RESPONSIBLE PURCHASING **GUIDE**

carbon offsets

Carbonfund.org

RPN
Responsible Purchasing Network
Center for a New American Dream

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About this Guide

The Responsible Purchasing Guide for Carbon Offsets: a guide produced in partnership with Carbonfund.org, is published by the Responsible Purchasing Network in print, as a PDF file, and on the web. Print and PDF copies are available to the public. The online edition includes additional resources available to members of the Responsible Purchasing Network, including: searchable product listings, multiple policy and specification samples, comparisons of standards, and related documents. Visit www.ResponsiblePurchasing.org to obtain a copy or to access the web-based edition of the Guide.

About the Responsible Purchasing Network

The Responsible Purchasing Network (RPN) was founded in 2005 as the first national network of procurement-related professionals dedicated to socially and environmentally responsible purchasing. RPN is a program of the Center for a New American Dream (www.newdream.org) and guided by a volunteer Steering Committee of leading procurement stakeholders from government, industry, educational institutions, standards setting organizations, and non-profit advocacy organizations.

About Carbonfund.org

Carbonfund.org is the leading nonprofit carbon offset and climate solutions organization, making it easy and affordable for individuals, businesses and organizations to reduce and offset their climate impact. Carbon offsets enable individuals and businesses to reduce carbon dioxide emissions they are responsible for in their everyday lives by supporting third party validated renewable energy, energy efficiency and reforestation projects where they are most cost effective. Carbonfund.org has over 450,000 individual supporters and works with over 1,200 business and nonprofit partners including Discovery, Motorola, Amtrak, Volkswagen, Dell, Virgin America, and Staples.

Acknowledgements

The Responsible Purchasing Network (RPN) and Carbonfund.org would like to thank the following people for assisting with the development of this Guide. Their expertise helped to ensure quality and accuracy, though RPN and Carbonfund.org alone accept responsibility for any errors or omissions. Affiliations listed below were current when input was provided to RPN and Carbonfund.org and are listed for identification purposes only and do not imply organizational endorsement of this Guide.

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This guide is designed to help better understand the break down of an institutions' carbon footprint, how to incorporate carbon offsets into a climate action plan, and how to recognize and pragmatically source carbon offsets that achieve reductions in global greenhouse gas emissions. Presently, carbon offsets are the only way to get your carbon footprint to zero. By purchasing carbon offsets, you can demonstrate leadership within your industry, support innovation and deliver eco-conscious programs to your constituency.

Social and Environmental Issues

Global warming is the consistent and persistent warming trend that scientists have observed over the last century with rising concentrations of carbon dioxide (CO_2) levels in the atmosphere. Since 1900, concentrations of CO_2 in the atmosphere have increased from 290 to 386 parts per million (ppm) – an unprecedented rise (UNEP 2008). These increased levels of carbon dioxide in the atmosphere are primarily human induced; resulting from the direct and indirect emissions produced from society's day to day activities. Direct carbon emissions occur from sources owned or controlled by the operational entity, usually from the transportation of owned fleets or the onsite combustion of fossil fuels from furnaces, boilers, etc. Indirect emissions originate from sources not owned or controlled by the end user. Indirect carbon emissions from an operating facility result from the purchase of electricity, goods and services. Together, direct and indirect emissions make up what is referred to today as the carbon footprint.

Best Practices

Institutions must use best practices for carbon offset purchasing to effectively incorporate carbon offsets into their overall climate action plan. In fact, offsetting should be the last resort following steps to reduce carbon emitting activities and shift to cleaner alternatives. First, conduct a comprehensive greenhouse gas inventory, covering all the categories (scopes) explained in the GHG Protocol for Greenhouse Gas Emissions. Then set goals that will lead operations toward carbon neutrality. After deciding the volume of emissions that will be offset, determine the level of services that will be needed from your provider, be it small or large scale purchasing, a diversified portfolio or outreach and communication consulting. When evaluating a provider inquire about third party standards, their method for offset retirement, and their organizational auditing procedures. Be cautious about the way you communicate your carbon mitigation initiatives; businesses that speak too generally about their carbon neutrality run the risk of being deemed "greenwashers." Clearly state what the offsets that have been purchased cover and state additional carbon reduction initiatives apart from offsetting.

Cost, Quality and Supply

Though carbon offsets are not tangible commodities, they are commodities that are subject to free market influences nonetheless. The market for voluntary carbon offsets has grown significantly over the past 6 years; in 2008 the market was responsible for offsetting 123.4 million metric tons of carbon dioxide equivalent (EM 2009). Generally speaking, the price of a carbon offset follows the principles of free market economics – supply and demand. If demand for a certain project type or a project input is high, the price of that project will go up and vice versa. In 2008, the price for a carbon offset ranged from $2.00 per metric ton CO_2e (tCO_2e) to $33.00 per metric ton CO_2e (EM 2009). These variations are dependent on the type of project, the third party standard used and the offset provider (retailer, broker, aggregator, developer). Claims about carbon offset co-benefits, project type, and project location have no direct connection to the quality of a metric ton CO_2 reduced (the benefit of a ton of CO_2 reduced is the same whether it happens with a renewable energy project in the region or a reforestation project in Lebanon), but additional benefits, such as habitat

preservation, sustainable development, etc., can increase the price of an offset because these additional benefits increase the quality of the surrounding environment and are generally more marketable.

POLICIES

Some institutions have already begun to take steps toward carbon reductions by entering into binding agreements with other entities. These agreements make participating members accountable for reaching their goals through onsite emission reductions, the buying and trading of emissions allowances and the purchase of carbon offsets. For example, The American College & University Presidents Climate Commitment is an agreement among higher education institutions to eliminate their campuses' greenhouse gas emissions over time. Carbon offsets will play a part in the climate action plan but it will be up to the institutions to decide how much of the reductions will be from carbon offset purchases.

SPECIFICATIONS

Specifications for carbon offset services set criteria for selecting offset providers, including requirements for experience, offset quantity, value-added services and portfolio composition. Some RFPs solicit bids for the purchase of offset credits regardless of project type, while others seek to solicit a specific carbon mitigation project that will geographic priorities. Carbonfund.org has drafted a model specification for an institutional purchaser looking to purchase greater that 1,000 Mt CO2e.

STANDARDS

Third party standards are the most important element in ensuring that carbon credits represent real and permanent reductions in carbon dioxide emissions. Standards ensure that projects are additional, meaning they go beyond business as usual operations. Some standards provide guidelines for project development and verification, such as the Voluntary Carbon Standard and the Gold Standard, while others act as registries that accept projects that meet specific criteria, such as the American Carbon Registry and the Climate Action Reserve.

PRODUCTS

The products section includes a list of the most prevalent offset providers, including retailers, aggregators, brokers and developers.

CALCULATORS

Use the following calculators to measure the emissions from scopes 1, 2 and 3

- Carbonfund.org Business Calculators
  Carbonfund.org business calculator measures office emissions based on utility bills, number of employees, or office space. Businesses can also use the calculators to measure emissions from employee commute, owned fleets, travel, events, paper purchases and shipping.

- Greenhouse Gas Protocol Calculation Tools
  The Greenhouse Gas Protocol Calculation Tools work in conjunction with the Corporate Accounting and Reporting Standard for calculating a greenhouse gas inventory. These tools measure emissions from scopes 1, 2 and 3 listed in the Best Practice section.

Global warming is the leading environmental challenge of our time. The implications of a warming planet range far beyond the immediate inconvenience of higher energy bills.

On a global scale, millions of people will be displaced by rising sea levels, food production will be impacted by unpredictable weather, severe heat waves will threaten lives, and hurricanes and wildfires will continue to intensify. In each of these scenarios, disadvantaged populations and those in the developing world will be disproportionately affected. Though some impacts of global warming are already apparent, immediate action can mitigate the direst global warming predictions. It is therefore imperative that all individuals, businesses and institutions, not simply those within the scientific community, understand the sources of global warming and develop strategies to minimize its impacts and provide a sustainable world for future generations.

Global Warming

Global warming is the consistent and persistent warming trend that scientists have observed over the last century with rising concentrations of carbon dioxide (CO_2) levels in the atmosphere. Since 1900, concentrations of CO_2 in the atmosphere have increased from 290 to 386 parts per million (ppm) – an unprecedented rise (UNEP 2008). As documented by the Intergovernmental Panel on Climate Change (IPCC), the increases in CO_2 concentrations are due primarily to human activity in the form of deforestation and burning of fossil fuels, including petroleum, natural gas, and coal. The increased concentration of CO_2 will likely cause temperatures to rise 2 – 11.5 degrees (F) and sea levels to rise by up to two feet in the next century (IPCC 2007).

