

Regulations for the Management of Carbon Dioxide Capture and Storage

Article 1 These Regulations are formulated in accordance with Article 39, Paragraph 5 of the *Climate Change Response Act* (hereinafter referred to as "the Act").

Article 2 The terms used in these Regulations are defined as follows:

1. **Carbon Dioxide Capture and Storage (hereinafter referred to as "Storage"):** Refers to the act of injecting carbon dioxide into underground geological formations for long-term storage after isolating it from the atmosphere or capturing it from emission sources.
2. **Storage Site:** Refers to the scope of injection-related facilities, surface facilities, underground storage units, and primary seals developed for storage purposes.
3. **Exploration Site:** Refers to a specific area where geological exploration activities are conducted.
4. **Post-abandonment Monitoring:** Refers to monitoring activities conducted after the closure of a storage site to confirm long-term stability and the absence of leakage risks.
5. **Pilot Plan:** Refers to an experimental storage project conducted at an applied storage site for the purposes of testing, research, or education, or prior to entering large-scale operation.

6. **Implementation Plan:** Refers to a storage project other than pilot plan.
7. **Existing Pilot Plan:** Refers to a carbon capture and storage pilot plan included in the Forward-looking Infrastructure Development Program prior to the promulgation of these regulations, where changes to the development plan associated with the pilot plan have passed Environmental Impact Assessment (EIA) review, and shall be executed in accordance with the contents of the approved documents and review conclusions (hereinafter referred to as "Approved EIA Documents for Existing Pilot Plan").

Article 3 An entity applying for storage approval pursuant to Paragraph 2 of Article 39 of the Act shall submit an application along with geological exploration documents approved by the Central Competent Authority (hereinafter referred to as "Exploration Consent Documents") to the Central Competent Authority.

Article 4 Applicants for storage approval or Exploration Consent Documents shall meet one of the following qualifications:

1. Non-state-owned companies with paid-in capital or foundations with total registered assets of NT\$20 million or more.
2. State-owned entities or government agencies (institutions).
3. Public or private colleges, universities, or higher education institutions.

Article 5 To apply for Exploration Consent Documents, the following documents

shall be submitted to the Central Competent Authority:

1. Application form.
2. Copies of documents certifying the entity's lawful establishment or registration, and copies of identity documents of the representative or responsible person.
3. Geological exploration plan.
4. Documents certifying land use approval for the exploration site, or letters of intent for land use issued by the relevant land management authority. For sites located on maritime land without land registration and not requiring application for maritime land development approval under regulations, land development approval documents are exempt, but certifying documents issued by the land administration agency confirming no land registry data must be provided as an alternative.
5. If falling within the inquiry scope specified on the single-window query platform for environmentally sensitive areas of the National Land Management Agency, Ministry of the Interior, reply documents issued within the past year or reply documents applied directly to the competent authorities for location designation shall be attached.
6. If the exploration site is located on indigenous land or tribal land and public

land within a certain surrounding area, relevant certifying documents processed in accordance with Article 21 of the *Indigenous Peoples Basic Law* shall be attached.

7. Financial proof documents meeting the requirements of Subparagraph 1 of the preceding article.
8. Certifying documents showing that the applicant or the entity commissioned to conduct exploration possesses professional technical capability and experience in geological exploration and storage potential assessment.
9. Other documents designated by the Central Competent Authority.

Article 6 The content of the geological exploration plan specified in Subparagraph 3 of the preceding article is as follows:

1. Overview of the exploration plan and scope of the exploration site. If the site is not located within potential storage areas announced by the Central Competent Authority, supplementary explanations regarding site selection rationale, comparison of alternatives, preliminary assessment of storage potential, and expected exploration results shall be provided.
2. Collection of background geological data.
3. Geological exploration planning.

4. Planning related to drilling engineering and downhole testing.
5. Schedule for proposed geological exploration tasks.
6. Budget and expenditure planning.
7. Other supplementary explanations.

