026. Click here to purchase the full version from the ANSI store.

	9.2.4	Post-injection phase monitoring.....	37
9.3		M&V plan objectives.....	37
9.4		M&V plan design.....	38
	9.4.1	M&V plan procedures and practices.....	38
	9.4.2	M&V plan specifications.....	38
	9.4.3	M&V program contingency monitoring.....	39
10		Quantification and verification.....	39
	10.1	General.....	39
	10.2	Quantification principles.....	40
		10.2.1 General.....	40
		10.2.2 Quantification of input (m_{input}).....	40
		10.2.3 Quantification of operational loss ($m_{loss\ operations}$).....	41
		10.2.4 Loss from the storage complex ($m_{loss\ storage\ complex}$).....	42
		10.2.5 De minimis losses.....	42
		10.2.6 Avoidance of double counting.....	42
		10.2.7 Quantification of native CO ₂	42
	10.3	Measurement of input.....	42
		10.3.1 General.....	42
		10.3.2 Defining measurement requirements.....	42
		10.3.3 Metering locations.....	43
		10.3.4 CO ₂ stream composition.....	43
	10.4	Methodologies for quantification of loss.....	43
		10.4.1 General.....	43
		10.4.2 Quantification of operational loss ($m_{loss\ operations}$).....	43
		10.4.3 Quantification of loss from the storage complex ($m_{loss\ storage\ complex}$).....	43
	10.5	Quantification documentation and data retention.....	44
		10.5.1 Initial documentation.....	44
		10.5.2 Periodic documentation.....	44
		10.5.3 Data management.....	45
	10.6	Verification of the quantification.....	45
		10.6.1 General.....	45
		10.6.2 Type of verification.....	45
		10.6.3 Verification approach.....	45
		10.6.4 Verification opinion.....	46
		10.6.5 Quantification verification records.....	46
11		Project termination.....	46
	11.1	General.....	46
	11.2	Criteria for project termination.....	46
	11.3	Project termination plan.....	47
	11.4	Project termination qualification process.....	48
		11.4.1 General.....	48
		11.4.2 Qualification process activities.....	48
		11.4.3 Qualification process documentation.....	48
		Annex A (informative) General well schematic.....	49
		Annex B (informative) Illustration of quantification principles.....	51
		Bibliography.....	54

This is a preview of ISO 27914:2026. [Click here to purchase the full version from the ANSI store.](#)

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 265, *Carbon dioxide capture, transportation, and storage*.

This second edition cancels and replaces the first edition (ISO 27914:2017), which has been technically revised.

The main changes are as follows:

- revision of [Clause 3](#) in alignment with other revisions of this document;
- deletion of the former Clause 4 regarding management systems, to remove content that is well-covered by other standards;
- addition of a new [Clause 4](#) regarding integrated project management, to provide guidance on how to navigate this document;
- addition of [Clause 10](#) regarding quantification and verification.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This is a preview of ISO 27914:2026. Click here to purchase the full version from the ANSI store.

Geological storage of carbon dioxide (CO₂) is recognized as a key technology for abatement of CO₂ emissions to the atmosphere or ocean and is an essential component in the process of CO₂ capture and storage (CCS)^[1]. This document aims to address the need for safe and effective long-term storage of CO₂ (see [Figure 1](#)) and to be able to quantify stored CO₂.

The life cycle of a CO₂ geological storage project covers all phases and activities of the project, from the start of the project including site screening, feasibility investigation, characterization, assessment, engineering, permitting and construction, through the start of injection and proceeding through subsequent operations until cessation of injection and culminating in the post-injection phase, which concludes with project termination.

This document is supplemented by recommended practice manuals for CO₂ storage and numerous standards and technical recommendations developed for the oil and gas industry (see References [\[1\]](#) to [\[12\]](#)).

This document does not address the quantification of greenhouse gases (GHGs) other than CO₂ for CO₂ storage projects. CCS projects quantifying CO₂ according to this document can address quantifying, monitoring, reporting, and validating or verifying other GHG emissions reductions or removals through the application of ISO 14064-2 and other parts of the ISO 14064 series as appropriate. Results from the quantification of CO₂ stored according to this document can be used according to ISO 14064-2.

NOTE The post-injection phase in this document corresponds with the post-closure phase defined in the EU CCS Directive^[1] and with the post-injection site closure (PISC) period in the US under the Class VI rule^[65]. Termination in this document corresponds with the end of the EU Directive^[1] post-closure period.

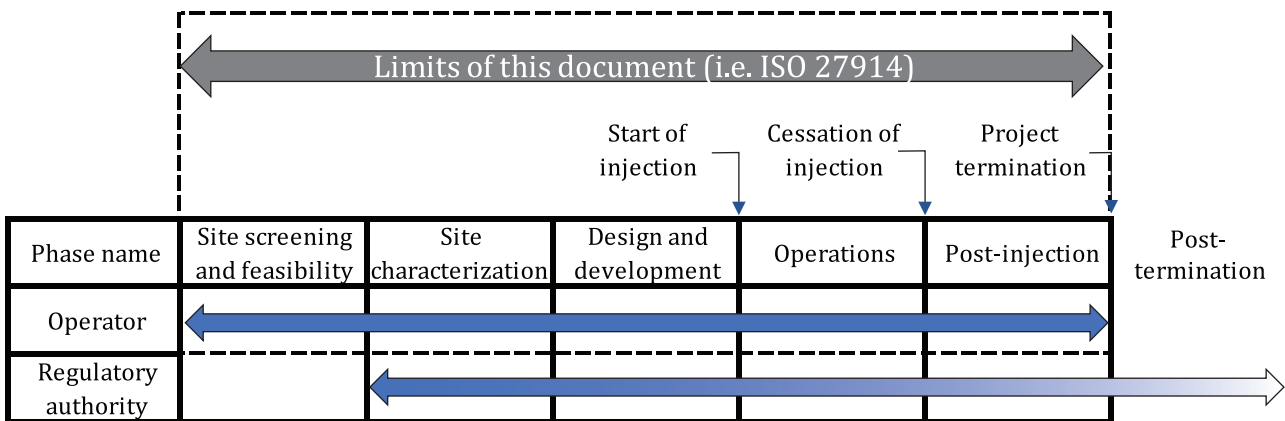


Figure 1 — Entities involved in the storage project life cycle