The Global Carbon Cycle

Moderate levels of CO_2 in our atmosphere are normal, as carbon dioxide generally helps keep the planet warm and plays an integral role in many key biological processes like photosynthesis. The Earth naturally produces and processes CO_2 in what is referred to as the Global Carbon Cycle. Carbon is released into the atmosphere in several ways:

- Combustion of fossil fuels and organic materials like oil, coal, and wood
- Respiration of humans and animals
- Decay of animal and plant matter
- Production of cement
- Volcanic events

Carbon is absorbed from the atmosphere through:

- Photosynthesis – forests store 86% of the above-ground carbon
- Oceans – store the vast majority of earth's carbon stocks
- Weathering of silicate rock
- Soils incorporating organic carbon

The carbon cycle has an optimal balance through which it can process and maintain a relatively constant level of CO_2 in the earth's atmosphere. Under normal circumstances, the cycle would be able to process most carbon emissions. But the unprecedented burning of fossil fuels has fundamentally altered the natural carbon cycle. The resulting CO_2 emissions have overburdened the planet's natural sinks and remain in the atmosphere an undetermined amount of time.

The Carbon Footprint

For the purposes of this Guide, a carbon footprint is the measure of the direct and indirect carbon emissions that are produced to enable an end user (an institution or facility) to operate. Direct carbon emissions are those emissions released by sources owned or controlled by the end user, most commonly from the operation of fleet vehicles or the onsite combustion of fossil fuels from furnaces, boilers, etc. Indirect emissions originate from sources not owned or controlled by the end user. Indirect carbon emissions might result from the purchase of electricity, goods and services. For example, a desktop computer does not itself produce a significant amount of emissions. However, the computer indirectly causes emissions by drawing electricity from coal-fired power plants, and from the energy needed to extract, process, manufacture and transport the materials used to assemble the computer. The purchaser, in essence, perpetuates these emissions from the utility company and computer manufacturer.

Environmental Impacts

Global warming impacts the environment on many fronts. Rising sea levels and temperatures are destroying coastal ecosystems and coral reefs. Warmer temperatures change habitat zones and cause the extinction of species unable to cope with the drastic changes. Wildfires and hurricanes become more severe with a warmer planet. And global hydrological cycles are impacted, causing some areas to flood and others to turn into deserts. In short, altering the atmosphere affects everything within it. The cumulative impacts of changes to the climate are devastating. Predictions on climate-change induced extinctions are as high as 35% of all species, resulting in the loss of valuable biodiversity and potentially important resources (Roach 2004).

Human and Social Impacts

The effects of global warming will be felt by all people. With increased global warming, extreme heat waves and more intense hurricanes will become more common. Rising sea levels will displace millions of people who live in low-lying areas of the world. Cities like New York and Miami are just two of the many U.S. cities that are extremely vulnerable to flooding as sea levels rise. Agricultural growing regions will shift, profoundly affecting farmers all over the world and threatening global food security. The people most likely to be harmed are those with the fewest resources to cope. Poor and marginalized communities will bear a disproportionate amount of the burden of global warming, unable to evacuate when storms threaten to flood their homes, without the means to protect themselves from heat waves, and without the money to purchase increasingly expensive food.

The best practices for buying carbon offsets include:

1. Conduct a Greenhouse Gas Inventory
2. Set Goals
3. Incorporate Carbon Offsets into Action Plan
4. Evaluate Standards and Specifications
5. Purchase Carbon Offsets
6. Communicate Progress

1. Conduct a Greenhouse Gas Inventory

Conducting a Greenhouse Gas (GHG) Inventory quantifies your emissions by identifying the major sources and thereby suggesting priority actions for reducing those emissions. This inventory will help clarify the potential role carbon offsets might play in an overall emissions reductions strategy.

The Greenhouse Gas Protocol Corporate Accounting and Reporting Standards provide guidance on conducting a GHG Inventory by establishing a business or an institution's operational boundaries and separating indirect and direct emissions into three distinct categories called scopes. Use the carbon calculators in the Calculators section of this Guide to measure the emissions from these defined scopes:

Scope 1: Direct Emissions (GHG emissions from sources owned or controlled)

- Generation of electricity, heat, or steam from combustion of fuels in stationary sources owned or controlled by the reporting entity
- Transportation by company owned fleets (trucks, trains, ships, airplanes, buses, and cars)
- HFC emissions from the use of refrigeration and air conditioning equipment

Scope 2: Indirect emissions from purchased electricity for own use

Scope 3: Other Indirect Emissions (optional)

- Emissions generated from the extraction and production of purchased materials (i.e. emissions generated from deforestation and the processing of wood to make paper purchased by the reporting entity)
- Transportation from fleets not owned by institution
  - Employee business travel
  - Employees commuting to and from work
  - Shipping and mailing
- Disposal of waste generated in operations

2. Set Goals

Reducing carbon emissions requires long term thinking and planning in order to achieve the best results. Decide what you are trying to achieve. Carbon neutrality may be the ultimate aim, but all reductions are steps in the right direction, so set ambitious but realistic goals. Figure 1 is a hierarchy of emissions reductions goals with carbon neutrality as the ideal toward which you strive.

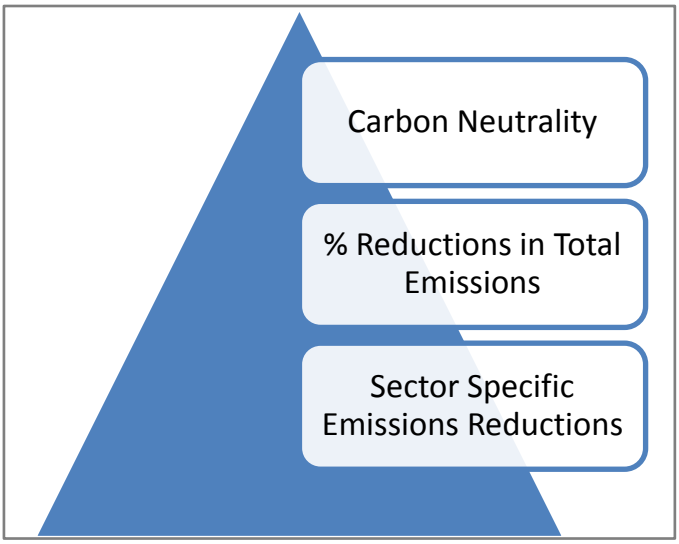


Figure 1:
Hierarchy of Emission Reduction Goals

- **Sector Specific Emissions Reductions:** Consider offsetting emissions in a specific sector. For example, Salt Lake City has decided to offset all city-related air-travel by city employees. Businesses can offset their business operations, product(s), travel and more. Take steps to reduce sector specific emissions and offset the remaining.

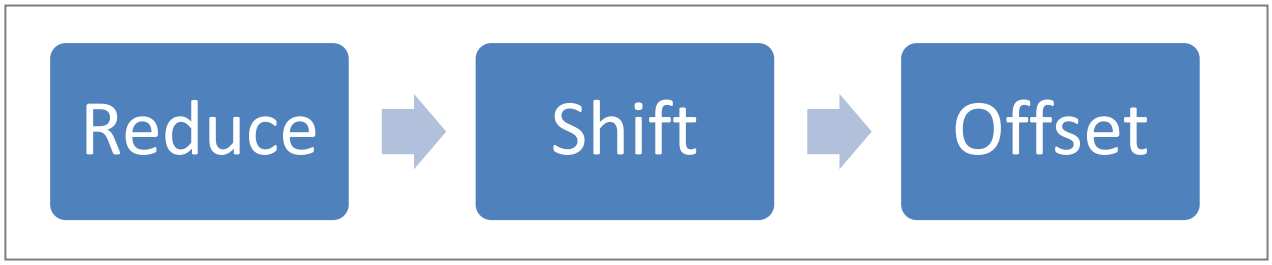
- **% Reductions in Total Emissions**: Another approach is to reduce GHG emissions by a target percentage annually. Yale University, as part of their Climate Action Plan, committed to reduce GHG emissions to 43% below 2005 levels by 2020. Their emissions reduction strategy incorporates four concepts: avoid, reduce, shift, and offset.

- **Carbon Neutrality**: Strive to achieve carbon neutrality, a net zero impact on the climate. Set annual goals for reductions. Offsets can help in achieving neutrality quickly, especially when combined with emissions avoidance, reductions, and shifts to renewable energy sources.

A growing number of businesses and institutions have entered into binding carbon reduction agreements. These agreements make participating members accountable for reaching their goals through onsite emission reductions, the buying and trading of emissions allowances and the purchase of carbon offsets. See the Policies section for a more detailed explanation of these commitments.

3. Incorporate Carbon Offsets Into a Climate Action Plan

Reduce emissions as much as possible before or in parallel with buying offsets. Consider budgeting abilities and tradeoffs. Implement the easier and more cost effective emissions reduction measures as quickly as possible. Then, as you invest in reductions strategies that take longer to come online, consider offsets as a viable means of achieving immediate reductions. Purchasing carbon offsets should be one component in an overall carbon mitigation strategy. In order to improve energy use practices an organization can:



- **Reduce** emissions by avoiding carbon-emitting practices and products
- **Shift** to cleaner alternatives
- **Offset** remaining emission

Once way to reduce the carbon footprint from indirect emissions is to purchase greener products.

If a business manufactures or markets products, the carbon footprint of a product is commonly determined through a life-cycle assessment (LCA). As a product's raw or source materials can travel long distances and the product may ultimately be sold in markets far away from the company's place of operations, an LCA can look at the supply chain as well as the manufacturing, distribution, even the carbon footprint associated with the usage and disposal of the product. There are labels available in the market today that can help consumers purchase products that have less of an impact on the environment.