Article 7 For applications for Exploration Consent Documents reviewed and approved by the Central Competent Authority pursuant to Article 5, the following information shall be specified:

1. Name and address of the applying entity.
2. Name of the representative or responsible person of the entity.
3. Scope of the exploration site.
4. Start and end dates of the exploration period.
5. Geological exploration methods.
6. Other supplementary explanations.

Article 8 To apply for storage approval, the following documents shall be submitted to the Central Competent Authority:

1. Application form.
2. Copies of documents certifying the entity's lawful establishment or registration, and copies of identity documents of the representative or

responsible person.

3. Implementation plan or pilot plan.
4. Documents certifying land use approval for the storage site, or letters of intent for land use issued by the relevant land management authority. For sites located on maritime land without land registration and not requiring application for maritime land development approval under regulations, land development approval documents are exempt, but certifying documents issued by the land administration agency confirming no land registry data must be provided as an alternative.
5. If falling within the inquiry scope specified on the single-window query platform for environmentally sensitive areas of the National Land Management Agency, Ministry of the Interior, reply documents issued within the past year or reply documents applied directly to the competent authorities for location designation shall be attached.
6. If the storage site is located on indigenous land or tribal land and public land within a certain surrounding area, relevant certifying documents processed in accordance with Article 21 of the *Indigenous Peoples Basic Law* shall be attached.
7. Documents submitted by the applicant or its major shareholders proving the

financial capability to contribute equity capital of no less than 15% of the total investment amount. However, if the application is for a pilot plan, the applicant or its major shareholders shall submit documents proving the financial capability to contribute equity capital of no less than 10% of the total investment amount.

8. Certifying documents showing that the entity or the entity commissioned to conduct storage possesses professional technical capability and experience in carbon dioxide transportation, geological exploration, and storage potential assessment.
9. Contents and review conclusions of documents approved under the *Environmental Impact Assessment Act*.
10. Financial assurance documents and environmental damage liability insurance plans for storage and post-abandonment monitoring.
11. Exploration consent documents.
12. Other documents designated by the Central Competent Authority.

An entity with an existing pilot project applying for storage approval may be exempted from submitting the documents specified in Subparagraphs 4 through 8, Subparagraph 10, and Subparagraph 11 of the preceding paragraph. The document in Subparagraph 9 may be replaced by the Approved EIA Documents for Existing Pilot

Plan.

Article 9 The content of the pilot plan or implementation plan specified in Subparagraph 3 of the preceding article is as follows:

1. Basic location data of the storage site.
2. Storage methodology and project overview.
3. Target storage volume and the storage term.
4. Geological exploration investigation report of the storage site, the content of which shall include the following:
 - (1) Design plans for geological wells (or exploration wells), injection wells, and monitoring wells.
 - (2) Geological drilling investigation and core characteristic analysis.
 - (3) Seismic profile analysis.
 - (4) Storage feasibility assessment of storage units and primary seals.
 - (5) Geohazard risk potential assessment.
5. Environmental impact and risk management report.
6. Assessment report on carbon dioxide source, concentration, and storage volume.
7. Environmental monitoring plan.

8. Corrective action and emergency response plan, the content of which shall include the following:

(1) Operating conditions and identification criteria for irregularities of the storage site.

(2) Thresholds and procedures for cessation of injection and restart.

(3) Emergency response framework and standard notification procedures.

(4) Site-specific personnel safety training specifications for the storage site.

9. Well abandonment and post-abandonment engineering design plan.

10. Financial security and budget estimation plan.

Article 10 In accepting applications under these Regulations, the Central Competent Authority may retain experts and scholars to assist in the review, and shall make a decision of approval or rejection based on the review results within three months, which may be extended if necessary.

If the application materials reviewed by the Central Competent Authority are found not to comply with regulations or contain deficiencies, the required corrections shall be itemized in detail, and the entity shall be notified to make corrections within a specified time limit. The days taken for correction shall not be calculated into the review period, and the total correction period shall not exceed ninety (90) days.

The Central Competent Authority may reject an application if any of the following circumstances occurs:

1. Failure to pass the review.
2. Violation of relevant laws and regulations.
3. Failure to submit corrections upon expiration of the time limit specified in the preceding paragraph, or the corrections submitted still fail to comply with regulations.

