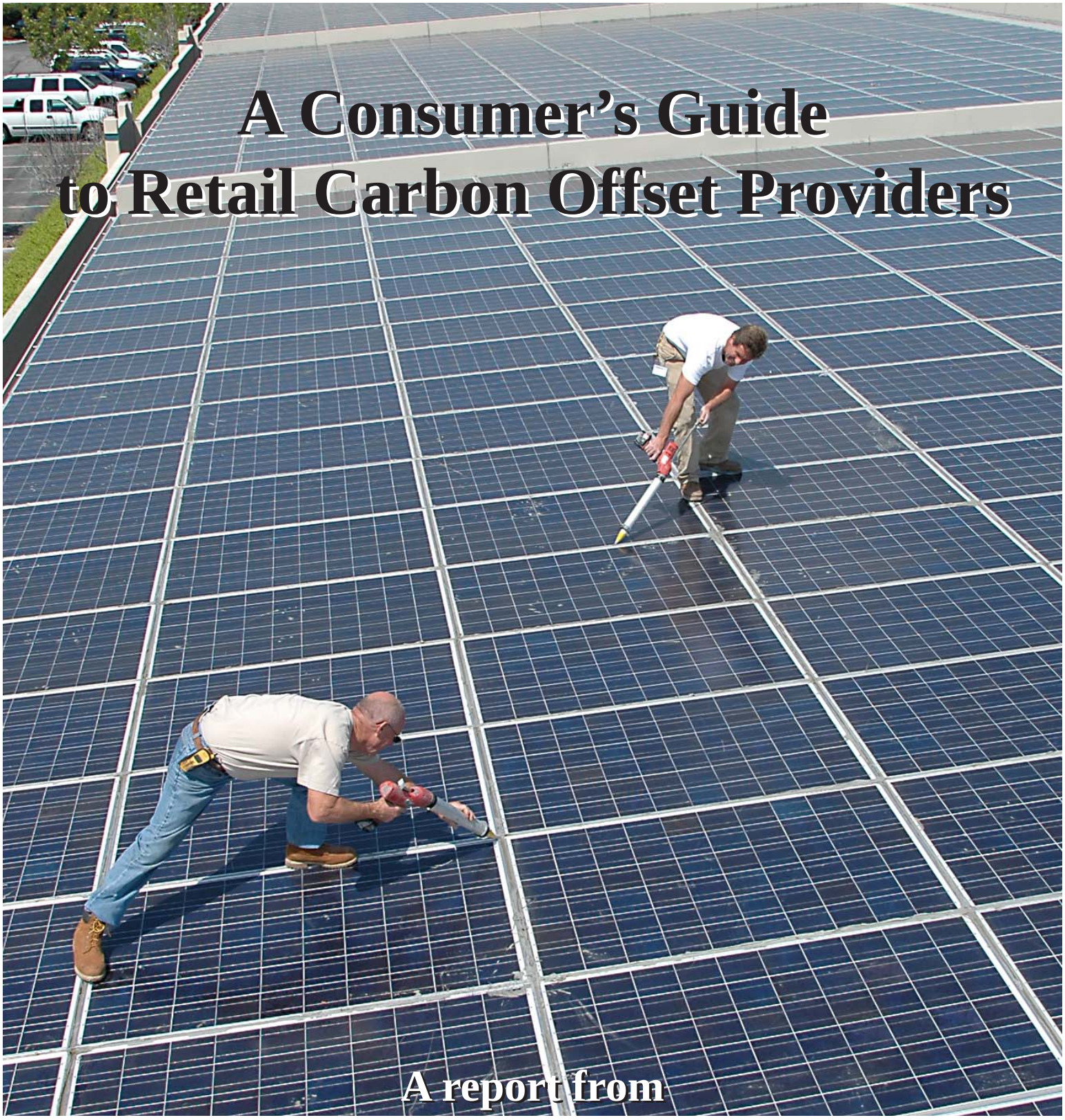
# A Consumer's Guide to Retail Carbon Offset Providers



A report from

CLEAN AIR COOL PLANET

December, 2006

# A Consumers' Guide to Retail Offset Providers

Prepared for

CLEAN AIR COOL PLANET

**By**

TC+ES
TREXLER CLIMATE + ENERGY SERVICES

December, 2006

**Sponsored by**

CLIF BAR

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# GLOBAL WARMING MITIGATION FACTOIDS

## A Ton of $CO_2e$ is Emitted When You:

+ **Travel 2,000 miles in an airplane.**
+ **Drive 1,350 miles in a large sport utility vehicle.**
+ **Drive 1,900 miles in a mid-sized car.**
+ **Drive 6,000 miles in a hybrid gasoline-electric car.**
+ **Run an average U.S. household for 60 days.**
+ **Have your computer on for 10,600 hours.**
+ **Graze one Ugandan dairy cow for eight months.**

## To Offset 1,000 Tons of $CO_2e$ You Could:

+ **Move 145 drivers from large SUVs to hybrids for one year.**
+ **Run one 600 kW wind turbine for an average year.**
+ **Replace 500 100-watt light bulbs with 18-watt compact fluorescent lights (10-year life).**
+ **Replace 2,000 refrigerators with the highest efficiency model (10-year life).**
+ **Install 125 home solar panels in India (20-year life).**
+ **Plant an acre of Douglas fir trees (50 years of growth).**
+ **Protect four acres of tropical rainforest from deforestation.**

## Average $CO_2e$ Emissions per Year:

+ **4.5 tons for the average U.S. car.**
+ **4.5 tons for the average global citizen.**
+ **6.2 tons for electricity use of the average U.S. household.**
+ **21 tons for the average U.S. resident.**
+ **1.5 million tons for a 500 MW gas power plant .**
+ **8.3 million tons for an older 1,000 MW coal plant.**
+ **6 billion tons for the U.S. as a whole.**
+ **>25 billion tons for the planet as a whole.**

# Clean Air – Cool Planet

With offices in New Canaan, CT, Boston, MA, and Portsmouth, NH, Clean Air-Cool Planet is the leading non-profit finding and promoting solutions to global warming in the Northeast.

