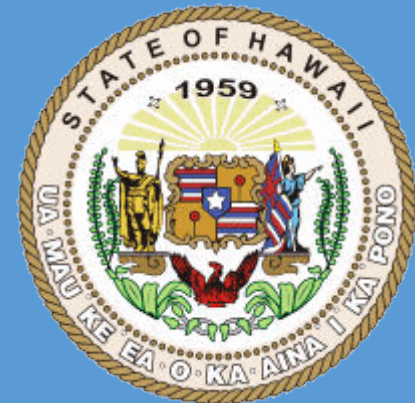


Carbon Farming Task Force Act 033, SLH 2017



Office of Planning
State of Hawaii

January 30, 2018

Carbon Farming Task Force

Act 033 establishes the Carbon Farming Task Force.



Act 033 recognizes:

- Agricultural land management practices can sequester carbon and provide Greenhouse Gas benefits and decrease marine sedimentation;
- It is in the public interest to create a basic certification for carbon-negative agricultural practices;
- Local farmers could benefit from **Carbon Credit** subsidies; and
- Hawaii businesses and industries could invest locally to offset their emissions if a **Carbon Credit market was implemented.**



Carbon Markets

Two General Types Of Carbon Markets:

1. Voluntary / Voluntary Offset – Businesses, governments, NGOs, and individuals are able to offset their emissions by purchasing **Carbon Credits / Carbon Offsets**.
2. Compliance / Compulsory / Mandatory Offset – Compliance markets are created and regulated by mandatory national, regional or international carbon reduction regimes. For example, California's Cap & Trade is a compulsory market.



Carbon Markets

What Is The Purpose Of Carbon Markets?



Regardless of the voluntary or compulsory nature of a carbon market, trading in carbon markets for **Carbon Credits / Carbon Offsets** means **paying** someone else to **absorb or avoid** the release of a tonne of CO₂ elsewhere. Thereby, you are **negating or diminishing** the impact of emitting a tonne of CO₂.



Carbon Markets

Why Participate In Carbon Markets If They Are Not Mandatory?

Some business, governments, NGOs, and individuals voluntarily participate in carbon markets for better public relations and based on their code of ethics. For example, Hawaii has a emissions reduction plan. Act 234, SLH 2007 – HRS 342B, Part VI – targets achieving cost-effective GHG emissions reductions at or below Hawaii's GHG emissions estimates of 1990 by January 1, 2020.



Carbon Registries

Some Established National Carbon Registries
Serving Voluntary And Compliance Markets:

➤ American Carbon Registry



➤ Climate Action Reserve

➤ The Gold Standard

Gold Standard®



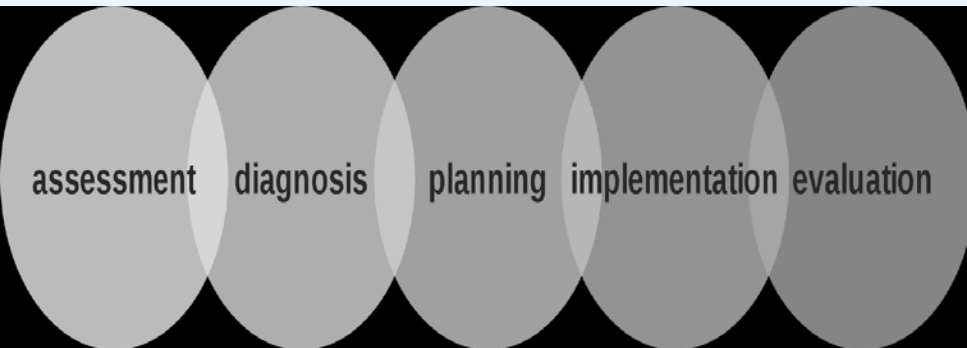
➤ Verified Carbon Standard



Carbon Registries

What Do Carbon Registries Generally Do?

- For both the voluntary and compulsory markets, carbon registries administer the registration and verification of **Carbon Offset projects**.



- To register a Carbon Offset project, Carbon Offset projects must satisfy the carbon registry's **approved carbon accounting methodologies / protocols**.



Carbon Offset Projects

What May Be Classified As Carbon Offset Projects?