Article 11 A storage approval document shall specify the following matters:

1. Validity period of the storage approval.
2. Basic information:
 - (1) Name and address of the applying entity.
 - (2) Name of the representative or responsible person of the entity.
3. Approved storage content:
 - (1) Location of the storage site: Including the latitude and longitude coordinate boundaries of the storage site and the three-dimensional zone defined by the top and bottom of the underground storage unit.
 - (2) Storage injection operational conditions: Including the approved total volume of carbon dioxide storage, expected operational timeline, reservoir

pressure limits, maximum safe wellhead injection pressure, and maximum injection rate.

(3) Carbon dioxide stream specifications: Including carbon dioxide source, composition of the carbon dioxide stream requirements and types, concentration limits, and acceptance criteria for various impurities in the fluid.

(4) Environmental monitoring: Including types, methods, locations, frequencies, and periodic reporting plans for monitoring.

(5) Corrective action and emergency response: Including trigger conditions, execution measures, notification procedures, and response organizational management structure.

(6) Well abandonment and post-well abandonment: Including trigger conditions, execution schedule, and procedures for cessation of injection reports, well abandonment completion reports, site closure reports, and release from post-abandonment monitoring obligations.

(7) Financial security: Including financial assurance methods, amounts, guarantee mechanisms, and requirements for maintaining validity continuously during the storage period and post-abandonment monitoring period.

4. Other matters designated by the Central Competent Authority.

Article 12 An entity shall execute operations in accordance with the contents specified in the storage approval document. Under any of the following circumstances, the entity shall re-apply for storage approval in accordance with Article 8:

1. Change in the location of the storage site.
2. Increase in the target storage volume.
3. Other matters designated by the Central Competent Authority.

If any of the following circumstances apply to the content specified in the storage approval document, the entity shall fill out an application form in advance and submit the relevant materials to the Central Competent Authority to apply for a modification:

1. Change in the operating entity of the storage site.
2. Change in the storage methodology.
3. Change in the well abandonment and post-well abandonment engineering plan.
4. Change in the monitoring methods, frequencies, or instrument placement of the environmental monitoring plan.
5. Change in response procedures, trigger thresholds, or notification flows of corrective action and emergency response plans.

6. Other matters designated by the Central Competent Authority.

If any of the following circumstances apply to the content specified in the storage approval document, the entity shall submit relevant materials to the Central Competent Authority for recordation within thirty (30) days from the day following the occurrence of the fact:

1. Change in the name, address, representative, or responsible person of the entity.
2. Adjustment of the storage operation construction schedule.
3. Update of the entity's administrative contact, organizational structure, or internal notification procedures.
4. Other matters designated by the Central Competent Authority.

Article 13 The Central Competent Authority shall conduct an inspection of the storage site at least once every five (5) years starting from the date the entity commences carbon dioxide storage.

If the results of the preceding audit reveal risks affecting storage safety, irregularities, or failure to execute in accordance with the approved plan, the Central Competent Authority may order the entity to make improvements within a reasonable time limit.

Article 14 An entity may fill out an application form and submit relevant materials to

the Central Competent Authority to apply for an extension of approval within six months prior to the expiration of the validity period of the storage site approval.

If the application materials in the preceding paragraph are reviewed by the Central Competent Authority and found not to comply with regulations or contain deficiencies, the required corrections shall be itemized in detail, and the entity shall be notified to make corrections within a specified time limit. The days taken for correction shall not be calculated into the review period, and the total correction period shall not exceed ninety (90) days. If corrections are not submitted upon expiration or remain non-compliant, the application shall be rejected.

If an entity applies for an extension within the time limit prescribed in Paragraph 1, and no decision to approve or reject the extension is made prior to the expiration of the storage approval period due to the review by the Central Competent Authority, the entity may continue storage operations in accordance with the original storage approval content during the period between the expiration of the storage approval and the decision on the extension.