Founded in 1999, Clean Air - Cool Planet creates partnerships with communities, corporations, campuses, and science and nature centers to reduce greenhouse gas emissions and educate the public about climate science.


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# Preface

During 2006, interest in carbon offsets has grown dramatically in the US. The New Oxford American Dictionary even chose "carbon neutral" as its "Word of the Year" – clear evidence, if more was needed, that this is the wave of the present – and that understanding offsets and the role they play in attaining "carbon neutrality" is increasingly important. Clean Air-Cool Planet commissioned this report as a contribution to the discussion about what makes a good retail carbon offset provider, and to help provide guidance to those that are considering purchasing offsets to help reduce their "carbon footprints."

Since our founding, Clean Air-Cool Planet has worked with businesses, universities and municipalities to help them set and achieve greenhouse gas reduction goals. We always focus on achieving emissions reductions first – through means such as energy efficiency and conservation, technology, process reengineering, green building and other "best practices" – and only then do we recommend that institutions offset what they can't reduce. All the offsets in the world won't help us if we in the U.S. don't make huge reductions in our overall greenhouse gas emissions and effect a transition away from wasteful use of fossil fuels. Nevertheless, offsets can play a significant part in a comprehensive climate protection strategy, not only for the offsets themselves, but for the role the market can play in informing the public about climate change and in demonstrating to policy makers that this issue is ripe for public policy. As a result, it is exciting to see the demand growing and the market expanding.

Individuals and our institutional partners frequently ask us about carbon offsets, and how confident they should feel in purchasing them as a contribution to solving global warming. With dozens of providers of carbon offsets in the retail market, and more entering it all the time, it is quite difficult for potential purchasers to understand what they are buying and what they should look for.

To try to address this problem, we commissioned Trexler Climate + Energy Services, Inc. (TC+ES) to conduct an independent survey and evaluation of retail offset providers. TC+ES has been involved in the voluntary carbon market since 1991 and works with many leading firms in the climate change mitigation arena. TC+ES has a sterling reputation as a provider of consulting services in this area, possesses an unparalleled knowledge of the field of carbon offsets and for many years has been a leading advocate of environmental integrity in the development of voluntary offset markets.

In the interest of maintaining the independence of this report, we offer full disclosure here. Since 2001, CA-CP has worked in partnership with one of the carbon offset providers reviewed in this report (*Native*Energy). For this reason, we asked TC+ES to undertake a fully independent assessment.

Funding for this report was provided by three corporate sponsors, Stonyfield Farm, Interface, Inc., and Clif Bar. Neither they nor Clean Air-Cool Planet had any input into the design of the methodology and the scoring system used to assess the offset offerings and had no influence over the rankings.

We hope that this report will provide a useful service to potential consumers of retail offsets. By providing a clear description of the key issues underpinning carbon offset quality and using a transparent methodology to assess retail providers, our aim is to help educate consumers on the questions to ask when considering a retail offset purchase.

This report focuses solely on providers specifically offering organizations or individuals carbon neutrality through their websites. It does not include organizations developing and selling carbon offsets on a larger scale to utilities and others, nor does it profile renewable energy credit providers and brokers active in the field of renewable energy credits (RECs) who do not sell into the retail market for climate neutrality.

The report is intended to identify providers that perform best against the report's methodology, thus offering direction, based on the key attributes identified, to potential purchasers on what makes a "good" retail carbon offset provider. Thirty providers were reviewed for the study; companies were asked to respond to a detailed questionnaire. Unfortunately, less than half the companies reviewed chose to complete and return the questionnaire. Where the questionnaire was not completed, the report's authors relied mainly on publicly available information from websites and annual reports.

This is the first time that this kind of independent review of retail offset providers has been undertaken. Because the companies have not previously been exposed to or evaluated against the methodology used in this report, and because the goal of the report is to encourage more transparency and quality across retail offset providers as a whole, the report does not try to identify one single "best" retail offset provider. Instead, it identifies the top eight providers; these providers received a cumulative score of more than 5 out of 10. However, the report does not specifically rank providers by their score. Now that the methodology is publicly available, we would anticipate that future versions of this report might raise the bar for inclusion in the top tier and might provide the actual scores received by individual retail offset providers. For now, we're content to simply point consumers to the top 25 percent of providers as measured by the methodology used in the report.

The information provided in this report should be viewed as a snapshot of the situation today. This is a market that is changing quickly and one in which providers are innovating and developing all the time. Many of the offset companies that did not make it into the top tier this time around are well within reach of doing so. As the market evolves, and consumers demand both quality and transparency, these companies can do much better by the time we repeat this exercise.

I want to thank TC+ES for its work in compiling this report, our four independent peer-reviewers for their invaluable time and expertise, and our three corporate sponsors for their generous support. If this report provides information consumers can use in making offset choices, and has clarified why this information is important, then it has succeeded. We at Clean Air-Cool Planet welcome your feedback on the report and invite suggestions for how to provide even more value to consumers in this field in the future.