- Carbon Offset projects may encompass agriculture, aquaculture, forestry, energy, mining, waste disposal and other sectors. For example, Hawaiian Legacy Hardwoods is a reforestation voluntary Carbon Offset project registered with The Gold Standard.



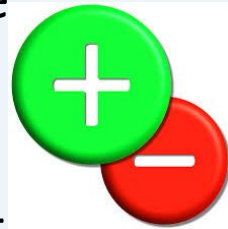
Carbon Offset Projects

Can Hawaii's Agricultural, Aquacultural, Agroforestry And Forestry Projects Be Classified As Carbon Offset Projects?

- Hawaii's agricultural, aquacultural, agroforestry and forestry projects, as provided in Act 033, SLH 2017, will first have to satisfy a Carbon Registry's approved carbon accounting methodologies / protocols.



- **Methodologies** set out detailed rules, requirements and procedures for quantifying GHG benefits of a project and provide guidance to determine project boundaries, set baselines, and quantify the GHG emissions that were reduced or removed.



Carbon Offset Projects

How Easy Is It To Satisfy The Methodologies Of Various Carbon Registries To Have Projects Be Classified As Carbon Offset Projects?

- It's not that easy. Different carbon registries have their own methodologies.



- For example, American Carbon Registry has a methodology for Reduced Use of Nitrogen Fertilizer on Agricultural Crops. Project categories eligible under this methodology are: (1) projects in 12 Midwestern US States only involving specific crops; or (2) worldwide fertilized agricultural crop projects with empirical data published (or accepted to be published) in peer-reviewed scientific journals.



- If an established methodology does not fit, project developers can choose to develop their own methodology through each carbon registry's methodology approval process.



Carbon Offset Projects

Why Have Such Onerous Methodologies / Accounting / Verification To Register A Carbon Offset Project?

- To ensure Carbon Offset projects are real and emissions reductions data are verifiable and enforceable.



- To ensure accuracy, precision and rigor in the measurement, monitoring and verification of emission reduction.

- To ensure no leakage (i.e. the migration of carbon emissions), which nullifies carbon reductions in any Carbon Offset project.



Carbon Registries

Is It Possible To Have A Less Onerous Methodology / Accounting / Verification?

- Climate Action Reserve carbon registry is working to develop a jurisdictional (or average) approach / methodology.
- Jurisdictional approach / methodology requires a comprehensive land cover types survey to obtain a baseline.
- Jurisdictional approach / methodology will need to determine emissions rate for each land type to obtain a baseline.
- Jurisdictional approach / methodology will review GHG reductions once implementation activities are effected, given baselines collected.



baseline



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Carbon Registries

What Is The Cost Of Participating In Carbon Registries?



There is a significant cost:

- to set up an account with a Carbon Registry, which establishes the methodologies, that lists, reports, and verifies Carbon Offset projects.
- for third-party auditing to ensure Carbon Offset project meets the requirements set by Carbon Registries.
- to enroll (potentially) in secured, electronic registry operators – APX, Markit Environmental Registry, or NYSE Blue – for the trading of carbon credits / offsets. For example, the Climate Action Reserve requires a project developer to first register a project with the Reserve and have carbon credits / offsets issued. The project developer would then request the credits to be transferred to an approved secured, electronic registry.



Carbon Markets

Studying The Practicalities Of Establishing Hawaii's Own Carbon Market Or Participating In An Established Carbon Market:

➤ Economics -- Act 033, SLH 2017 provides that the Task Force should:

- ❖ look at **Carbon Credit** subsidies.
- ❖ develop incentives and funding mechanisms for incentives.



➤ Science -- Act 033, SLH 2017 provides that the Task Force should:

- ❖ measure baseline levels and increases in carbon sequestration.
- ❖ improvements in soil health
- ❖ and other key indicators of GHG benefits.



Carbon Markets

Studying The Practicalities Of Establishing Hawaii's Own Carbon Market Or Participating In An Established Carbon Market:

➤ Public Outreach -- Act 033, SLH 2017 provides that the Task Force should provide education and technical support to

- ❖ agricultural, aquacultural and agroforestry and forestry communities.
- ❖ business communities.



➤ Legal / Policy – The Task Force should identify and recommend measures to the Legislature and Governor to increase climate resiliency and improve carbon sequestration, build healthy soils, and provide GHG benefits for carbon markets.



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