VM0049 Carbon Capture and Storage

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Photo by Lisa Murray. Bale Mountains Eco-Region REDD+ Project, Ethiopia (Verra Project 1340).

New Methodologies

- **27 June 2024** - **VM0049 Carbon Capture and Storage**
- 15 May 2024 - VMR0010 Electricity Supply for Ships
- 27 November 2023 - VM0048 Reducing Emissions from Deforestation and Forest Degradation
- 28 September 2023 - VM0047 Afforestation, Reforestation, and Revegetation
- 12 July 2023 - VM0046 Methodology for Reducing Food Loss and Waste

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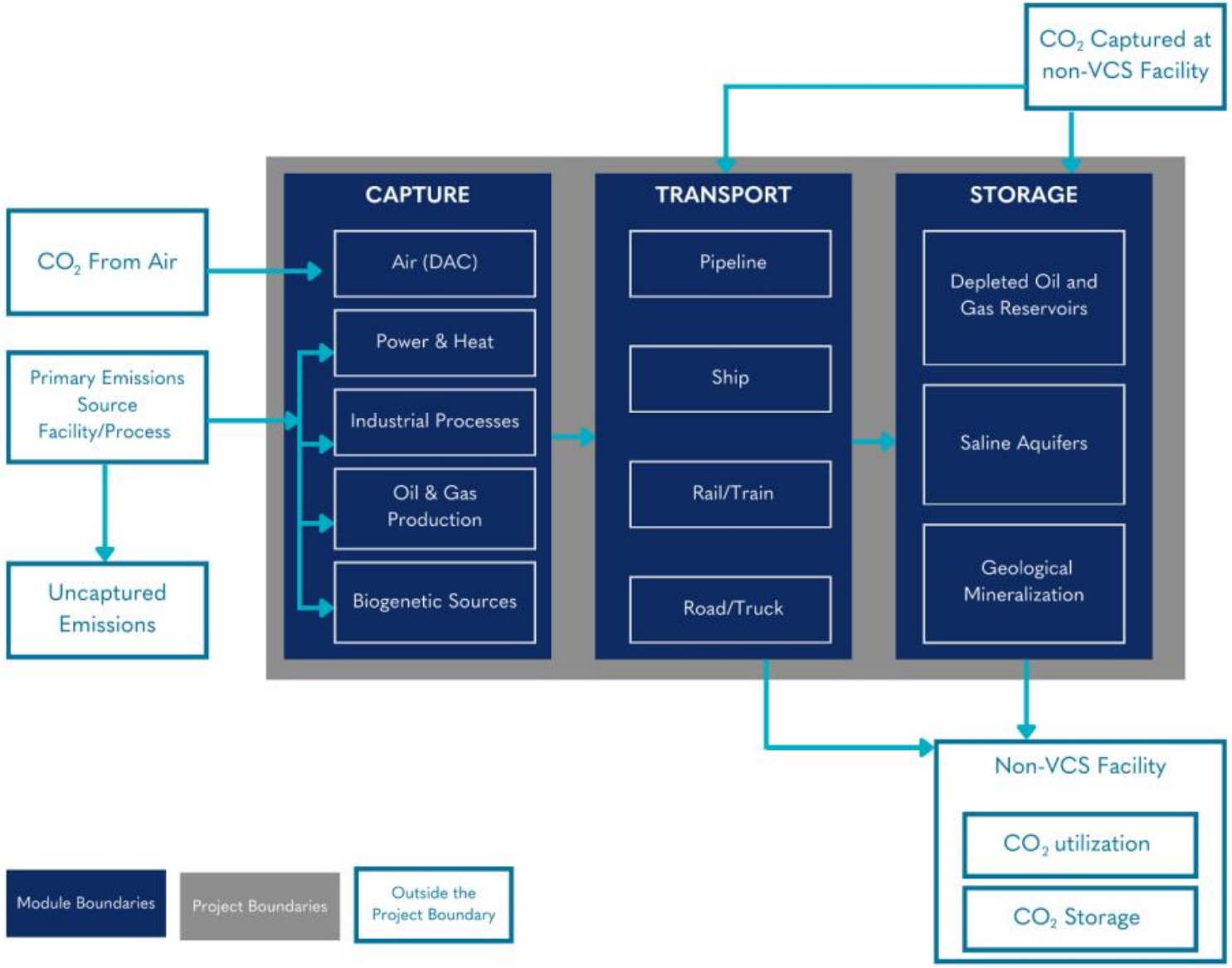
VM0049 Carbon Capture and Storage

Globally applicable, this CCS methodology framework relies on modules for quantifying emissions related to the **capture**, **transport**, and **storage** segments of a CCS project. These modules can be combined, depending on the specific design of the CCS project or technologies implemented.