Article 15 After obtaining storage approval, an entity shall establish an online platform during the storage and post-well abandonment monitoring periods and publicly disclose the following information:

1. Information and contact details of the entity 's administrative office

2. Entries of the storage approval document.
3. Basic location data of the storage site.
4. Storage methodology and project overview.
5. Corrective action and emergency response plan.
6. Real-time monitoring information and information specified under Article 18.
7. Other matters designated by the Central Competent Authority.

The real-time monitoring information referred to in Subparagraph 6 of the preceding paragraph means the following information obtained directly through relevant equipment by the entity during the storage and post-well abandonment monitoring periods, which shall be uploaded in real time to the website designated by the Central Competent Authority:

1. Real-time images of the current status of onshore storage sites.
2. Carbon dioxide concentration in ambient air surrounding the wellhead of onshore surface injection wells.
3. Seismic monitoring information.

Article 16 The source of stored carbon dioxide shall be captured domestically. However, this restriction does not apply if the storage approval is the pilot plan, the volume is within 4,000 metric tons, and consent has been granted by the Central

Competent Authority.

Article 17 The carbon dioxide stream stored by the entity shall have a carbon dioxide concentration of 95% or higher.

Other substances contained in the carbon dioxide stream mentioned in the preceding paragraph shall meet the following conditions:

1. Additions made for legitimate reasons such as characteristics of carbon dioxide emission sources, capture equipment features, storage operational processes, or to assist in monitoring and verifying carbon dioxide migration.
2. The additives and addition acts do not cause adverse effects on the storage site or related transportation infrastructure.
3. Posing no significant risk to the environment or human health.
4. No violation of environmental protection regulations.
5. Other matters approved by the Central Competent Authority.

Article 18 During the storage period, an entity shall, in accordance with the standards established by the Central Competent Authority, log the monitoring records of the previous quarter on the website designated by the Central Competent Authority before the end of April, July, October of each year, and January of the following year, and submit them to the Central Competent Authority for recordation.

During the post-abandonment monitoring period, an entity shall, in accordance with the standards established by the Central Competent Authority, log the monitoring records of the first half of the year on the website designated by the Central Competent Authority before the end of June and December of each year, and submit them to the Central Competent Authority for recordation.

When the Central Competent Authority deems that the recordation materials in Paragraph 1 and the preceding paragraph do not comply with the established standards, the entity shall cooperate by providing explanations, re-checking, or reporting handling statuses.

Article 19 If during the storage period, an entity encounters irregularities reaching the cessation of injection conditions specified in Item 2, Subparagraph 8 of Article 9, or encounters carbon dioxide leakage, it shall suspend storage operations, execute in accordance with the approved corrective action and emergency response plan, and notify the Central Competent Authority within twenty-four (24) hours.

The Central Competent Authority may order the entity to conduct corrective action and emergency response operations beyond the preceding paragraph depending on the situation.

When the entity confirms that the irregularities has been eliminated and the monitoring values comply with the approved standards of the corrective action and

emergency response plan, it shall submit the handling of anomalies, monitoring data, and reasons for resuming storage operations to the Central Competent Authority. The Central Competent Authority shall complete the review within thirty (30) days after receiving complete documents. Storage operations may only be resumed after passing the review.

Article 20 If an entity executing injection operations during the storage period encounters any of the following circumstances, the Central Competent Authority may order the entity to abandon the well, and the entity shall execute well closure in accordance with the approved well abandonment and post-well abandonment engineering design plan within ninety (90) days after receiving notification:

1. Failure to submit financial assurance documents and environmental damage liability insurance in accordance with Article 22.
2. After executing the emergency response plan in accordance with these Regulations and the storage approval document, the Central Competent Authority determines that environmental harm has been caused or there are major geological safety concerns.
3. The geological structure of the underground storage unit or primary seal at the storage site is damaged, making safe storage of carbon dioxide impossible.

An entity shall submit cessation of injection report to the Central Competent

Authority for review and approval within thirty (30) days after the occurrence of the circumstances in the preceding paragraph at the storage site, or after reaching the target storage volume specified in the storage approval.