The world is rapidly moving towards a comprehensive plan to cap and reduce greenhouse gas emissions. This plan, known as the Copenhagen Accord (which is expected to be finalized and signed in Copenhagen, Denmark in December, 2009), will replace the Kyoto Protocol and establish a post-2012 framework for an international emissions reduction scheme. The United States is working to sign onto this agreement and Congress is considering a comprehensive cap-and-trade system to be implemented by 2012 that will reduce emissions by 80% by 2050 (USHOR 2009).

There are other emissions reductions plans that are in progress in the U.S. today. These programs are binding agreements to reduce greenhouse gas emissions by a designated year. Many of these programs incorporate the use of carbon offsets to achieve carbon reduction goals. See the policies section for a list of climate commitments taking place in the U.S. today.

4. Evaluate Standards and Specifications

Carbon offset standards answer the question that all purchasers should ask: "Is it real, and who says so?" Because carbon offsets are not a tangible commodity for the purchaser, the assurance of quality is directly related to the entity making the claim. Are offsets third party validated to a credible standard? Or are the offsets 'self-certified' by the company that is selling them? Third party standards are specifically designed to address issues having to do with project authenticity, additionality, and permanence (see below), and safeguard the purchaser from spending money on projects of questionable merit.

What Makes a Carbon Offset Standard

The criteria that support the best carbon offset standards have been designed to verifiably quantify and track the GHG emissions reductions of a given project. Programs like the American Carbon Registry, the Voluntary Carbon Standard, the Gold Standard, the Climate Action Reserve (see Standards section) and others outline key accounting principles to ensure that offsets are credible:

- **Real**: Quantified GHG reductions must represent actual reductions from a baseline scenario.
- **Additional**: Reductions must be surplus to regulation and beyond what would have happened in the absence of the project or in a business-as-usual scenario.
- **Permanent**: Reductions must be permanent or have guarantees to ensure that any losses are recaptured in the future.

- **Verifiable**: Reductions accrue from projects whose performance can be readily and accurately quantified, monitored and confirmed.

These four principles are the backbone of many carbon offset project standards and provide the framework from which offset claims are proven. Any project that wants to meet a specific standard must explicitly answer the 'what', 'how' and 'why' for each of the principles outlined above. Specific standards include long protocol documents that directly answer these questions for every project that bears their seal of approval. See the Standards section for a more detailed explanation of these standards.

What to look for

Carbon offset project types generally fall into three categories: 1) renewable energy, 2) energy efficiency projects, and 3) land use/land change projects like reforestation and avoided deforestation. Landfill gas destruction and agricultural methane destruction are also common projects available on the market today. There are a number of standards that are tailored to specific offset projects. These standards state criteria for projects that must be certified by a third party. That is, the project must be audited, validated and verified by an independent third party organization using accepted standards as guidance documents.

Many large entities meet their carbon offset needs by authorizing a Request for a Proposal (RFP) that is distributed to a selected list of offset providers. The RFP process provides purchasers with better leverage in negotiations. Purchasers of carbon offsets exceeding 1,000 tons often can set requirements for their offset portfolio such as criteria for project type, location, or specific co-benefits. See the Specifications section of this guide for sample RFP language for carbon offset procurement. Small businesses and nonprofits typically bypass the specification process by simply contacting a provider to acquire a specific quote for carbon offsets.

5. Purchase Offsets

Types of Offset Providers

When you have an idea of what sort of project you want to support and the price you are willing to pay, you are ready to begin discussions with offset providers. There are five main types of offset sellers: 1) project developers 2) retailers/wholesalers, 3) brokers, 4) aggregators, and 5) utility companies. Each type offers different value-added services, from providing messaging plans and outreach services, to facilitating faster, larger scale transactions.

Several organizations provide services typical of each type of provider. Carbonfund.org, for example, serves as a retailer/wholesaler, aggregator and broker. Your offset provider choice should be based on the credibility of the organization, their ability to meet your standards requirements, and their ability to provide the best service for your needs.

1. **Project Developer** (e.g. Clear Sky Climate Solutions)
   Project developers are responsible for originating projects. In some cases, purchasers can deal directly with developers. Developers can be a single person or operating organizations working to directly fund projects that reduce greenhouse gas emissions.

2. **Retailer/Wholesaler** (e.g. Carbonfund.org, Bonneville Environmental Foundation, Conservation Fund)
   A carbon offset retailer is an organization, either non-profit or for profit, that sells or provides carbon offset credits to the public in small or large quantities. This service is especially beneficial for purchasers who do not know their own

carbon footprint and/or need other value-added services to help facilitate offset purchases. The purchaser can go to a provider for guidance on calculating their carbon footprint, project preference, and media outreach strategies. Retailers typically help companies create environmental programs and communications strategies for their customers or employees in connection with the offsets. Retailers should always make their policies on offset quality clear and should have a periodic audit performed to ensure they are doing what they claim to be doing and that their offsets are retired.

3. **Broker** (e.g. Traditional Financial Service Energy, Direct Energy, CantorCO2e) Brokers typically introduce buyers and sellers in the marketplace. Brokers can provide a large number of offsets from a wide array of projects. Purchasers must make clear their requirements for offset quality in terms of third party certification standards (see Standards section). In most cases, it is also the purchaser's responsibility to retire the offsets once they have been purchased. This can include opening a registration account with an offset registry. See the Standards section for a list of reliable offset registries.

4. **Aggregators** (e.g. EcoSecurities, CommonWealth Resource Management Corp.)
   Aggregators develop portfolios from a variety of projects and can play many different roles in the offset market. They can be projects owners or developers, or they can partner with other organizations to be project funders. These entities will have a specific portfolio of certified offsets for their clients to choose from and may take the responsibility for retiring the offset credits themselves.

5. **Utility**
   Some utility companies, electricity and gas, offer offsets as part of their normal billing process. Customers can offset for the indirect emissions from purchased electricity by paying a premium for carbon offsets or renewable energy certificates (RECs). For example, through North Carolina Green Power, participating utility companies offer their customers the option of being charged a premium to offset the emissions from their energy use. The money subsidized by utility customers goes to the NC Green Power carbon offset program to fund carbon mitigation projects.

<u>Purchaser Responsibility – What to Require</u>

Before purchasing offsets, evaluate the credibility of providers by reviewing their transparency and the third party standards they claim to meet. An offset provider should be able to provide documentation of third party standards and show where their offsets are registered. Most information about a carbon offset retailer's offset policies can be found directly on their website. For other types of providers (See Offset Providers section below), purchasers may have to contact a company representative to acquire this information.

Be critical when reviewing offset claims and require transparent documentation. Credibility is earned through clear statements of purpose and meaningful references to specific standards, verification and audit procedures. Make sure to acquire the following information:

- **Third party verification to third party project standards.** Identify the standards a carbon offset project is designed to

meet. A project that adheres to third-party standards ensures that your money is going to a real carbon offset project (see Standards section) and that the project was verified by a third party. A project is verified usually by a professional verifier or verification body to ensure that a project is meeting the project standard(s).

Is it real and who says so?

A carbon offset provider quick checklist:

- ✓ Carbon offset registry used and retirement procedures (if working with a broker)
- ✓ Third party verification to third party project standards
- ✓ Third party audit of project portfolio to ensure retirement

See the Products section for a list of offset providers.

- **Where are the offsets registered? (if working with a broker)** Carbon offset registries are public databases designed to keep track of individual offsets and protect buyers from double counting (when an offset is claimed by more than one entity). The voluntary market contains many different registries for offsets and the use of registries has become increasingly common. Some registries act as independent entities, however as the role of registries have evolved in the market many have become tied to specific standards to ensure project credit deliverance and tracking. Registries have varying levels of transparency but for the most part should contain the following information in every account:
  - Project types and descriptions
  - Project documentation including: monitoring, reporting verification protocol and third party verification statement
  - Serial tracking numbers of carbon credits
  - Volume of carbon credits registered
  - Volume of carbon credits retired with date of retirement
  - Transfer records (some registries will list the "to" and "from" entities involved in transactions)

- **Will they retire the offsets or do I need to do that?** A purchaser cannot claim the benefits from a carbon offset until the offset is "retired." Retailers will retire offsets for their purchasers. However, in larger scale transactions, such as brokered exchanges and some purchases from aggregators and developers, the purchaser may be responsible for retiring the offset credits. The purchaser will usually either:
  - Set up a registration account, have the credits transferred in from the provider's account, and retire them, or
  - Set up an agreement with the provider whereby the provider will retire the offsets in their own account on behalf of the purchaser. Upon this transaction the provider will give documented proof of retirement.

- **Third party auditing of project portfolio.** Organizations that sell and/or retire offset credits should subject themselves to a portfolio audit to ensure the accuracy of all project related claims. This will efficiently ensure that offsets were allocated and retired correctly and will prevent against double counting. This provides a safeguard against errors that

could undermine the environmental benefit of offsetting.

- **Available financial reports.** Nonprofit organizations will make their financial reports available to show how much of the money is going toward carbon reductions versus overhead. For-profit organizations typically do not do this.