Adam Markham
Executive Director
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## Executive Summary

The concept of carbon neutrality dates back at least a decade, to when Stonyfield Farm became the first of many companies to set out to reduce and ultimately neutralize its greenhouse gas (GHG) footprint through the purchase of carbon offsets. Interest in carbon neutrality has grown dramatically in the last two to three years. It is no longer just a few innovative companies and individuals looking for an opportunity to "do the right thing"; rather, it is becoming an environmental commodity market. More than 30 companies and organizations are now willing to help you calculate your GHG footprint and to sell you offsets that can make you, your car, or your entire household carbon neutral. They will do this in exchange for nothing more than a small payment on your credit card. For less than $100/year (at $10/ton), most Americans can offset their personal GHG footprint. Figure 1 (p. 1) describes the steps involved in going carbon neutral.

As the threats posed by global warming become more obvious, not only to scientists but also to the general public, the concept of being able to go "carbon neutral" is an attractive one. Carbon neutrality offers individuals, businesses, and other institutions (e.g., universities) the opportunity to take personal responsibility for the global warming implications of their lifestyles. The sale of carbon neutral products and services may also offer companies a way to develop competitive advantage with key consumer constituencies.

Environmental commodity markets are still relatively new; the retail market for voluntary carbon neutrality is newer still. One implication of this is that the market is still catching up with public interest. There are no widely accepted standards, for example, as to what qualifies as an "offset" for purposes of making consumers carbon neutral. As a result, one can still question what consumers are actually buying when they purchase carbon neutrality for themselves, their family, or their vehicle. In the absence of an accepted standard, almost anyone can offer to sell you almost anything and claim that this purchase will make you carbon neutral. Because a carbon offset is an intangible commodity, it is very difficult for consumers – even environmentally savvy ones – to differentiate between a high-quality and a low-quality offering. Consumers would benefit from a clear-cut "seal-of-approval" for retail offsets. Such a seal is the objective of several efforts currently underway in the U.S. and internationally.[1] But we're not there yet.

In the meantime, the retail market for carbon neutrality is moving full speed ahead. Retail carbon offset providers differ markedly in the sophistication of their message, their understanding of carbon offsets and offset quality, and in the information they provide consumers. This report seeks to provide consumers with an informational tool that can help them make more informed offset purchases in today's market for carbon neutrality. It is a first step

[1] A number of organizations are trying to offer an offset standard to the voluntary market. The CDM Gold Standard recently released what it terms a voluntary market standard and the Climate Group is in the midst of developing its Voluntary Carbon Standard. Market acceptance of these standards, however, is still limited. The Gold Standard, for example, is quite restrictive (being limited to renewable energy and energy efficiency projects), and is characterized by high transaction costs. The closest thing to a consumer "stamp of approval" in the U.S. today is the Environmental Defense (ED) Fund's Fight Global Warming website (www.fightglobalwarming.org), where consumers are pointed to a small number of carbon offset projects from which they can purchase offsets. These offset projects (but not the providers themselves) have gone through an informal quality review by ED's sister organization, the Environmental Resources Trust (http://www.ert.net).

toward allowing consumers to reward those providers that are being most transparent about the quality of the commodity they are providing.

In providing consumers with the information they need to make an informed decision, the report does not seek to identify the "best" retail offset provider. A much more in-depth review would be required to do this in a robust way or to claim to have reliably rank-ordered the top tier of providers. Consumers can benefit, however, from knowing that the provider they choose meets certain basic criteria. That is the goal of this report.[2]

The report identifies several criteria by which retail offset providers can be evaluated and ranked. Using these criteria, each retail provider was evaluated and assigned a score on a scale of 1 to 10. Evaluating 30 retail offset providers on a 1-10 scale, eight providers earned a cumulative score of more than 5.0 (Box 1).

***Box 1: Top Performing Retail Offset Providers****

- AgCert/DrivingGreen™ (Ireland)
- atmosfair (Germany)
- CarbonNeutral Company (UK)
- Climate Care (UK)
- Climate Trust (US)
- co2balance (UK)
- *Native*Energy (US)
- Sustainable Travel/MyClimate™ (US)

* Providers are presented alphabetically.

Based on the information available to the report's authors, including survey results from responding providers, the top tier of providers profiled are offering carbon offsets to the retail market that are likely to be higher quality than the offsets available from other providers. This report, however, is a first-of-its-kind analysis, and the report's authors were not charged with carrying out an in-depth due diligence at the entity or project level. As a result, it is not possible to categorically state that purchasing offsets from the top tiers of providers will render purchasers carbon neutral. Consumers can and should play an important role in querying retail offset providers with the goal of improving the quality and reliability of carbon offsets being offered to the market.

[2] This report can be looked at as a companion report to one recently published by Ecosystem Marketplace: Trexler, M.C., Kosloff, L.H., and Silon, K., *Going Carbon Neutral: How the Retail Carbon Offsets Market Can Further Global Warming Mitigation Goals.* Ecosystem Marketplace Report: EM Market Insights 2006 (available at http://www.ecosystemmarketplace.com/). That report provides a comprehensive review of the retail offset market, but does not provide a qualitative ranking of retail offset providers.

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## Retail Offsets Glossary

Additionality: Emissions reductions are "additional" if they occurred because of the presence of incentives associated with the existence of GHG markets, voluntary or mandatory. A variety of stakeholders have proposed many different additionality "tests," but at its root, demonstrating the additionality of a carbon offset means showing that the emissions reductions being used as offsets are not "business as usual." Business-as-usual emissions are generally referred to as the emissions "baseline" (see also Box 3, p. 3.)

Carbon Neutral: The idea of helping consumers, organizations, and businesses neutralize their personal or corporate greenhouse gas (GHG) emissions (their "carbon footprint") by offsetting all or some of the emissions associated with their lives and activities. Terms such as "climate neutral," "carbon neutral," "climate friendly," "footprint neutral," "Climate Cool™," and other terms are used to characterize the same concept.

