insight

CARBON OFFSETS:
Understanding the Variety

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INTERNATIONAL SOCIETY OF SUSTAINABILITY PROFESSIONALS

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Let's set aside the controversy surrounding carbon offsets for the purposes of this article.

Assuming you want to purchase offsets, be aware that not all offsets are equal. A carbon offset represents a metric ton of carbon dioxide equivalent that is either avoided or removed from the atmosphere. The creation of a carbon offset involves the justification of a specific activity that goes above and beyond "business as usual." Justification is awarded when outside parties agree that the project results in an overall benefit to our atmosphere, which would be easy if our industries, ecosystems, and atmosphere were all metered. On the surface, one would think that purchasing carbon offsets would be a task void of decision making. An apple is an apple, right?

For consumers, carbon offsets presently come with a host of attributes, characteristics, and features. The variety of carbon offsets that presently exist within the regulatory and voluntary markets is vast. This variety can be complex to understand, making it difficult for an individual, business, organization, or government to choose which kind of carbon offsets might meet their needs. It also makes it difficult to compare the merits of different carbon offsets. Do I want a conventional Granny Smith, an heirloom Golden Delicious, or an organic Macintosh?

To create an offset, one can choose an activity from multiple types of industry in any location on Earth. After choosing an activity, you have the option to choose from multiple carbon offset standards, which each have a whole host of carbon offset methodologies. Once the project has been certified by the carbon offset standard, there are multiple registries or trading platforms where an offset can be listed. Each registry tracks the sales of offsets in multiple markets, for multiple prices, in multiple countries. The variety within carbon offset options is a function of multiplicity. In this article, I explain this variety and offer insight to help sustainability professionals navigate this choice.

CARBON PROJECT ACTIVITIES

Carbon projects generally fall into two basic camps:

- Catalyze activities that promote energy efficiency, generation of renewable energy.

-or-

- Promote the improved management of natural ecosystems.

Some projects may even do both. Examples of project activities include methane destruction on a dairy farm, reforestation of native tree species on old grazing land, legal protection of forests from logging, wind power generation, and aggregated weatherization improvements across housing developments.

Some offset consumers choose a specific project activity because they want to support improvement in a certain sector (agriculture, forestry, or energy), or because it is in some way related to their marketing aims or core business. Other offset purchasers, on the other hand, only care about the atmospheric

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benefit, and so the type of activity is unimportant. This is a decision you should think about early on when deciding to purchase offsets – does the type of project matter to me or my business? What kind of project would we like our money to support?

HOW TO PURCHASE OFFSETS

1. Become familiar with basic concepts: Global warming, GHG emissions, carbon offsets, and climate neutral.
2. Measure your GHG emissions – your carbon footprint.
3. Reduce your GHG emissions – this may involve implementing a climate action plan.
4. Decide which carbon offset market you belong in.
5. Identify the climate narrative you would like to support.
6. Determine your criteria for telling that narrative – Location, project activity, project actors, certification, registry, co-benefits, price, etc.
7. Identify a carbon offset project which fits your criteria.
8. Exercise due diligence and request as much information as necessary from the carbon offset provider about the project.
9. Balance your unavoidable GHG emissions by purchasing offsets.

THE ACTORS

The actors are the set of people involved in bringing a carbon offset to market. Each project varies by who and how many people are involved. A project can vary from a single actor (the project owner) to a whole host of actors:

- The project owner is the actual person or group that owns the ability to carry out the activity, many times the land owner or the facility owner.
- The project developer is an outside party contracted for professional services to coordinate the actors and develop and submit all paper work to the certifying standard.
- The project investor is the entity that wants to see the project come to fruition, either through a grant, donation, or pre-purchase of a stream of credits generated from the project.
- The independent parties are the certifying standard and the designated operational entity (DOE). The independent parties don't have a direct equity stake in the project; therefore they are assumed to be free of bias and are able to confirm that activities are actually happening on the ground and that calculations have been done correctly.
- Brokers sell offsets with a commission on behalf of the project owner.