What You Should Get

Working with a reputable carbon offset provider should provide your business or institution with certain benefits that can help you market your environmental commitment. Many carbon offset organizations can easily provide you information on the project(s) that you are supporting, including pictures and descriptions of the projects. You may also request help on communicating your commitment to the public, including recognition on the offset organization's website, PR assistance, and marketing materials like certificates and stickers.

Valuing Carbon Offsets

Determine which types of carbon offset projects you value most. Would you rather support a wind farm or an energy efficiency project? Do you want your stakeholders to be able to easily relate to the carbon project, or do you just need to claim reductions? The answers to these questions can help you decide whether it might be worth paying extra for projects that best reflect your organization's values.

1. Communicate Progress

Communicate progress in clear and honest terms. State your commitment, your reasons for the commitment, how you are achieving it, and how offsets fit into your strategy. There is a risk of greenwashing accusations if your claims about your emissions reductions and offsets are vague or overstated. Be clear that buying offsets does not mean your entity is not causing greenhouse gases emissions, but rather that the projects are balancing your emissions with equal offsets.

For example, do not claim to be carbon-neutral if you have only implemented actions to reduce and offset all your Scope 1 Direct Emissions. Your entity is not considered carbon-neutral unless actions have been taken to reduce or offset Direct and Indirect (Scope 2) emissions. Scope 3 emissions are considered optional. But the best rule is to avoid making any claims that are potentially misleading. In most circumstances, clearly stating the organization's commitment and plan will help avoid perceived discrepancies.
When communicating a commitment to carbon neutrality, remember to:

- Clearly state what is covered by the purchased offsets (all or part of direct or indirect emissions)
- Describe your other emissions reductions strategies in addition to carbon offsets. This helps show how the business or institution is not just trying to "buy" its way out of its carbon emissions.

See the Federal Trade Commission's Guide for the Use of Environmental Marketing Claims for guidance on making environmental claims.

To avoid false claims and accurately communicate your carbon commitment, consider partnering with an established carbon offset organization to build a full program tailored to your needs. Professional carbon offset retailers can help develop outreach plans and messaging strategies that appropriately communicate an organization's commitment to carbon neutrality or carbon reductions. See Addendum 1 for a sample press release.

GHG emission reductions, including those in the form of offsets, are unusual commodities in that they are intangible – consumers can't see or feel offsets. This complicates the process of assessing their cost and evaluating their worth. If it can't be seen or held, how does one know whether it's good or not? How do we know what to pay for it?

This section discusses how to value and judge the costs and qualities of different types of offsets, and describes the supply of different types of offsets available in the market today. Understanding these issues will help inform a decision on how to choice the right offsets by utilizing third party standards and verification.

Cost

Carbon offsets are commodities subject to market influences. Markets exist to trade carbon offsets (like the voluntary carbon market in the US) and there are a wide variety of project developers and brokers that help ensure that the market for carbon offsets functions much like any other publically traded commodity. Offsets are bought, sold and traded in nearly the same manner as shares of Microsoft stock or corn futures.

In 2008, the price for a carbon offset ranged from $2 to $33 per metric ton CO_2e (tCO_2e) (EM 2009). The average wholesale price for buyers of carbon offsets on the voluntary offset market was about $7.34/$tCO_2e$. Generally speaking, the price of carbon offsets follows the principles of free market economics – supply and demand. If demand for a certain project type or a project input is high, the price of that project will go up. In addition, the price of offsets depends on other factors, including: the vintage year of the carbon credit (i.e. there is more risk associated with a 2020 delivery than 2009 delivery), the project sector (i.e., energy efficiency vs. forestry), location, pending governmental regulation, and the standard to which the project was certified. Table 2 provides a comparison of carbon offset project types by cost per metric ton CO_2e in 2008. The high and low prices reflect the different ways offsets can be purchased, be it through brokers, aggregators, retailers, compliance markets or utility companies (as described in Best Practices).

Table 2: Carbon Offset Projects and Average Prices

	LULUCF /Sequestration	Energy Efficiency	Renewable Energy	Methane Capture	CCX
Avg Price ($) Per mT CO2e 2008	$6.30 - $7.50	$7.00	$8.10	$9.10	$4.43
High / Low Price ($) per mT CO2e 2008	$2.00 - $50.00	$4.00 - $26.00	$4.50 - $33.00	$2.00-$30.00	

Considering Cost

Prices vary in part due to the costs associated with different types of offset projects. A project's value is determined in part by the buyer's values. Which projects align with your organizational identity? Do you want a project that emphasizes community development ecological benefits along with carbon mitigation? Or do you simply want to claim the carbon benefit? The answers to these questions will help you decide whether it is worth paying more for a specific project. Your offset purchases should meet your environmental, social, and communications goals. Answering these questions can help determine how much you are willing to spend:

- Do you prefer a specific type of project?
- Is there a project location preference?
- Do you have a predilection for a particular project standard?

A variety of factors determine the price of an offset project, including: infrastructure development, validation processes, verification and certification, project monitoring, legal fees, project risk, project implementation and training, overhead, and additional benefits (co-benefits).

For example, reforestation offsets typically cost more than landfill methane projects because the implementation costs for the same value in carbon emissions reductions are typically higher. The unique costs associated with a reforestation project are the costs of land acquisition, planting, long term monitoring and insurance. The co-benefits associated with forestry projects can include community development, biodiversity, and water and soil restoration. Landfill methane projects, as a point of comparison, are cheaper to implement because the site is fixed and more easily monitored, and co-benefits tend to include improved local air and water quality.

QUALITY

The hallmarks of quality in a carbon offset are: third-party standards, third-party verification and third-party auditing/report. The first aspect ensures that CO_2 is actually being reduced and the reduction is additional, non-mandated, permanent and verified. The benefit of a ton of CO_2 reduced is the same whether it happens with a renewable energy project in your local region or a reforestation project on the other side of the world. In addition, purchasers may want to consider co-benefits. Co-benefits reflect additional environmental, social or sustainable development benefits not directly associated with carbon emission reductions. For example, a reforestation project will sequester tons of carbon, but the project may also create jobs, train workers, improve the economy, improve air and water quality, reduce soil erosion, improve wildlife habitat or increase eco-tourism.

Considering the quality of various project types

- **Land Use, Land-Use Change and Forestry (LULUCF)** projects work by sequestering CO_2 from the atmosphere through biological processes. These projects typically include planting trees, preserving existing forests, and managing land to ensure permanent carbon sequestration in the biomass. One potential risk with LULUCF projects is the timeframe required for the offsets to materialize (typically a 40+/- year lifespan). Over time, events such as fires or illegal logging could compromise the integrity of a LULUCF project. The best way to avoid these pitfalls is to choose project certified to a reputable third party standard that has stringent monitoring procedures in place and protect against known threats, such as by requiring project insurance. Another option to ensure project permanence is through a

shared risk pool approach, where an additional plot of land is also reserved in case of natural disasters such as fire or infestation.

- **Energy Efficiency** projects reduce energy use, and therefore GHG emissions, by upgrading technology. Energy efficiency projects that meet third party standards ensure additionality and prevent project developers from claiming offset credits for business-as-usual actions.
- **Renewable Energy** projects generate energy from renewable resources such as the sun and wind. Clean energy produced by these projects can displace energy use from dirty, fossil fuel sources. Not all renewable energy projects produce additional carbon offsets, however, as when the renewable energy production is already mandated by federal or state laws. Certifying agencies such as Green-e Climate, the Gold Standard, and Voluntary Carbon Standard (VCS) will certify carbon offsets from renewable energy projects only when they meet stringent additionality criteria.
- **Methane Capture** projects capture and destroy methane from either industrial, agricultural or landfill projects. The captured methane, roughly 23 times more potent a greenhouse gas than carbon dioxide, might also be used to generate heat or electricity. Carbon offsets are accrued when the captured methane is either flared and/or utilized, preventing it's release into the atmosphere. These projects generally deal with waste (animal or otherwise), and are highly effective, reliable and accountable sources of carbon offsets when properly certified. These projects may also help improve local water quality by preventing the release of waste effluents into water ways.

