

FUNDAMENTAL ANALYTICS CARBON SERVICES

Module 2: Carbon Projects



Introduction

WHAT ARE CARBON PROJECTS?

Initiatives that reduce or remove GHG emissions – spanning renewable energy, forestry, industrial efficiency, and more.

CREDIT TYPES:

- **Emissions Reductions:** e.g., energy projects
- **Removals:** e.g., direct air capture (DAC), afforestation



Credit Governance – At a Glance

Mechanism	Scope / Region	Unit Type	Notes
Article 6.2	Bilateral / Global	ITMOs	Requires host country approval & adjustments
CORSIA	Aviation / Global	Eligible Offsets	Strict eligibility; phased growth through 2035
California CCA	California & Quebec	Allowances & Offsets	Linked via WCI; cap declines annually
EU CRCF	EU-Wide	Certified Removals	Voluntary standard with permanence criteria
China CCERs	China (Voluntary)	Verified Reductions	Sectoral projects complementing ETS
Japan JCM	Bilateral (30+ countries)	JCM Credits	Japan / host country share credits

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Project Development Overview

Origination

Identify emissions reduction / removal opportunity

Align with methodology and eligibility criteria

Secure local stakeholders or site access

Feasibility

Assess technical, financial, and regulatory viability

Conduct baseline emissions analysis

Preliminary risk assessment (e.g., permanence, leakage)

Project Design & Documentation

Prepare Project Design Document (PDD)

Outline technology, boundaries, monitoring plans

Include safeguards, co-benefits, and additionality

Validation

Independent third-party review of PDD

Confirm methodology alignment and baseline integrity

Address findings and finalize documentation

Approval by Compliance Body

Submit to registry or designated national authority

Secure host country approval (if applicable)

Register the project and gain issuance rights

Issuance

Submit monitoring report and verification results

Receive credits based on verified emission reductions

Credits entered into registry accounts

Credit Sales

Credits sold via spot trades, forward contracts, or platforms

Optional retirement for offsetting or resale in voluntary / compliance markets

Manage credit custody and reporting obligations



Risk Factors



Project Risk

- **Underperformance:** Actual emissions reductions fall short of projections
- **Verification Failure:** Monitoring or reporting gaps hinder credit issuance
- **Reversal Risk:** For removal projects, stored carbon may be re-released (e.g., forest fires, land-use changes)



Market Risk

- **Price Volatility:** Carbon credit values fluctuate based on demand, policy, or supply shocks
- **Liquidity Constraints:** Thin or fragmented markets can hinder sales or exit strategies
- **Regulatory Shifts:** Changing eligibility rules or methodologies may impact credit value



Country / Political Risk

- **Policy Instability:** Sudden reforms, revocation of project approvals, or export restrictions
- **Host Country Delays:** Bottlenecks in authorization, issuance, or corresponding adjustments
- **Sovereign Risk:** Currency controls, expropriation, or geopolitical disruptions affecting project viability



Case Study



HomeBiogas Carbon Mitigating Technology

Our effective design requires only 2 buckets of cow manure every day, **generating** up to 5 hours of **cooking gas** and ~150 liters of natural **bio-fertilizer** daily.



Capturing & removing methane emissions (CH₄) from animal manure

Digester Size:
8 cubic meters

150L of bio-fertilizer generated daily



Cutting of trees avoided by providing ~5 hours of renewable energy for cooking daily!

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Article 6 Project Overview

10,000 biogas systems installed for dairy farmers in Rwanda to capture and remove methane emissions (CH₄) from animal manure and avoid cutting trees by using renewable clean energy for cooking

- HomeBiogas is developing an initial project to install 10,000 biogas systems for dairy farmers in Rwanda
- The systems treat animal manure to produce clean cooking gas and bio-fertilizer, reducing emissions, saving money, and delivering social/health co-benefits
- The project expects to generate ~1,000,000 CO₂e tons in Article 6 credits over 10 years
- HomeBiogas has secured an LOI from the Rwanda government for the Article 6 project, including the ability to scale the project to 100,000 systems



Thank You