A carbon offset consumer may want to support individuals, businesses, or organizations that the consumer has already established relationships with. There are pros and cons associated with the number of actors involved. For example, a project produced solely by the project owner will obviously not go through a thoroughly vetted process. However, you would be assured that the money from your purchased carbon offset all went to the project owner. Conversely, you can usually rely on the veracity of a project with a large set of actors, but less of your money will actually trickle down to the project owner, because each entity charges a fee.

CERTIFYING STANDARDS

Carbon offset standards are independent entities that create rules for what kinds of projects can create a carbon offset, as well as the rules for how the GHG emissions reductions are actually calculated for a certain type of activity. Offset standard organizations can be non-profit organizations, government agencies, private companies, or combinations of these.

A carbon offset standard usually has a certain goal in mind – creating a carbon market for a certain region or country, or establishing value for a particular kind of carbon offset project. Whatever their goal, standard organizations outline a clear set of rules and procedures so people can build projects that meet the needs of the standard. Today, there are many certifying standards. A few examples include the following:

- Climate Action Reserve (CAR)
- Voluntary Carbon Standard (VCS)
- Gold Standard (GS)
- Climate, Community and Biodiversity (CCB)
- Chicago Climate Exchange (CCX)
- Regional Greenhouse Gas Initiative (RGGI)

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Again, carbon standards can be created for their own particular market (CAR, CCX, or RGGI), or they can be created to work in a variety of markets (GS or VCS).

For the consumer, the most important role of carbon standards is to certify that a project activity has successfully generated emission reductions. Generally, a standard only accepts certain types of project activities. The standards critically evaluate a carbon project's merits through a protocol they have developed. The protocol outlines how a project meets these basic attributes:

- **Additionality**—Additionality is determined by how well the project generates emission reductions that go above and beyond business-as-usual or common practice.
- **Permanence**—Permanence is the risk that the activity will have a "reversal," or somehow undo the emissions reductions at some point in the future.
- **Leakage**—Avoiding leakage assures that the baseline activity won't simply be shifted to another location.
- **Methodology Adherence**—Methodology adherence refers to how transparent and accurate the calculations are for measuring emission reductions that result from the project activity.

These attributes are usually assessed through the standard's requirement of submitting validation and verification reports performed by third-party DOEs. Some standards allow a project owner to create a "buffer pool" of credits to insure against potential permanence issues. The variation within certifying standards is a result of how stringently and rigorously they require a project to meet these attributes.

For the consumer, the variety of certifying standards is often times the most confusing. Today, standards are continually being developed or dissolved, and existing standards are continuously releasing new updated protocols. Unfortunately, the most unbiased approach to comparing standards is to conduct protocol comparisons of these attributes. After you understand the protocol, you can request the validation and verification reports to read how a third party determined protocol adherence. This time-intensive process will hopefully be alleviated in the future when standards and definitions have had time to be vetted in the public sphere.

METHODOLOGIES

Each standard has a set of methodologies it uses for measuring the carbon offsets generated from a project. Most methodologies utilize quantifying concepts accepted by the Intergovernmental Panel on Climate Change (IPCC). Some standards create their own methodologies, others utilize another standard's methodologies, and some accept methodologies submitted by the project developer.

It is not generally of interest for an offset consumer to know the methodology that was used to determine the emission reductions of a project. However, if a buyer is curious about the calculations behind an emission reduction tabulation, the methodology is the document you could request of the standard or project owner. Understanding the basic components of the methodology may also provide insight necessary to compare like project activities between certifying standards.

REGISTRIES

Carbon registries are basically trading platforms. Like a stock exchange, they provide listings of carbon offsets and make it easy to complete transactions. Most standards have an agreement with a registering body that all offsets generated under the standard will be issued to the registry for transactions to occur. Registries, in turn, only display offsets from certain standards. The process of putting offsets on a registry involves giving that offset a unique serial number. This serial number will stay with an offset as it is created, traded from party to party, and finally "retired" to mitigate an organization's GHG emissions.