SUPPLY

The market for voluntary carbon offsets has grown significantly over the past 6 years; in 2008 the market was responsible for offsetting 123.4 million metric tons CO2e (EM 2009). he International Finance Corporation (IFC) estimates that the voluntary carbon offset market will be responsible for offsetting 220 million tons of CO_2 in 2012 (IFC 2008). These credits generally come from projects in three categories: 1) renewable energy, 2) land use/land-use change/forestry (LULUCF), and 3) energy efficiency (see Table 3). Within these categories fall nearly all of the most commonly supported project types like wind, solar, methane destruction, fuel switching, agricultural offsets, and others. There are projects that may fall outside these categories, and landfill gas or manure projects need not be connected to a

Table 3: Project Category and Project Types

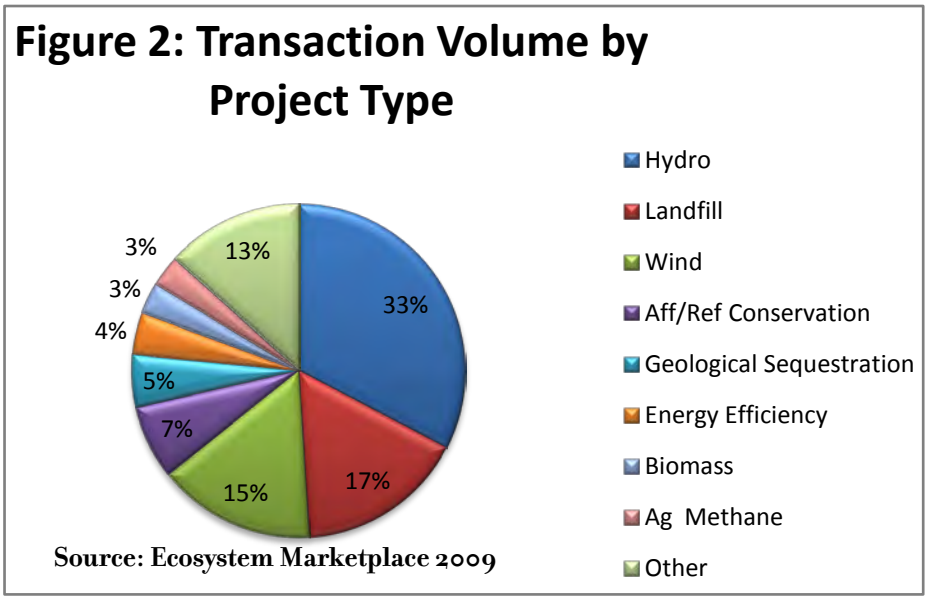
Please note: this list only covers common project types – it is not intended to be comprehensive.

Category	Renewable Energy	LULUCF/sequestration	Energy Efficiency	Methane Capture
Type	• Wind • Solar • Methane • Fuel Switching • Small Hydro • Geothermal	• Afforestation/Reforestation Plantation • Afforestation/Reforestation Conservation • No-till agriculture • Avoided Deforestation • Land use change • Geological sequestration	• Building upgrades • Production improvements • Technological improvements	• Landfill methane capture • Agriculture methane capture

renewable energy project. Figure 2 shows the percentage of credit transactions that originated from each project type. In 2008, a majority of carbon offset projects were renewable energy projects and LULUCF projects predominantly located in Asia, the Middle East and the US. In the past two years, the number of carbon offset credits originating from third party verification has increased significantly to represent 96% of the voluntary carbon market. There are currently 17 offset project standards available on the market today and a majority of these projects fall under the criteria of 4 leading standards: the Voluntary Carbon Standard (48%); the Gold Standard (12%); the Climate Action Reserve Protocol (10%); and the American Carbon Registry Standard (9%) (EM 2009.

There are clearly many options when deciding to purchase carbon offsets, and most needs can be met through a variety of means. There are advantages to working with reputable carbon offset providers to help determine those needs; be they entry level guidance, project development expertise, or public relations management. The Products section of this guide shows a wide range of businesses and organizations that have experience in the offset market and can assist an organization with the offset purchasing process.

Figure 2: Transaction Volume by Project Type



Source: Ecosystem Marketplace 2009

Many businesses and institutions have already made climate commitments by entering binding agreements to reduce GHG emissions by a designated year. Below, we describe several of the most prominent programs being used in the US today. Each program has different criteria for the role that carbon offsets play in reaching emissions reductions goals.

Regional Greenhouse Gas Initiative (RGGI)
RGGI Program Overview
RGGI Memorandum of Understanding
RGGI Model Rule
The Regional Greenhouse Gas Initiative is a market-based CO_2 emissions reduction program involving the cooperation of ten Northeast and Mid-Atlantic States, including: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont and the District of Columbia. Participating States sign a Memorandum of Understanding (MOU) establishing a regional emissions budget and dividing the emissions budget among each of the states. This agreement aims to reduce CO_2 emissions from the power sector by 10% below 2009 emission levels. The program is based on a cap and trade approach where each state is given an emissions budget and can buy, sell and trade CO_2 emissions allowances. A majority of these offset allowances represent emissions reductions within the capped regional sector. However, CO_2 offset allowances from projects outside the capped sector that reduce and/or sequester emissions of greenhouse gases may be used to meet up to 10% of the total compliance budget depending on the price of the auctioned allowances.

American College & University Presidents Climate Commitment (ACUPCC)
American College & University Presidents Climate Commitment
ACUPCC Voluntary Carbon Offset Protocol
The American College & University Presidents Climate Commitment is an agreement among higher education institutions to achieve carbon neutrality for their respective institutions over time. The commitment requires an emissions inventory and requires each university, within two years of signing the commitment, to set a target date for achieving carbon neutrality. During those two years institutions must take immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions and integrating sustainability into the curriculum. Carbon offsets can play a part in the climate action plan but it is up to each institution to decide how much of the reductions come from the purchase of carbon offsets. Additionally, as part of the short-term actions, institutions can choose to offset air travel paid for by the institution. The ACUPCC has adopted a common Voluntary Carbon Offset Protocol to guide institutions in the evaluation and investments of offsets. The protocol establishes clear guidelines for higher education institutes to invest in the purchase of offsets.

Chicago Climate Exchange (CCX)

The Chicago Climate Exchange Program
CCX Offsets in the Chicago Climate Exchange - FAQ

The Chicago Climate Exchange is a cap and trade system in which participants enter a legally binding emission reduction commitment. Members are allocated annual emissions allowances in accordance with their baseline emissions and the CCX Emission Reduction Schedule. Participants who reduce beyond their targets have surplus allowances to sell or bank. Those who do not meet the targets can comply with their budget by purchasing allowances (also known as Carbon Financial Instruments) from other members. The commitment consists of two phases. In Phase 1, members commit to reducing emissions a minimum of 1% per year for a total reduction of 4% below baseline emissions for 2006. In Phase 2, members commit to a reduction schedule that requires a total of 6% reductions from baseline emissions by 2010. To achieve goals, members can reduce emissions internally, purchase extra emission reductions in the form of tradable allowances from other members, or can purchase offsets from CCX emission reduction projects that are independently verified by a CCX-approved verifier. This commitment allows for a range of 4.5%-9% of carbon emissions reductions to come from the purchase of carbon offsets.

California Global Warming Solutions Act AB32

California Global Warming Solutions Act AB32

The California Global Warming Solutions Act of 2006 is comprehensive energy legislation designed to reduce California's emissions to 1990 levels by 2020 and further reduce emissions 80% below 1990 levels by 2050. The legislation covers much of California's economy, including: transportation, construction, energy, industry and others. The emissions reductions are to be generated through a cap-and-trade system and will be designed and administered in collaboration with the Western Climate Initiative.

EPA Climate Leaders

EPA Climate Leaders Optional Modules Guidance

Climate Leaders is a partnership between the Environmental Protection Agency and companies that make commitments to GHG emission reduction strategies. These companies complete a corporate-wide inventory of their GHGs, set reduction goals, and annually report their emissions progress to the EPA. Emissions reduction goals vary among the partners.

Western Climate Initiative (WCI)

WCI Draft Design Recommendations for the WCI Regional Cap-and-Trade Program
Offset Limit White Paper

The Western Climate Initiative is a commitment between seven US governors and four Canadian premiers to reduce GHG emissions to 15% below 2005 levels by 2020 using a cap and trade program. The program is scheduled to launch on January 1, 2012 and is planned for implementation in two phases: 1) a three year compliance agreement, followed by 2) an expansion of the emissions reductions scope to include transportation fuels, as well as residential, commercial and industrial fuels.

Specifications

Specifications for carbon offset services establish a buyer's criteria for selecting offset providers, such as requirements for experience, offset quantity, value-added services and portfolio composition. Some RFPs solicit bids for the purchase of offset credits regardless of project type, while others seek to solicit a specific carbon mitigation project with geographic priorities. Below are sample RFPs for the purchase of carbon offset credits and services.

Model Spec

Carbonfund.org Model Specification

The Carbonfund.org model specification template provides guidance on developing a request for carbon offset services. This document contains exemplary language on stating the scope of needed services, identifying project requirements and explaining provider benefits.

More Samples

State

The Port Authority of New York and New Jersey: Carbon Offset Procurement and related expert professional services _2008

The Port Authority requests offsets for its annual GHG emissions. The RPF requires that project leads and consulting firms have at least three years experience in development projects or broker services. The firm should provide systems that will help tenants and patrons estimate the GHG inventory of the Authority's facilities and services. Patrons and tenants of the Authority's facilities should be able to choose from a diverse pool of credits and be given expert advice on how to purchase these offsets.

State of Wisconsin RFP 2008

The state of Wisconsin has set up an early offset program to stabilize their GHG emissions from prominent sources in the region. Offset projects apply to the reduction of all major greenhouse gas emissions from sources within the State of Wisconsin.

City

City and County of Denver Department of Aviation_2008

The Department of Aviation (DIA) issued a Request for Proposals for a Voluntary Travel Carbon Offset Program for the traveling public. The DIA wants to invest in projects that develop renewable energy and promote the reduction of demand for energy. Qualified companies can be non-profit or for profit but must have at least one year experience in providing certified carbon offsets.