Carbon Footprint: The estimated emissions of carbon dioxide ($CO_2$) and other GHGs associated with a particular activity (*e.g.*, a plane trip), use of your car, your family's overall lifestyle, or use of a particular product or service. The scope of carbon footprint analyses can vary, and may or may not include all GHGs or reflect a "life cycle" approach to quantifying "upstream" and "downstream" GHG emissions. When it includes all GHGs, the footprint is commonly expressed in "$CO_2$ equivalent" ($CO_2e$) units. The personal carbon footprint of a typical individual in the United States is approximately 10 tons of $CO_2e$ per year, reflecting emissions from the activities listed above that are under a person's direct control, *e.g.*, home energy use and personal transport. U.S. per capita emissions (calculated by dividing total national GHG emissions by total population) are more than 20 tons per year.

Carbon Offset: The act of reducing or avoiding GHG emissions in one place in order to "offset" GHG emissions occurring somewhere else. Unlike most conventional pollutants, GHGs mix well in the atmosphere and can travel around the planet quickly. As a result, it doesn't really matter from the standpoint of global warming mitigation where a reduction takes place. Carbon offsets are intended to take advantage of the radically different costs and practicalities of achieving GHG emission reductions by sector and geography.

Certified Emissions Reductions (CER): A tradable certificate reflecting the reduction or avoidance of one ton of $CO_2e$. CERs are the currency used by the Clean Development Mechanism (CDM) under the Kyoto Protocol for GHG trading between developing countries (countries without emissions reduction targets) and industrialized countries (those with emissions reduction targets).

Chicago Climate Exchange (CCX): The CCX operates a voluntary GHG cap-and-trade program in the U.S and has branched out into Europe and other countries. The U.S. program is a pilot program to generate learning and test how a domestic GHG cap-and-trade system might function. CCX members contractually commit to GHG emissions reductions of a certain magnitude per year from their original baseline. Reductions beyond that level can be sold to other CCX members who need additional reductions. A small fraction of the CCX market consists of project-based reductions.

Clean Development Mechanism (CDM): An emissions trading mechanism under the Kyoto Protocol. It is intended to help Annex B Parties (industrialized countries) reduce the costs of meeting their emissions targets under the Protocol by achieving emissions reductions in other countries at lower costs than they could domestically. CDM emission reduction projects allow developing countries to advance sustainable development objectives by creating and selling CERs (see Certified Emissions Reductions).

Gold Standard: An offset standard based on the Kyoto Protocol's Clean Development Mechanism and developed by several international nonprofit organizations. Gold Standard certification is limited to small-scale renewable energy and energy efficiency projects that have received approval through the CDM process (see http://www.cdmgoldstandard.org). A voluntary market version of the Gold Standard has recently been released that does not require CDM project approval; it, too, limits certification to renewable energy and energy efficiency projects. The voluntary standard seeks to apply a standard of review similar to the CDM, but notes that additionality testing procedures are relaxed.

Greenhouse Gas (GHG): The primary gases (both naturally existing and man-made) that contribute to global warming by trapping more energy in the earth's atmosphere than would occur in their absence. Greenhouse gases covered by the Kyoto Protocol are carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). Chlorofluorocarbons are also powerful GHGs, but are regulated separately as a means of addressing stratospheric ozone depletion. Water vapor is a powerful GHG that responds automatically to changes in temperature and other conditions, but it cannot be directly influenced by human activities. It is therefore not generally considered a greenhouse gas for global warming mitigation purposes.

Greenhouse Gas (or Carbon Dioxide) Footprint: See Carbon Footprint.

Kyoto Protocol: An internationally binding agreement that falls under the more general United Nations Framework Convention on Climate Change (UNFCCC). The Protocol sets GHG targets for countries that sign and ratify the agreement. The United States and Australia are among the few countries that ratified the UNFCCC but did not ratify the Protocol and thus are not subject to its GHG reduction targets. A corollary to this is that emissions reduction projects in the United States cannot be used for compliance with the Kyoto Protocol.

Renewable Energy Certificate (REC): A certificate that represents the environmental attributes of 1 MWh of electricity from a renewable energy source. RECs can be used to satisfy regulatory mandates (*e.g.*, renewable portfolio standards) or to supply voluntary green energy markets.

Voluntary Carbon Standard: A new standard proposed by The Climate Group and the International Emissions Trading Association for carbon offsets bought and sold in the voluntary market. As of December 2006, it is still under development and has been submitted to the public for comment.

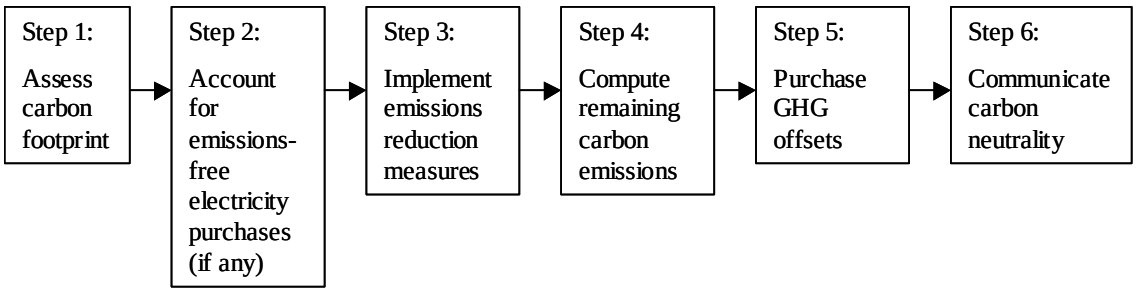
White Tag: A certificate equivalent to 1 MWh of energy savings. White tags have the goal of commoditizing energy efficiency, much as renewable energy certificates have commoditized renewable energy generation.