Development Timeline for VM0049 Carbon Capture and Storage

The module and tool development for VM0049 Carbon Capture and Storage is summed up as follows:

Modules will include:

- Direct air capture
- Transport by pipe, truck, rail and ship
- Storage in saline aquifers or depleted oil and gas reservoirs

Q3 2024

Module and tools will include:

- Bioenergy combustion
- Tool for differentiating reductions and removals
- Tool for non-VCS CO_2

Q4 2024

Modules will include:

- Bioenergy from bioproducts
- Capture from industrial processes
- Capture from fossil fuel fired power and heat

2025

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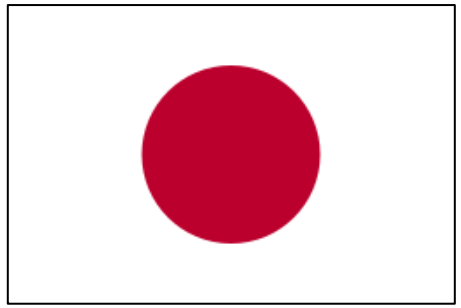
Japan's Acceptance of International CCS Credits

- **GX-ETS is the national compliance carbon market in Japan, of which participation will be made mandatory in early 2026.**
- In April 2024, the GX-League Secretariat published a set of guidelines to allow GX-ETS participants the use of carbon credits generated from the following four project types:
  - Coastal blue carbon
  - **Carbon capture and utilization (CCU)**
  - **Bioenergy with carbon capture and storage (BECCS)**
  - **Direct air carbon capture and storage (DACCS)**



- GX-ETS participants must meet at least one of the following requirements:
  - Having **an involvement equivalent to a total investment or 20% of more** of the entire project (excluding indirect investment through funds) before the project receives its first batch of issued credits
  - **Providing technology and solutions** at any stage of project startup, operation and maintenance, as well as monitoring, reporting and verification. Involvement from the start of the project is not required.

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Non-Permanence Risk for GCS Projects

- In the context of buffer credits for Geological Carbon Storage (GCS) projects, **the principal concern for permanence is CO_2 loss from the storage zone(s) to the atmosphere.**
- **The non-permanence risk rating ("risk rating") is used to determine the number of buffer credits that a GCS project shall deposit into the GCS pooled buffer account**, of which the overall risk rating shall be converted to a percentage (e.g., an overall risk rating of 3 converts to 3 percent).

Risk Category		Total Risk Score
RFR	Regulatory Framework Risk	
PR	Political Risk	
LRTR	Land and Resource Tenure Risk	
CFR	Closure Financial Risk	
DR	Design Risk	
Overall risk rating = RFR + PR + LRTR + CFR + DR		

In short, **the higher the non-permanence risk** of a project, **the more buffer credits need to deposited** into the pooled buffer account.

This means **fewer carbon credits get issued** to the project.

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Non-Permanence Risk – Regulatory Framework

Risk Element	Description or Criteria	Score
a)	The jurisdiction has in place a regulatory framework that affords priority to a CO_2 storage project in the event of any competing pore space resource use, such as oil and gas production activities, other waste disposal activities, gas storage, geothermal energy, mineral brine exploration, and development, or other resource activities.	0
	The jurisdiction does not have in place a regulatory framework that affords priority to a CO_2 storage project in the event of any competing pore space resource use, such as oil and gas production activities, other waste disposal activities, gas storage, geothermal energy, mineral brine exploration, and development or other resource activities.	0.125
b)	A legislative or regulatory rule providing for the transfer of both climate and remedial liability is in place.	0
	A legislative or regulatory rule providing for the transfer of remedial liability or climate liability (but not both) is in place.	0.0625
	There is no legislative or regulatory rule providing for the transfer of liability.	0.125
Total Regulatory Framework Risk (RFR) = a + b		

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Non-Permanence Risk – Land Tenure and Resource

Risk Element	Description or Criteria	Score
a)	All pore space within the area of review is government-owned.	0
	At least some of the pore space within the area of review is community- or privately owned.	0.125
b)	Access to injection facilities, monitoring wells, and other sensory equipment is secured through ownership, leases, rights of way, or government-issued right of entry orders for the duration of the project and the post-injection site care (PISC) period.	0
	Access to injection facilities, monitoring wells, and other sensors are secured through ownership, leases, rights of way, or government-issued right of entry orders for a portion of the project and PISC period but is subject to expiry and/or conditional renewals during the injection or PISC periods.	0.25
Total Land and Resource Tenure Risk (LRTR) = a + b		

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THANK YOU

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