Corporate

EPA Climate Leaders Sample Request for Proposal 2009

This is a sample RFP for partners of the EPA Climate Leaders that wish to purchase GHG reductions credits to use towards achieving their Climate Leaders GHG reduction goals.

ICF Tender No. 07-02 for Carbon Offsets_2007

A large, anonymous company hired ICF International to facilitate the purchase of GHG project offsets. The request is for a purchase of up to 1,000,000 metric tons of CO_2e from multi-year projects. Providers must describe how many offsets are expected to be created annually. The company prefers projects evaluated against standards such as the CDM Gold Standard, the CDM standard, the Voluntary Gold Standard, or the Voluntary Carbon Standard. Proposers must describe all environmental, social and health co-benefits that result from the project.

The Northeast Superior Forest Community 2008 Request for Proposal: Carbon Credit Project

The NSFC requests a project that creates credits in the Northeast Superior region and uses techniques common to the forestry industry. Project proponents must identify all key elements of the project including time table, work plans, costs and information on team members and qualifications.

Pacific Gas and Electric Company 2008 Request for Proposals

This RFP solicits bids for the purchase of up to 1,000,000 tons of GHG emissions reductions. The company specifies eligibility for participation, criteria for project type, size and location and requirements for additionality. The RFP also states preference for projects that can be implemented in the shortest period of time.

HSBC Request for Proposal for the Procurement of Carbon Offsets_2005

The HSBC RFP seeks to build a carbon offset portfolio that will offset 161,000-170,000 tons of CO_2. Eligible projects include those from the Gold Standard or the CDM or Joint Implementation. Projects must be implemented in China, India, Brazil, or Mexico and provide community and social benefits. Carbon sequestration projects are discouraged from the portfolio.

Standards

The following are the major voluntary carbon offset standards developed to establish offset credits from emissions reductions as real, additional and permanent. Credible standards clearly define the methodology for establishing baseline emissions, terms for project additionality, project type, third party verification and validation, and methodology for selling and retiring offsets. Some standards provide guidelines for project development and verification while others act as registries that accept projects that meet specific criteria. The standards are listed below with their corresponding registry (if applicable).

Table 4: Third Party Carbon Offset Standards/Protocols by Project Type

Renewable Energy	LULUCF/Sequestration	Energy Efficiency	Methane Capture
-Chicago Climate Exchange (CCX) -American Carbon Registry -USEPA Climate Leaders -Voluntary Carbon Standard (VCS) -Joint Implementation Mechanism -Climate Action Reserve (CAR) -Clean Development Mechanism -The Gold Standard -Green-e Climate	-Chicago Climate Exchange (CCX) -American Carbon Registry -Voluntary Carbon Standard (VCS) -Joint Implementation Mechanism (UNFCCC JI) -Climate Action Reserve (CAR) -Clean Development Mechanism UNFCCC CDM -Climate, Community and Biodiversity Standards (CCBS) -Plan Vivo	-Chicago Climate Exchange (CCX) -American Carbon Registry -The Gold Standard	-Chicago Climate Exchange (CCX) -American Carbon Registry -Voluntary Carbon Standard -Climate Action Reserve (CAR) -Joint Implementation Mechanism -Clean Development Mechanism -The Gold Standard

American Carbon Registry
American Carbon Registry Technical Standard 2009
American Carbon Registry Standard for Forest Carbon Projects
Registry: American Carbon Registry

The American Carbon Registry (ACR) is a non-profit U.S carbon market registry that was founded by Environmental Defense Fund and Environmental Resources Trust in 1997 and is now an enterprise of Winrock International. ACR provides an electronic registry system designed to serialize and transparently track offset credits from projects around the globe. ACR also publishes standards, methodologies, protocols and tools for greenhouse gas (GHG) accounting, which are all based on International Standards Organization (ISO) 14064. ACR only registers project-based carbon offset tons that are real, additional, permanent and verifiable and comply with American Carbon Registry Standards including meeting our published American Carbon Registry Technical Standard, which outlines requirements for registration of project-based carbon offsets. ACR allows project developers to use methodologies and tools for GHG measurement from the Clean Development Mechanism (CDM), EPA Climate Leaders and Voluntary Carbon Standard (VCS) to the extent that they comply with the Registry's published standards. ACR has published a Forest Carbon Project Standard which includes requirements for afforestation, reforestation, improved forest management and reduced emissions from deforestation and degredation (REDD) projects. All projects must be third party verified by an accredited ACR verifier or by an accredited verifier from the standards listed above.

Climate Action Reserve
Forest Project Protocol
Landfill Project Reporting Protocol
Urban Forest Project Reporting Protocol
Registry: Climate Action Reserve

The Climate Action Reserve (CAR) was developed by the California Climate Action Registry, a state-developed voluntary greenhouse gas registry designed to track and report institutional greenhouse gas emissions. The CAR registers and tracks carbon offset projects throughout the US. Projects that are registered in the CAR have been third party verified against the CAR project protocols that call for projects that produce additional, real and permanent emission reductions. CAR projects include livestock methane management, forestry and landfill gas collection, and reduction.

Climate, Community and Biodiversity Alliance
Climate Community and Biodiversity Project Design Standard 2nd Edition

The Climate, Community & Biodiversity Alliance (CCBA) is a partnership among research institutions, corporations and non-governmental organizations. The CCBA developed the CCB Project design standard to evaluate projects involved in land use, land-use change and forestry (LULUCF) during the planning or early stage of project implementation. The standard ensures that projects benefit local communities, promote sustainable development, and conserve or restore biodiversity.

This standard includes fourteen required and three optional criteria. Projects that generate exceptional benefits for local people or biodiversity may earn Gold level status by meeting one of the optional criteria. Projects must be verified every five years by a CCBA accredited third party verifier.

The CCB Standards do not issue emissions reductions certificates and many projects combine CCB Standards certification with a carbon accounting standard like the VCS in order to demonstrate that the project delivers credible greenhouse gas reductions and social and environmental co-benefits. Several of the leading registries will include a CCBS tag in the serial number of a credit generated by a CCBS certified project.

Chicago Climate Exchange
CCX Rule Book: Chapter 9 Chicago Climate Exchange Offsets and Exchange Early Action Credits
Registry: Chicago Climate Exchange Registry

The Chicago Climate Exchange (CCX) is a legally binding emissions reduction program in North America. The program administers legally binding commitments to participating entities to meet annual emission reduction goals. Chapter 9 of the CCX Rule Book states criteria for project developers and aggregators looking to register carbon offset credits as tradable allowances (Carbon Financial Instruments) on the CCX market. The CCX has developed standardized rules for issuing CFI contracts for eligible projects including energy efficiency and fuel switching, forestry carbon, landfill, agriculture or coal mine methane, renewable energy, forestry, and ozone depleting substance destruction. Projects must be approved by the CCX Offsets committee, verified by a CCX approved verifier and registered in the CCX Registry.

The Gold Standard Foundation
The Gold Standard Version 2
Registry: Gold Standard Registry

The Gold Standard Foundation is a non-profit organization that registers projects that reduce GHG emissions. The Gold Standard provides criteria for micro, small, and large scale renewable energy and end-use energy efficiency projects that generate offsets to be sold in the voluntary and compliance markets. The Gold Standard uses a unique Sustainable Development Assessment to ensure that a project promotes sustainability on an environmental, social and economic level. The assessment is based on an indicating scoring system ranging from -2 (major negative impact without possible mitigation) to +2 (major positive impact). Projects are validated and verified by an independent third party, certified by the Gold Standard Foundation and registered to the Gold Standard Registry.

Green-E Climate
Green-e Climate Certification and Logo Use Agreement
Green-e Climate Standard
The Green-e Climate Protocol for Renewable Energy

Green-e Climate is a certification program for carbon offsets sold to consumers on the voluntary market. It ensures that offsets that are sold have not been claimed or retired by any other entity and that they are verified from generation to retirement. Green-e Climate endorses certain project-level certification programs to provide offsets from project types that meet stringent qualifications. Green-e Climate-endorsed programs include the Voluntary Carbon Standard, the Clean Development Mechanism, the Gold Standard, and the Green-e Climate Protocol for Renewable Energy. The Green-e Climate Protocol for Renewable Energy sets standards for renewable energy projects that create carbon offset credits to be sold in the voluntary market. When an offset seller wants to sell Green-e Climate certified products, it must source from projects from an

endorsed program and undergo an annual independent audit to ensure offsets are transparently documented and only sold to one entity.

The Plan Vivo System

Plan Vivo Standards

Registry: Plan Vivo Registry

The Plan Vivo System was developed by BioClimate Research & Development (BR&D) a non profit organization that promotes sustainable development among small-scale farmers and rural communities in developing countries. Plan Vivo projects create permanent land-use change through improved land management, farmer training, and capacity-building in communities. The projects result in increased biodiversity, watershed protection, soil stability, and diversification of local incomes. Plan Vivo certificates are quantified over a 25-100 year period on the basis of expected average increase of carbon stocks from sustainable forestry, agroforestry, and other land use systems. The Plan Vivo system incorporates procedures to manage projects and reduce risk of failed projects. Certificates are issued only after a project has been set up, run on a pilot basis, and has been validated by an expert reviewer. Projects are monitored annually, verified by an independent body within five years of project implementation, certified by BioClimate Research & Development, and registered to the Plan Vivo Registry.