## Introduction to the Retail Offsets Market

With global emissions of carbon dioxide exceeding 25 billion tons per year and growing, it will take radical changes in energy production and use to avoid the "dangerous anthropogenic interference" with the climate system that the United Nations Framework on Climate Change warns against. National and international policy will be pivotal to any successful long-term effort to reduce GHG emissions and to moderate global warming. At the same time, and partially in response to the absence of such policy, voluntary greenhouse gas markets are proliferating.

There are no federal greenhouse gas emissions reduction mandates in the United States. Voluntary carbon emissions reductions and offset projects have played a key role in corporate efforts to demonstrate leadership in addressing global warming, and toward branding themselves as sensitive to the climate issue. The retail carbon offsets market especially is emerging as a means of allowing individuals, households, and small companies to be perceived as doing something about global warming by going "carbon neutral." Carbon neutrality refers to the idea of reducing and ultimately neutralizing one's carbon "footprint" (see Figure 1). The role of carbon offsets is to neutralize that part of a carbon footprint not addressed through direct emissions reductions, the purchase of emissions-free electricity, or other means. Offsets also can be used to render products, services, and events carbon neutral, or to otherwise influence consumer-purchasing decisions.

***Figure 1: Achieving Carbon Neutrality***




The retail offsets market is growing rapidly. Several dozen companies and organizations now offer the public the ability to purchase offsets in the retail marketplace (see Appendix A). These entities generally encourage consumers and small companies to offset their entire personal or business GHG footprints, or to offset specific activities (*e.g.*, airline flights, car travel, conferences, or other events).

Describing the retail offsets market is not easy. The number of entities in the market continues to grow, and the dozens of organizations already involved in the market provide widely disparate marketing and consumer messages. No one knows how many offsets have been sold into the retail offsets market for carbon neutrality purposes. Moreover, many retail offset marketers

provide little information about where the money is being spent or what criteria are used to select the reductions they sell to consumers.

### *Box 2: Notable Carbon Calculators*

| | | |
|---|---|---|
| **Airplane Travel Emissions** | | |
| Atmosfair | https://www.atmosfair.de/index.php?id=5&L=3 | Location to location detail, with layovers |
| Climate Care | http://www.climatecare.org/living/calculator_info/index.cfm | Location to location, as well as house and car emissions |
| Offsetters | http://www.offsetters.ca/calculators_flights.htm | Location to location detail |
| **Business Emissions Calculators** | | |
| Climate Friendly | http://www.climatefriendly.com/business.php | One of very few business calculators. Includes factory and office electricity, fleet fuel, and corporate air travel. |
| **Car Travel Emissions** | | |
| Certified Clean Car | http://www.certifiedcleancar.com/menu/cleannow/foryou/index.htm | Input exact car make and model |
| Target Neutral | https://www.targetneutral.com/TONIC/carbon.do?method=init | Calculate up to 4 cars at once |
| TerraPass | http://www.terrapass.com/road/carboncalc.php | Input exact car make and model |
| Clean Air Pass | https://www.cleanairpass.com/treecanada | Input exact car make and model |
| **Other Notable Calculators** | | |
| Carbon Counter | http://www.carboncounter.org/test.php?testPath=estimate&nextStep=1 | Calculate "estimated" or "exact" emissions based on your information |
| Sustainable Travel International | http://www.sustainabletravelinternational.org/offset/index.php?p=hotel | Includes hotel emissions |
| World Land Trust | http://www.carbonbalanced.org/personal/calculator/calctravel.asp | Includes hotel, boat, flight emissions for multiple travelers |
| Atmos Clear | http://www.atmosclear.org/calculator_tran.php | Includes household and recreational equipment, from leaf blowers to jet skis |

The price of seeking to go carbon neutral also varies widely. Carbon neutral websites sell offsets that range from $5 to $25 per ton, averaging about $10/ton. Price competition in the retail offsets market is starting to appear, with some suppliers advertising that their offsets cost less than those of their competitors. Price variety and competition might appear to be a good thing both for consumers and for market expansion; as this report explores later, however, low offset prices can be a double-edged sword from the standpoint of offset quality. While there is no necessary causal link between the cost of producing a carbon offset and its quality, there probably is a general correlation between price and quality in the retail offset market. As in other arenas, if something sounds too good to be true, it probably is. While it is attractive, for example, to conceive of bundling offsets with products and services at no incremental cost to the consumer as a means of gaining market share, it becomes particularly important to evaluate the quality of the offsets used in any such effort.

### *Box 3: An Introduction to Offset Quality*

A perfect offset project would be characterized by specific quality characteristics:

- *Additionality*: It would be easy to see the connection between the demand created by carbon offset markets and the emissions reductions being sold as offsets. The connection can be a financial one, *e.g.* where offset revenues clearly make a project happen that otherwise would not have happened, or it can be more subtle, where the offset market or offset funding makes it possible to overcome other barriers to a project.
- *Baseline Determination*: Once additionality is confirmed, a credible approach would have been used to create an emissions baseline for the project, namely the emissions that would have occurred in the absence of the project. An inflated emissions baseline can easily make it look as if a project is generating more offsets than it really is.
- *Benefit Quantification*: The quantification of the GHG emissions reductions (or sequestration) resulting from an offset project (relative to baseline emissions) would reflect key potential uncertainties, as well as the potential for leakage (including the possibility that GHG emissions increase elsewhere as a result of the project).
- *Permanence*: The offsets would not be subject to potential reversal in the future (as can occur with carbon sequestration projects where the trees might die by fire or pest infestation).
- *Ownership*: Ownership of the reductions would be clear, making it less likely that the same offsets might be claimed and sold multiple times. This is much easier with direct reductions (*e.g.*, on-site reductions) than with indirect ones (*e.g.*, off-site reductions, as with renewable energy generation displacing emissions at a power plant somewhere else).
- *Monitoring and Verification*: The offset project would be monitored and its offsets verified over time.
- *Registration*: The offsets would be registered to provide a paper trail and to reduce the possibility that the same offsets might be sold multiple times.

