



Carbon Offsets:

Moving Beyond the Controversy to Achieve Carbon Neutrality

Elizabeth Szulc | Carbon Neutrality Initiative Fellow | UCSB



Overview

1. **Introductions:** to myself, Carbon Neutrality Initiative, and carbon offsets
2. **Pathways to Procurement:** purchasing versus developing carbon offsets, vendors for each pathway, and procedures for developing carbon offsets
3. **Findings of my Research:** comparison of four major voluntary carbon registries
4. **Controversy, Recommendations, and Findings:** delving into the criticism of carbon offsetting and my recommendations for moving beyond that controversy to use carbon offsets as a tool for carbon neutrality

Introductions:

- **Who am I?**
 - Elizabeth Szulc, rising 4th year student at UCSB
 - I have spent the last year researching carbon offsets under the Carbon Neutrality Initiative Fellowship Program. I recently finished writing a guidebook on carbon offsetting and how to develop a local carbon offset program. I am continuing my work next year with the goal of developing a project here at UCSB.
- **What is the Carbon Neutrality Initiative?**
 - The University of California's Carbon Neutrality Initiative is a presidential initiative started by Janet Napolitano focused on reaching carbon neutrality for its buildings and vehicle fleets by 2025.



**Carbon Neutrality
Initiative**



UCSB Sustainability

Carbon Offsets 101

Carbon Offset: an action or activity that compensates for the emission of carbon dioxide or other greenhouse gases in the atmosphere. (Merriam-Webster).

What is a High Quality Carbon Offset?

Real, additional, transparent, measurable, permanent, verified, synchronous, accounts for leakage, and provides additional co-benefits. The credits must be: enforceable, registered, not double-counted, and retired. (Second Nature)

Types of Carbon Offset Projects

Renewable Energy, Energy Efficiency, Industrial Gas and Methane Destruction, Methane Capture, Biosequestration, Carbon Capture and Storage. (Stockholm Environment Institute)



VS



Advantages

- Low Cost
- Immediate Returns
- Simplicity
- No Uncertainty

Disadvantages

- Criticism from the community
- Risk
- Ongoing costs

Advantages

- Direct Control Over Project
- Education and Training Opportunities
- Option to develop LOCAL projects
 - Co-benefits for local projects

Disadvantages

- Significant Costs
- Slow Return on Investment
- No Guarantee of Credit Issuance

Vendors for Purchasing



Terrapass: <https://www.terrapass.com/>

- \$5.95 per 1,000 lbs
- Sells to individuals and businesses
- Offers transparency in its portfolio of offset work
- Registered under the Climate Action Reserve (CAR) or Verified Carbon Standard (VCS).



Carbon Fund: <https://carbonfund.org/>

- Preset options for certain lifestyle choices, such as a year of life, a flight up to (20,000 miles, \$36.78, 8350 lbs CO₂)
- 501(c)3 non profit
- They also have certain event-specific options



Cool Effect: <https://www.cooleffect.org/>

- Price varies with project type from \$6.04 - \$13.18 per tonne
- 501(c)3 non profit
- Sells to individuals and businesses
- You can select which offset project you want to fund with your contribution, and each project lists the registry the project is registered under
- Each project lists which third-party verifier they went through on their distinct web page

Registries for Developing



CLIMATE
ACTION
RESERVE

Gold Standard[®]
for the **Global Goals**

General Steps to Developing Carbon Offsets through Existing Protocol with a Registry

- 1) Brainstorming a Potential Carbon Offset Project
- 2) Identifying the Registry and Methodology Type
- 3) Project Development
- 4) Third-Party Verification
- 5) Holding, Selling, and Retiring Generated Carbon Offset Credits

Registry Comparison



Project Cost Estimate	Methodologies / Protocols Available	Simplicity of Process / Ease of Use
\$3,000	Offers 47 distinct protocols organized by 11 sectors within VCS	<p>Registration process is straightforward, steps are clearly defined.</p> <p>Fee schedule a little less clear</p> <p>Provides user friendly and simple guides to the project registry process</p> <p>Well-organized methodologies</p>
\$9,800	Offers 18 protocols, each devoted to a sectoral area (ie: Coal mine methane, forest, US landfill)	<p>Straight-forward, user friendly steps.</p> <p>Easy to understand fee schedule</p> <p>Many smaller documents need to be submitted, as opposed to a few larger reports</p>
\$9,900	Offers 25 methodologies	Lacks user friendly guide or instructions to non-account holders.
Between and \$12,900 and \$16,300 depending on payment method	Offers 24 methodologies, but has additional requirements for certain activity or product types that involve additional guidelines.	<p>Moderately unclear process of addressing SDGs</p> <p>Unclear terminology with regards to differences between Methodologies, Product Requirements, and Activity Requirements, No consistency in naming of documents</p> <p>Complex fee structure, but with added flexibility for choices of payment options</p>

Controversy

- 1) Carbon offset projects in developing countries can be unfair because they allow developed nations to use cheap and easy methods of reductions, leaving expensive options for the developing nations to perform themselves.
- 2) Carbon offset projects may or may not actually benefit the community.
- 3) Carbon offsetting allows wealthy developed nations to just pay their way to reductions and still live unsustainable lifestyles, an option that poor and developing nations don't have.



Findings and Recommendations

PURCHASING VERSUS DEVELOPING OFFSETS

Purchasing offsets 1) is cost effective, 2) is straightforward, and 3) provides immediate returns. Developing carbon offsets could provide unique opportunities to procure carbon offsets from existing research in the UC system, allow the UC to lead institutions of higher education by example, and have greater control over offset quality and co-benefits.

- Recommendation: Prioritize purchased carbon offsets due to cost and time efficiency, but develop carbon offset projects in certain circumstances with opportunities for desired outcomes, such as when existing projects can be utilized and registered as carbon offsets.
- Recommendation: Partnering with third parties and experts in developing offsets to ease implementation of developed projects.
- Recommendation: Ease the financial burden of developing carbon offset projects by seeking funding from grants

DIFFERENCES BETWEEN REGISTRIES

Verra provides nearly double the number of approved methodologies, as compared to the other registries.

Gold Standard has additional requirements for ensuring the quality of their offsets (the only one that requires projects address SDGs). GS also offers the most flexibility in options for payment in their fee schedule.

- Recommendation: To select a registry, project proponents should view offered methodologies as a first step to see what projects will be accepted by what registries. Next, one might discuss trade-offs between costs, user ease, and carbon offset quality to find a registry that works best for that project.

Thanks for listening, any questions?

My contact information:

Elizabeth Szulc

elizabeth.b.szulc@gmail.com