Voluntary Carbon Standard

Voluntary Carbon Standard

Registries: VCS APX registry, Caisse des Dépôts VCS Registry, TZ1 VCS Registry, Voluntary Carbon Project Database

The Voluntary Carbon Standard was initiated by The Climate Group, the International Emissions Trading Association, and the World Economic Forum in late 2005. It is considered an all encompassing global standard for voluntary greenhouse gas emission reductions projects. It covers all projects that have resulted in reduction and removal of GHG emissions and covers all major land use activities. Projects are verified by an independent third party VCS-approved verifier. All Agriculture, Forestry, and Other Land Use AFOLU projects have a separate verification process that requires effective risk management and monitoring of CO_2 emissions in surrounding areas. The VCS registry consists of three registries to document the issue, transfer and retirement of all credits, and a central project database that holds project documentation.

Products

For comprehensive list of offset providers visit Ecobusiness links. Here you will find information on the provider, the types of projects they support, and the product certifications used. Before purchasing offsets from these providers be sure to contact them and use our best practices to make sure they are the right provider for you.

Greenhouse Gas Protocol Calculation Tools

The Greenhouse Gas Protocol Calculation Tools work in conjunction with the Corporate Accounting and Reporting Standard for calculating a GHG inventory. These tools measure emissions from Scopes 1, 2 and 3 listed in the Best Practice section.

Carbonfund.org Business Calculators

The Carbonfund.org business calculator measures office emissions based on utility bills, number of employees, or office space. Businesses can also use the calculators to measure emissions from employee commutes, owned fleets, travel, events, paper purchases and shipping.

Definitions

Additionality	The GHG reductions must be surplus to regulation and beyond what would have happened in the absence of the carbon market or in a business-as-usual scenario based on a performance or project specific standard methodology.
Baseline Emissions	The calculated emissions for a given period of time (usually a year). Baseline emissions are calculated to determine what the impact an emissions reductions action will have.
Business-as-Usual	The absence of any action to intentionally reduce carbon emissions.
Carbon Dioxide Equivalent (CO_2e)	A measure used to compare the emissions from various greenhouse gases based on their global warming potentials (GWP). CO_2 is used as the baseline, and assigned a GWP of 1. Methane (CH_4), by comparison, is 23 times more potent a GHG than CO_2, and assigned a GWP of 23. This signifies that, in terms of warming effect, 1 ton CH_4 emissions = 23 tons CO_2e emissions.
Carbon Financial Instrument (CFIs)	The commodity traded on the Chicago Climate Exchange (CCX) is the CFI contract, each of which represents 100 metric tons of CO_2 equivalent. CFI contracts are comprised of Exchange Allowances and Exchange Offsets.
Carbon Offset Registry	A serialized database of carbon offsets that enables one to track the offset or REC. (See: American Carbon Registry,) Registering carbon offsets prevents double counting.
Carbon Sequestration	Physically removing and storing carbon dioxide from the air or from an emissions source. Trees sequester and store carbon dioxide as part of their biological process.
Carbon Sinks	Areas where carbon sequestration outpaces carbon emissions to produce a net deficit in carbon emissions. Oceans are the world's largest carbon sink.

Clean Development Mechanism (CDM)	The Clean Development Mechanism (CDM), defined in Article 12 of the Kyoto Protocol, allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol (Annex B Party) to implement an emission-reduction project in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO_2, which can be counted towards meeting Kyoto targets.
Co-Benefits	Benefits of a carbon offset project that go beyond global warming. Co-benefits may include: land preservation, biodiversity enhancement, improved local air and water quality, job creation, indigenous peoples protection, eco tourism, etc.
Double Counting	Accounting for a carbon offset more than once. Carbon offsets may be serialized with a public registry to prevent double counting.
Emissions Inventory	The calculation of emissions sources within a given scope. Emissions inventories are taken to help gauge sources of emissions and areas for reductions.
Emissions Trading	An approach to reducing emissions by providing economic incentives that reward emissions reductions and penalize emissions that exceed an agreed-upon amount. This system is sometimes called cap and trade.
Greenhouse Gas	Gases in the atmosphere that absorb and emit radiation, thus creating a "greenhouse effect" that warms the planet. The most common greenhouse gases are carbon dioxide, methane and water vapor.
Joint Implementation Kyoto Protocol	The mechanism known as "joint implementation," defined in Article 6 of the Kyoto Protocol, allows a country with an emission reduction or limitation commitment under the Kyoto Protocol (Annex B Party) to earn emission reduction units (ERUs) from an emission-reduction or emission removal project by another Annex B Party, each equivalent to one tonne of CO_2, which can be counted towards meeting its Kyoto target.
Leakage	When the emissions reductions achieved at a given site directly result in emissions increases or decreases elsewhere. For example: if an avoided deforestation project in one location causes demand for timber to rise and deforestation to occur elsewhere.

Metric Ton of Carbon Dioxide (Mt CO_2)	1 metric ton of carbon dioxide = 2,204.6 lbs carbon dioxide
Permanence	The useful life of the project. This term is most commonly used in reference to forest based carbon offsets, where the life of the project is typically measured by the decade.
Real	The assurance that a project is additional, verifiable, and permanent. Information to verify a project's reality might include mention of the verification standard to which the project adheres to.
Validation	The process of deciding if a project, as planned and documented, will be a "valid" source of verifiable emissions reductions.
Verification	Confirmation that the estimate of emissions reductions which the project developer or proponent has developed is in keeping with the validated plan and that the calculations are correct.

EM- Ecosystem Market Place. "State of the Voluntary Carbon Market." 2009 Available at: http://ecosystemmarketplace.com/documents/cms_documents/StateOfTheVoluntaryCarbonMarkets_2009.pdf

IFC- IFC International. "Voluntary Carbon Offsets Market Outlook Report" 2008

IPCC- International Panel on Climate Change "The Physical Science Basis, Summary For Policy Makers" 2007. Available at: http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_Approved_05Feb.pdf

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Addendum 1: Sample Press Release

VIRGIN AMERICA PARTNERS WITH CARBONFUND.ORG TO LAUNCH CARBON OFFSETS

California-based Airline and Leading Carbon Offset Provider Launch Option for Travelers to Support Innovative Emissions Reduction Projects

Silver Spring, MD and San Francisco, CA – Dec. 4, 2008 – As part of a continuing effort to implement innovative environmental sustainability practices, Virgin America, the California-based airline, has partnered with Carbonfund.org , the nation's leading nonprofit carbon offset provider, to allow travelers to help offset the environmental impact of their flight. Travelers on the new airline can choose to offset their flight at the time of booking through the Virgin America ticket purchase confirmation web page. Coming soon, Virgin America will also give guests the opportunity to offset during their flight via the airline's touch-screen seatback inflight entertainment system.

"As both a Virgin-branded company and the country's only California-based airline, it is in our DNA to make environmentally sustainable practices a core priority in our business model," said Virgin America Senior Vice President Dave Pflieger. "While our investment in new aircraft and consistent use of operational practices already make us one of the most environmentally efficient airlines in the U.S., our partnership with Carbonfund.org will give our guests the option to help us further reduce our carbon footprint through fully-vetted and impactful offset projects."

Virgin America and Carbonfund.org selected offset projects focus on emissions reductions in renewable energy and energy efficiency. As with all projects supported by Carbonfund.org, these projects are independently verified. The new carrier also looked to Environmental Defense Fund's (EDF) CarbonOffsetList.org to help select credible and meaningful offset projects. EDF's carefully researched list provides a strong and independent starting point for selecting carbon offsets that represent real reductions in greenhouse gas emissions. Virgin America's selected projects include:

- Inland Empire Utilities Agency Biodigester, a methane capture and elimination project that creates clean, renewable energy and reduces more than 8,000 tons of carbon dioxide equivalent from the atmosphere every year, while also protecting the quality of the region's groundwater. The project is located in Chino Basin, Calif.

- IdleAire, a truck stop electrification project that reduces tailpipe emissions from trucks by connecting truck cabins with electricity at rest stops and eliminating the need to keep engines running for power. This approach saves a gallon of diesel per hour.

"Our partnership with Virgin America means support for two innovative projects in the fight against global warming," said Executive Director Eric Carlson of Carbonfund.org. "We are excited to partner with Virgin America, an airline that has been committed to sustainability practices since day one. Providing travelers a way to get involved in the sustainability effort, by offsetting their flight emissions at the time of bookings, fits well with our goal of making it easy and affordable to offset one's carbon footprint and support emissions reductions."

Developed through a rigorous review process in collaboration with a committee of external experts, CarbonOffsetList.org identifies pre-screened, independently verified offset projects that meet EDF's criteria for high-quality carbon offsets. Of the 11 projects featured on CarbonOffsetList.org, four are offered through Carbonfund.org.