Several variables that don't influence an offset project's technical quality, but which are commonly used to characterize offset projects, include:

- *Offset cost*: It is important to recognize that there is no necessary correlation between cost to generate and offset, and offset quality.
- *Ancillary environmental benefits*: Ancillary environmental and other benefits are desirable, but shouldn't substitute for technical quality as characterized above.
- *Offset timing*: Offsets may be sold on an "as you go" basis or may be sold in advance of the actual offset's creation. The advance sale of offsets creates certain project performance risks relating to whether the offsets will ultimately be generated, but can be key to the pursuit of "additional" offset projects (see Box 5).

Many retail offset providers offer online assistance through the use of online carbon calculators for consumers to estimate their carbon footprints. Box 2 describes several calculators that stand out in the field.

For the carbon offset market to function not only in the sense of a commodity changing hands, but also in the sense of accomplishing the promised environmental benefit, offsets need to represent quality GHG reductions (see Box 3). In particular, they need to be "additional" to what would have occurred "but for" the purchase of the offset. For example, if offsets are claimed from the collection and destruction of methane at a landfill, what otherwise would have happened to that methane? If the methane would have been collected and destroyed anyway (whether because it is required by law or is standard business practice), then buying those methane reductions will not result in "additional" environmental benefit. To really neutralize the

emissions of your travel or lifestyle, there needs to be a clear conceptual link between the fact that you're purchasing offsets and the generation of those offsets. Reductions from business-as-usual projects, no matter how well-intentioned or environmentally beneficial, cannot neutralize anyone's GHG emissions. Testing projects and reductions for "additionality," however, is often easier said than done. Disagreements over additionality testing underlie most disputes about the "quality" and environmental benefit of offsets (Box 4).

### *Box 4: Focusing on Offset Additionality*

The concept of additionality is relatively easy to understand, but vexingly difficult to translate into practice. There are many reasons people pursue projects that may reduce GHG emissions; the determination of additionality boils down to what drives a project with GHG benefits to be undertaken. For the retail offsets market, the question is whether the existence of the market and the associated value attributed to emissions reductions is a primary motivation (although not necessarily the only motivation) for pursuing a project that leads to GHG reductions. The question boils down to a thought experiment: holding everything else constant, would a project have happened in the absence of the retail offsets market? If it would have happened anyway, then the project is not additional; if it wouldn't, then the project is additional.

Unfortunately, this question has no definitive answer. Even if we could read the minds of project developers, they themselves may not know what they would have done under different circumstances. We are forced to seek a second-best solution – namely, designing questions that are answerable. For additionality, these questions have taken the form of what are generally called "additionality tests."

The evaluation of additionality can become highly subjective. Even with the best of efforts to screen out non-additional projects, no additionality standard can be perfect. A variety of tests have been proposed by which to test for the additionality of offset projects, including (in simplified form):

- *Regulatory Test:* does the project go beyond legal requirements?
- *Financial Test:* is the project economically viable without offset revenues?
- *Barriers Test:* are there significant non-financial barriers that a project needs to overcome?
- *Common Practice Test:* does the project go beyond common business practice?
- *Timing Test:* was the project started after a given date?

Each test is characterized by its own advantages and disadvantages; none is universally applicable. As a result, additionality determinations are often best made by a third party with experience in the field.

For an in-depth review of the additionality issue as it applies to carbon offsets, see: Trexler, M.C., Broekhoff, D.B., and Kosloff, L.H. "A Statistically Driven Approach to Offset-Based GHG Additionality Determinations: What Can We Learn?" Sustainable Dev. Law & Policy Journal 6(2):30-40, Special Edition on Climate Law (Winter 2006).

Although the retail offsets market has expanded, the information provided by retail providers has not kept pace. Consumers often do not find the information they need to make effective choices among retail offset suppliers. In the absence of a clear quality standard for offsets, a reliable provider certification process, or effective disclosure and verification protocols, the retail offsets market remains a "consumer beware" market.

The general state of the information available to consumers from retail offsets providers can be characterized as follows:

- Some retail offset providers give no indication that they understand the issues associated with determining offset quality or that they have implemented procedures to promote the quality of their reductions. These providers often do not offer any information to suggest that the reductions they are selling would pass any credible additionality test or broader quality review.
- Some retail offset providers say they are funding specific carbon-offset projects, but do not explain their criteria for project selection. Some specify the funded sectors (*e.g.*, renewable energy or energy efficiency), but do not list specific projects, explain how they chose these projects, or specify why those projects are able to generate quality offsets.
- Some retail offset suppliers do not fully describe key details about what they are selling. For example, offsets from tree planting are often sold as if they were exactly the same as any other offset, even though the GHG reductions from planting trees may not be realized for decades into the future as the trees grow. Forestry-based reductions are often legitimate, and front-loading can be an effective tool for promoting high-quality projects, but such offset characteristics need to be transparently disclosed if consumers are to understand what they are buying (see Box 5, p. 6).
- Some retail offset suppliers sell other commodities as $CO_2$ offsets, without necessarily clarifying for consumers what they are buying. This approach most often occurs in the sale of renewable energy certificates (RECs), which are often characterized as carbon offsets based on the assumption that each REC offsets carbon dioxide that otherwise would have been produced at a power plant. CCX Carbon Financial Instruments are also used in this way, and energy efficiency credits (or white tags) are likely to become more common as carbon offsets. These commodities, however, arose in different markets and contexts, and generally are not expected to meet the same criteria as carbon offsets, particularly with respect to additionality. As a result, they often do not reflect a comparable environmental commodity in helping a consumer achieve carbon neutrality.
- Some providers state that they have their reductions "certified" by oversight groups such as the Climate Neutral Network, or verified by third parties such as Det Norske Veritas (DNV). Such third-party verification will be useful in the long run for voluntary GHG markets; with no clear quality standard in common use today, however, the meaning of "verification" can be ambiguous. In the current retail offset market, this limitation is generally not explained by the offset providers.