An entity shall complete well closure in accordance with the approved well abandonment and post-well abandonment engineering design plan within ninety (90) days after the Central Competent Authority approves the review. An extension may be applied for prior to the expiration of the time limit if necessary.

Article 21 Within thirty (30) days after well abandonment, an entity shall submit a well abandonment completion report to the Central Competent Authority for review and approval. The Central Competent Authority shall complete the review within thirty (30) days.

After receiving notification of review approval from the Central Competent Authority, the entity shall conduct post-well abandonment monitoring in accordance with Subparagraph 7 of Article 9 and Paragraph 2 of Article 18.

Article 22 During the storage and post-well abandonment monitoring periods, an entity shall execute operations in accordance with the financial security and budget estimation plan specified in the storage approval document, and shall submit financial assurance documents and environmental damage liability insurance for the following year before December 31 of each year to the Central Competent Authority for

recordation.

Article 23 Except under special circumstances where the monitoring period is approved by the Central Competent Authority, the execution period for post-well abandonment monitoring by an entity shall be twenty (20) years.

Article 24 Six months prior to completing post-well abandonment monitoring operations, an entity shall submit a site closure report to the Central Competent Authority for review and approval before it may be released from post-well abandonment monitoring obligations.

Article 25 The Central Competent Authority shall establish and maintain a carbon dioxide storage site registry database recording information such as storage site locations, scopes, storage statuses, and post-well abandonment monitoring conditions.

An entity shall retain materials reported and filed for recordation pursuant to the regulations until three (3) years have elapsed from the date of release from post-well abandonment monitoring obligations in accordance with Article 24, for inspection by the Central Competent Authority.

Article 26 The Central Competent Authority may withdraw or revoke an entity's storage approval under any of the following circumstances:

1. Application documents contain false or fraudulent statements of a severe nature.

2. The entity has no intention to continue storage and voluntarily applies for revocation.
3. Dissolution or business closure.
4. Failure to execute storage in accordance with the approved pilot plan, implementation plan, or contents of the storage approval document, with severe circumstances.
5. Continuation of storage operations will cause severe impact on the environment or public interest.
6. Other violations of these regulations deemed by the Central Competent Authority to be of a severe nature.

Article 27 When a storage approval expires, or is withdrawn, revoked by the Central Competent Authority, or loses its validity due to other reasons, the entity shall handle the matter in accordance with the following provisions:

1. Where carbon dioxide fluid has never been stored at the storage site: Execute well closure in accordance with the approved well abandonment and post-well abandonment engineering design plan, and exemption from executing post-abandonment monitoring operations under Article 21 applies.
2. Where carbon dioxide fluid has been stored at the storage site: Execute well abandonment in accordance with the approved well abandonment and post-

well abandonment engineering design plan, cease storage operations, execute post-closure monitoring operations pursuant to Article 21, and complete the procedure for release from post-well abandonment monitoring obligations pursuant to Article 24.

Article 28 An entity with an existing pilot plan shall, within two (2) years from the date of promulgation of these regulations, be exempt from applying for Exploration Consent Documents under these regulations and directly apply to the Central Competent Authority for storage approval in accordance with Paragraph 2 of Article 8.

Article 29 If an entity falls under any of the following circumstances, the Central Competent Authority shall handle the matter pursuant to Article 53 of the Act:

1. Conducting post-capture carbon dioxide storage directly without approval pursuant to Article 8.
2. Failing to execute operations in accordance with the approved contents under Article 12.
3. Failing to set up an online platform and disclose information pursuant to Paragraph 1 of Article 15.
4. Violating the provision of Article 16 that the source of carbon dioxide shall be captured domestically.

5. Violating the provisions governing carbon dioxide stream under Article 17.
6. Failing to log monitoring records on the website designated by the Central Competent Authority pursuant to Paragraph 1 or Paragraph 2 of Article 18.
7. Violating the provisions regarding handling of irregularities during storage under Article 19.
8. Failing to submit financial assurance documents and environmental damage liability insurance pursuant to Article 22.

Article 30 These regulations shall enter into force on the date of promulgation.