



# Voluntary Carbon Offsets as a Strategy for Carbon Neutrality

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## Introduction

My project focused on creating guidelines for carbon offset procurement at UCSB and included a Guidebook to provide a resource for decision making on incorporating carbon offsets into our portfolio of strategies for Carbon Neutrality by 2025.

## Findings

*What is a Carbon Offset?*

**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)

*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

*Types of Carbon Offset Projects*

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

## Project Goals

- create a clear and accessible resource for potential University of California project proponents for carbon offset projects.
- provide an overview and introductory look into the definition and types of high-quality carbon offsets and advantages and disadvantages of various strategies for procurement.
- provide step by step guidance for registering university-developed carbon offsets with four major registries, and cover case studies on carbon offset projects developed by other institutions of higher education.

## Methodology

I analyzed and synthesized a variety of sources to develop a guidebook for the UC system on developing offset programs. These include: authorities on carbon offsetting, including greenhouse gas standards and registries; the protocols and methodologies for the Verified Carbon Standard, Climate Action Reserve, Gold Standard, and American Carbon Registry; and information from The Climate Registry and Second Nature, two non-profits directly affiliated with greenhouse gas emissions in institutions of higher education.

In addition, my methods include analysis of major case studies of carbon offset projects at other institutions of higher education. These case studies illuminate tips for success and lessons to learn from. The table of content for my guidebook can be found below.

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## Conclusions

**Difference between purchasing & developing carbon offsets.**

- Purchasing offsets 1) is cost effective, 2) is straightforward, and 3) provides immediate returns.
- Developing carbon offsets could provide unique opportunities to
  - 1) procure carbon offsets from existing research in the UC system,
  - 2) allow the UC to lead institutions of higher education by example, and
  - 3) 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, and accepts Clean Development Mechanism and Climate Action Reserve Methodologies.
- Gold Standard has additional requirements for ensuring the quality of their offsets (the only one that requires projects address SDGs)
- Gold Standard 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.

## Future Goals





- Develop a campus policy on carbon offsets
- Continuation of project through proposed CNI project-based fellow. The hope is for that new fellow to develop a local carbon offset project.

## Works Cited

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| Registry   | Project Cost Estimate (for a project issuing 2,000 carbon offset credits annually for a period of 10 years)   | Methodologies / Protocols Available  | Simplicity of Process / Ease of Use  |
|--|---|--|--|
| <br>Verra                    | \$3,000<br><small>(\$0.10 registration and issuance fee per credit, \$0.05 fee to registry host per credit)</small>   | Offers 47 distinct protocols organized by 11 sectors within VCS<br><br>Also accepts Clean Development Mechanism methodologies and Climate Action Reserve methodologies | Registration process is straightforward, steps are clearly defined.<br><br>Fee schedule a little less clear than the other registries that use a table to summarize<br><br>Provides user friendly and simple guides to the project registry process<br><br>Well-organized methodologies                          |
| <br>Climate Action Reserve   | \$9,800<br><small>(\$0.19 issuance fee per credit, \$500 annual account maintenance fee, \$500 one time setup fee, \$500 one time project submittal fee)</small>  | Offers 18 protocols, each devoted to a sectoral area (ie: Coal mine methane, forest, US landfill)  | Straight-forward, user friendly steps.<br><br>Easy to understand fee schedule<br><br>Many smaller documents need to be submitted, as opposed to a few larger reports   |
| <br>American Carbon Registry | \$9,900<br><small>(\$0.15 activation fee per credit, \$0.02 retirement fee per credit, \$500 annual account fee, project eligibility check fee, \$500 account opening fee)</small>  | Offers 25 methodologies<br><br>Accepts CDM methodologies under ACR approval  | Lacks user friendly guide or instructions to non-account holders.  |
| <br>Gold Standard            | Between and \$12,900 and \$16,300 depending on payment method selected.<br><br><small>(\$1,000 annual registry account fee, \$0.30 fee per credit if paid in cash, \$0.10 fee per credit if also paid with 2% of issuance, minus \$1000 performance review fee)</small> | Offers 24 methodologies, but has additional requirements for certain activity or product types that involve additional guidelines.                                     | Moderately unclear process of addressing SDGs<br><br>Unclear terminology with regards to differences between Methodologies, Product Requirements, and Activity Requirements<br><br>No consistency in naming of documents<br><br>Complex fee structure, but with added flexibility for choices of payment options |