This guide is intended to provide consumers with information they need to make effective offset purchasing, and in the longer term to promote increased transparency in the retail offsets market. Consumers can also intervene to promote the quality of the offsets they are buying and encourage increased market transparency. They can do so by posing questions such as the following to retail offset providers:

- Do your offsets result from specific emissions reduction or sequestration projects?
- Do you use an objective standard to ensure the additionality and quality of the offsets you sell?
- Can you show me that the projects in your portfolio would not have happened without the GHG offset market?

- Have your offsets been validated against a particular third-party standard by a credible source?
- Are you selling offsets that will accrue in the future? If so, how long into the future, and can you explain why you need to "forward sell" the offsets?
- Can you demonstrate that your offsets are not being sold to multiple buyers?
- What are you doing to educate your buyers about global warming and the need for global warming policy?

### *Box 5: Selling Offsets Generated in the Future*

Retail offset providers face several challenges in supplying credible, cost effective offsets to the market. Project developers are often reluctant, for example, to pursue truly "additional" GHG offset projects if they have no guarantee of selling the offsets. Conversely, companies looking to buy offsets would like to know that those offsets are "additional," but they do not want to wait for new projects to get started and usually cannot fund a project's entire costs. To understand what the market is up against, consider these two characteristics of the voluntary retail market.

- Carbon neutrality is usually sold on a year-to-year basis. There is no guarantee that any given offset purchaser will continue to purchase offsets in the future, and few consumers are willing to purchase carbon neutrality for multiple years up front.

- Offset projects generally result in a stream of emissions reductions over a project's life (typically five or more years). This multi-year credit stream usually makes an "additional" project's reductions cost-effective. If a project's entire cost has to be covered by just the first year of offset revenues, those offsets will usually look very expensive to the consumer.

As a result, finding cost-effective quality offsets on a year-to-year basis is challenging at best. Buyers face a distinct incentive to accept lower quality offsets, particularly with respect to additionality, since non-additional offsets are easy to find at a relatively low cost. This dilemma can be overcome in a way that favors additionality by selling the future expected reductions "up front." This secures the funding needed by project developers to initiate truly additional offset projects.

Not surprisingly, there are tradeoffs involved. The sale of future reductions creates the risk that the anticipated offsets never actually occur. Projects can fail for many different reasons. To deal with this risk, offset providers may want to either discount these offsets to account for future project and delivery risk, or "self-insure" their portfolios by purchasing more offsets than they are actually committing to deliver.

Notwithstanding these risks, a high-quality offset characterized by the risks of future delivery is still preferable to a low-quality offset, even if it is being offered "real time."

Contributing to the transparency of retail offset markets will hopefully contribute to their robust growth; such markets can play important roles in bringing the public increased awareness and knowledge about global warming, and in turn contribute to public policy development, while also providing real greenhouse gas emission reductions.

This report is intended to be an objective assessment of providers currently participating in the retail offsets market, and establishes a clear methodology for that purpose. The next section of the report describes the process by which retail offset providers were evaluated and displays the results of that analysis.

## Ranking the Retail Offset Providers

Today, the websites of some 35 retail offset providers offer carbon neutrality for a fee to consumers and businesses. Several of these providers have only recently entered the market, too late to be included in this report. A total of 30 of providers (see Appendix A) are included. The report does not evaluate the quality of the offsets being sold by retail offset providers. This is due to two factors. First, in most cases the report authors did not have enough information about the specific offsets being sold by each provider to reliably make such a determination. Secondly, offset portfolios are constantly shifting, making it less useful to focus on specific offsets being offered at any one time than on the process for offset selection. Thus, the report focuses on the providers. For additionality and overall offset quality, for example, the report evaluated each provider's understanding of the technical aspects of offset quality, the degree to which the provider prioritizes offset quality in implementing its offset portfolio, and the degree to which the provider offers sufficient project-specific information to allow buyers to evaluate for themselves the quality of the offsets.

### The Evaluative Criteria

A total of seven evaluative criteria were used in the ranking process. Some criteria were considered more important than others; thus, criteria were weighted for purposes of generating a cumulative score (see Box 6, p. 8). Information relating to each criterion was collected from providers' websites. Providers also were invited to complete an on-line survey, although not all of them did so. The survey allowed providers to document their activities in more detail than might be clear from a visit to the website and to explain their performance against the seven evaluative criteria. Based on the weighting of each criterion and the performance of each provider against each criterion (again on a 1-10 scale), a cumulative score from 1 to 10 was calculated for each provider.

The seven evaluative criteria are explained here, along with the types of information that were used to evaluate performance against each criterion.