For the consumer, registries can offer transparency and help insure that the offset has not yet been used. Not all carbon offsets are on registries. Transactions of offsets not on registries can still occur through the confirmation, by the owner or the broker, that the offsets exist and have not been retired. In this instance, buyers should request some sort of documentation either in the form of an internal registry, a deed of ownership, or a signed attestation.

RECS VS. OFFSETS

- Certified carbon offsets are verified tools to achieve GHG emission reductions. Buying a carbon offset allows you to claim a reduction of your carbon footprint.
- A certified Renewable Energy Certificate (REC) is proof that a megawatt hour (MWh) of renewable energy has been supplied to the market. Purchasing RECs helps develop the renewable energy supply by subsidizing the higher cost of renewable energy.
- RECs provide proof that renewable energy has been supplied; they do not necessarily offer verified proof that GHG emissions are reduced.
- Purchase offsets when you want to buy an emission reduction to reduce your net carbon footprint. Purchase RECs when you want to support "green power."

MARKETS

There are two main types of markets that exist. Regulatory markets are set up to facilitate entities to meet emission reduction targets as mandated by governing agencies. Voluntary markets exist for entities to voluntarily buy and sell offsets for a whole host of reasons. Some voluntary markets may still facilitate entities to meet their emission reduction targets as set by voluntary commitments of the entity. Regulatory and some voluntary markets will stipulate rules for offset types they accept, including certifying standard, vintage year, or country of origin, while other voluntary markets include all types. Like all markets, prices are determined by supply and demand. Markets may or may not set a price floor or cap.

Identifying which market to participate in is usually a good first step. It is important for consumers to know which kind of market is

best suited for them, or which offers the best opportunities. For example, an energy utility in Europe may already be under regulation, and if the goal is to meet its emission reduction target, it must trade allowances or offsets accepted within that market. If the consumer is a company in the U.S. trying to learn how future climate legislation will impact operations, or they want to implement a corporate social responsibility climate action program, they may choose to participate in a voluntary market.

CO-BENEFITS

Consumers may also want to go above and beyond offsetting their carbon footprint. Many carbon offset project activities result in a range of co-benefits. For example, the activity may also improve ecosystem conservation, species protection, sustainable community development, or alternative energy infrastructure. Often, it is these co-benefits that capture the attention of consumers and make a powerful connection with an audience. This also creates the opportunity to tell a positive story from your offset purchase. Just like the pure GHG emission reduction measurements of an offset project, these co-benefits should be monitored and reported over time. Certification standards are increasingly paying attention to these co-benefits, and looking for ways to accurately recognize these aspects.

Climate mitigation, like all social and environmental movements, involves a change in our governance, cultural norms, education, and economy. Through purchase power a consumer can instigate minor shifts within each of these. The purchase of or investment in carbon offsets will continue to catalyze a reduction in GHG emissions in our atmosphere – if, like any other commodity, we are duly diligent and understand the characteristics, attributes, and features of what we buy. ■

ABOUT THE AUTHOR

Molly White is a project developer for ClearSky Climate Solutions, a multidisciplinary climate consulting company located in Missoula, Montana. Molly received her MS in Forest Ecology and Management at the University of Wisconsin - Madison, with a climate change research focus. Her broader interests lie in investigating the multitude of interactions between wilderness and economy, science and public policy, and education and positive change.

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RESOURCES

Here are some helpful resources if you want to learn more:

Pew Center on Global Climate Change: www.pewclimate.org

Intergovernmental Panel on Climate Change: www.ipcc.ch

A Consumer's Guide to Retail Carbon Offset Providers: www.cleanair-coolplanet.org/ConsumersGuidetoCarbonOffsets.pdf

ClearSky Climate Solutions: www.clearskyclimatesolutions.com/learn/climate.html

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