"While leading companies are eager to purchase carbon offsets to help meet their sustainability goals, many remain unclear where to start in selecting these offsets," said Tom Murray, managing director, corporate partnerships, EDF. "We developed CarbonOffsetList.org to enable companies such as Virgin America to confidently choose credible offsets. CarbonOffsetList.org eliminates the guesswork and offers buyers direct access to a list of thoroughly vetted projects that meet EDF's high-quality criteria."

Virgin America launched in 2007 with the goal of building an airline from the ground up that makes environmentally sustainable practices a core part of its business model. Virgin America operates a fleet that is up to 30% more fuel and carbon efficient than the average fleet flying domestically. From its launch, the airline has employed progressive practices to reduce its carbon footprint, such as single engine taxiing, idle reverse landings, maximizing use of efficient ground power, utilizing advanced avionics to fly more efficiently, and cost index flying – the practice of regulating cruising speeds to reduce fuel burn. The airline's company-wide sustainability principles can be found at: http://www.virginamerica.com/va/html/sustainability.pdf

More details on the offset program and selected projects can be found at: www.carbonfund.org/virginamerica.

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EDITORS NOTE: Virgin America is a U.S.-controlled and operated airline and an entirely separate company from Virgin Atlantic. Sir Richard Branson's Virgin Group is a minority share investor in Virgin America.

About Virgin America: Launched in August 2007, Virgin America offers guests attractive fares and a host of innovative features aimed at reinventing air travel. The carrier's base of operations is San Francisco International Airport's ultra-modern International Terminal. The airline's new Airbus A320-family aircraft offer touch-screen inflight entertainment, moodlighting and power outlets. In 2008, Virgin America was named "Best Domestic Airline" in *Condé Nast Traveler* Readers' Choice Awards and "Best Domestic Airline" in *Travel + Leisure* World's Best Awards. The airline recently became the first commercial passenger airline to join the U.S. Environmental Protection Agency's Climate Leaders program, and is affiliated with the Virgin Group, which has committed to reinvesting profits from Virgin-transport related businesses to renewable fuels research and other initiatives that combat climate change. To learn more, visit: www.virginamerica.com.

About Carbonfund.org: Carbonfund.org is the country's leading nonprofit carbon reduction and offset organization, making it easy and affordable for individuals, businesses and organizations to reduce their

climate impact. Carbon offsets enable individuals and businesses to reduce carbon dioxide emissions they are responsible for in their everyday lives by supporting third party validated renewable energy, energy efficiency and reforestation projects where they are most cost effective. Carbonfund.org has over 400,000 individual supporters and works with over 1,000 corporate and nonprofit partners including Discovery, Avis Budget Group, Amtrak, Volkswagen, Dell, and Staples. Visit www.carbonfund.org.

Addendum 2: Model Specification: Carbonfund.org

Open Solicitation Request for Proposal

Carbon Offset Program

Introduction

[NAME OF ORGANIZATION] is [describe what makes your organization a valuable potential partner]. [Organization] has [name commitments or policies] mandating that we [state policy objective], and has already [describe any offset steps you have already taken]. Specifically, [Organization] seeks to offset the greenhouse gas emissions from [source and date, or no. of tons CO_2e].

Example:
The University of Academia was established in 1901 as an institute of higher learning. Today, we serve 10,000 students and employ 500 full-time staff. As a leading academic institution, we seek to adopt and advance sustainability measures that reduce our ecological impacts and provide a model for other institutions to follow. In 2007, the University signed the U.S. College and University Presidents Climate Commitment, and in 2008 we adopted a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution. We recently conducted a carbon inventory, and drafted a climate action plan that projects our need for purchasing carbon offsets over the next five years. Specifically, the University seeks to offset the greenhouse gas emissions from annual travel of 4 million flight miles and 35% of the emissions generated annually by office space of 5000 sq. ft. – for a combined annual total of approximately 5,000 tons CO_2e.

Timeline
[Date] - Questions due
[Date] - Proposals due
[Date] - Contract(s) expected to be awarded
[Date] - Work should be completed

Scope of Work

Directly state your end goal and be sure to include your deadline for applications. Outline your needs and project requirements. This is generally done in bullet points. Make sure to include any certification standards required for the offset project(s) and/or tracking and verification of the offsets.

Example:
The University of Academia seeks an offset provider to offset the greenhouse gas emissions from annual travel of 4 million flight miles and 35% of the emissions generated annually by office space of 5000 sq. ft. – for a combined annual total of approximately 5,000 tons CO_2e - enabling the University to claim that these emissions are carbon neutral. The carbon offsets that are provided must meet the internationally recognized standards and other criteria that we have listed below. All proposals must be submitted by Jan. 1, 2010.

Example service inclusion statements:

1. *Confirmation of measurement of the carbon footprint in metric tons with a detail of the calculation methodology.*
2. *Advice on how to reduce the emissions.*
3. *Required types of offsets to make these elements Carbon Neutral in metric tons.*
4. *Provide a range of verified projects for selection.*
5. *A communication plan with the total tonnage of carbon being offset and the projects selected.*
6. *An assessment and recommendations for any initiatives, products or services to help further enhance program.*
7. *Evaluation and measurement of program against objectives. Recommendations for further program development.*

Other items that may be included in scoping section (a useful thought exercise):

1. Needs
    a. Do you need your carbon footprint measured?
    b. What exactly do you need to offset? (corporate travel, headquarters, fleet, etc)
    c. How many tons or range of tons would you like to offset?
    d. What is your criteria for evaluation
        i. Lowest cost that meets the basic requirements
        ii. Highest quality that meets basic requirements
    e. Additionality statement
    f. Provider reputation
2. Project Requirements and Preferences
    a. What requirements do you have for the offsets purchased?
        i. Offset type (renewable energy, reforestation, energy efficiency)
        ii. Offset location – do you need a project in a specific location?
        iii. Certification standards – to which standards must the projects conform?
        iv. Project guarantee
    b. What do you need to see for each project submittal

i. Description – pictures, location, project partners, contact info, certification standard
ii. Timeline for the project (does it start or end soon, for how long will the credits be valid?)

c. Do you have project preferences that go beyond your minimum needs?
i. Community and environmental co-benefits
ii. Habitat preservation
iii. Supporting new and revolutionary technology
iv. Continued support from the offset provider
v. Opportunities for future project development

3. Other
a. Media
i. Does the offset provider need to participate in media outreach?
ii. Does the offset provider need to provide speakers?

Questions and Answers

Based on the elements discussed in your scoping, what questions (at a minimum) need to be answered. Be sure that all of the most important questions are included. These questions are usually in the form of bullet points and should directly state. Sample questions are listed below.

Example: Please provide detailed answers to the following questions.

- *Will your company provide consultation and analysis on the project carbon footprint?*
- *What type of offsets does your company provide?*
- *To which verification standards do these offsets adhere?*
- *Are you a 501(c)(3) organization? If so, how do you apply the proceeds from the companies with which you work? If not, please explain anything about your business model you feel is important for us to consider.*
- *Is your company subject to an annual financial and carbon offset project portfolio audit, and is the information publicly available?*
- *What other projects similar to the one proposed has your company worked on? Please note all comparables and pertinent insights.*
- *What other reasons should we consider that distinguish your company from other carbon offset providers?*
- *Do you promote and/or publicly mention the companies you provide offsets for? If so, through what marketing mediums?*

Engagement Related Expenses

Will your company cover any cost incurred by the carbon offset provider (e.g. administrative, travel, etc.)?

Example: The University of Academia requests that a member of the carbon offset provider's staff be present at the for an earth day event. The University will reimburse the provider for the cost of a flight to and from the University and provide the provider with a $200 per diem for two days.

The Benefits of Being Chosen for the Project

What are the benefits of being your carbon offset provider? Do you have a large email distribution list? If this is for an event or press release, will you provide a booth or other co-branding opportunities?

Example: The University of Academia is an internationally recognized institution of higher learning with a long history of innovation and environmental stewardship. By working with the University on this project, your company will automatically gain credibility as a leading carbon offset provider. In addition prestige working with The University, the company can expect reasonable publicity.

- *Your company will be provided a 10' x 10' space to display materials on Earth Day*
- *The company's logo and name will be mentioned in many Earth Day related materials*
    - *50,000 brochures*
    - *Featured on a 10' x 5 banner on the main stage*
    - *150,000 person email list*
    - *In the school newspaper, circulation 10,000*
- *The company will be prominently featured in the University Earth Day press release*
- *As part of the Presidents Climate Commitment and our environmental stewardship policies, there is great potential for partnership renewal*
- *Our graduates and members of the attending crowd feature prominently in the business world, giving your company exposure to 100's if not thousands of potential customers*

Confidentiality

Insert appropriate confidentiality statement if appropriate.
Example: This document is private and for the use of the intended recipients only. No part of this document may be copied or replicated in any way, nor may any of the information disclosed in this document be shared.

Acceptance and authorization

The terms and conditions of the **Professional Services Agreement** apply in full to the services and products provided under this Statement of Work.
IN WITNESS WHEREOF, the parties hereto each acting with proper authority have executed this Statement of Work, under seal.

Client's Full Name	Service Provider's Full Name
Title	Title
Signature	Signature
Date	Date