#### *1. Providers' prioritization of offset quality*

Even if offset providers provide enough information for purchasers to independently evaluate offset quality, they may or may not make clear that offset quality is key to their product offerings. Purchasers should be able to see a clear declaration to this effect by the provider, as well as documentation of how the provider's stated intent is implemented. Means of assessing provider performance against this criterion included evaluating whether providers' websites discuss how the principles of additionality and quality factor into the provider's offset operations and how additionality and quality are implemented in the project selection process. In addition, does the provider sell retail offsets for which an additionality test has been or can be performed? RECs, for example, do not require a showing of additionality that parallels the additionality review normally required of GHG offsets (see Box 8, p. 11). Pooled reductions (which mix corporate emissions reductions against a baseline with project-based reductions) pose a similar challenge to evaluating the offset quality of the emissions reductions being sold (see Box 9, p. 13).

### *2. Buyers' ability to transparently evaluate offset quality*

Retail offset providers generally tell consumers that their offset purchase will offset or neutralize the GHG emissions of a particular activity or product for a given period of time. For this to really be true, the offsets need to represent quality reductions that are "additional" to what would have happened in the absence of the retail offset market.

Retail offset purchasers should be able to understand and evaluate the quality of the offsets they are purchasing. As profiled in Boxes 2 and 3, retail offset providers ought to convey project-specific information regarding a project's additionality and the way in which the baseline was determined and the offsets quantified, among other variables. With sufficient information, consumers can evaluate the degree to which their offset funding is helping contribute to the viability of the project generating the offsets. It is not uncommon, for example, for offset suppliers to leverage carbon offset funding in order to procure low-cost carbon credits. In extreme cases, an offset purchaser might claim 100 percent of a project's potential $CO_2$ reductions, while only funding a very small proportion of the project. This is not inherently inappropriate, if that funding really contributes to making the project happen.

***Box 6: Weighting the Evaluative Criteria***

| Evaluative Criterion | Weighting |
|---|---|
| Providers' Prioritization of Offset Quality | 10 |
| Buyers' Ability to Transparently Evaluate Offset Quality | 9.4 |
| Transparency in Provider Operations and Offset Selection | 9.2 |
| Provider's Understanding of the Technical Aspects of Offset Quality | 9.0 |
| Priority Assigned by Provider to Educating Consumers About Global Warming and Global Warming Policy | 7.8 |
| Ancillary Environmental and Sustainable Development Benefits of Offset Portfolios | 5.6 |
| Use of Third-Party Project Protocols and Certification | 3.9 |

Unfortunately, this kind of leveraging can easily be misused to generate low-cost credits without materially contributing to the viability of a project. In other words, non-additional and other low-quality reductions can often result. Box 7 provides examples of how to think about the additionality of different offset projects.

Similarly, project information can allow consumers to evaluate the credibility of the baseline being used to quantify the carbon offsets, another key component of offset quality. In rating

providers against this criterion, report authors looked for what kinds of project-specific information were being made available to purchasers, including, for example, how the project generates emissions reductions, how reductions are quantified, why the project should not be considered business-as-usual, whether the project's technology is in common use, when the project started, its size, and funding requirements. Generally speaking, few retail offset providers provide anywhere close to the amount of project-specific information that would allow consumers to effectively evaluate offset quality.

### *3. Transparency in provider operations and offset selection*

Consumers should be able to understand the operations and track record of retail offset providers, including:

- The provider's history and track record, including tons sold. This history is relevant because it is particularly difficult for a retail offset provider to find high-quality offsets just a few tons at a time.
- Information about the criteria and processes by which the provider chooses the reductions sold into the market.
- The existence of annual reports or verification reports allowing a retrospective look at a company's operations.
- Information about how money is spent and how much of the money is going to actual offsets. Relatively high overheads are to be expected in this nascent market, but should be explained by the providers.
- Information regarding success of the offset projects being funded. It is not unusual to see offset projects fail at some point in their implementation; such failures should not necessarily reflect poorly on the retail offset provider. However, the provider's track record in this regard is useful information to consumers.
- How the provider monitors offset project performance.
- How the provider ensures that the same offset is not being sold multiple times.

Generally speaking, relatively little information of this kind is available to consumers at the websites of retail offset providers.

### *4. Provider's understanding of technical aspects of offset quality*

Offset quality is characterized by technical variables including additionality, baseline determination, and leakage analysis, among others. Consumers should be able to determine whether retail offset providers possess an in-depth understanding of these technical issues. This criterion is intended to evaluate the degree to which the offset providers demonstrate such an understanding at their website or in other materials. Scoring for this criterion was based on the provider's discussion and definition of additionality and offset quality at its website or in its survey responses.

### *Box 7: Practical Examples of Offsets and Their Quality Ranking*

Almost any sector can generate high-quality offsets. Similarly, almost any sector can generate low-quality offsets. Particular emissions reduction sectors (*e.g.*, landfill methane, energy efficiency, renewable energy, and reforestation) can be biased toward the production of higher-quality or lower-quality offsets, but it is almost always valuable to review an individual project's characteristics. Examples of both ends of the spectrum include:

- *Highest Quality*: Capturing and flaring methane at a closed coalmine or landfill, where generating offsets is the only motivation for the project (it's not legally required or standard business practice, and there is no electricity generation and associated revenues involved), is an example of an offset project where there is no ambiguity regarding additionality. Such projects can also be accurately quantified and verified in terms of the amount of methane being flared. Ownership to the reductions can usually be verified.

- *High Quality:* Avoiding the production of methane from animal manure at farms that clearly lack the information or the capital to install the needed equipment, even if the project might appear economically worthwhile for the farmer (based on the methane gas generated). This is a case where overcoming key barriers, both informational and financial, is the source of the project's quality. Since some anaerobic digesters make economic and environmental sense and are happening anyway, it can be challenging (but important) to differentiate between "additional" and "business as usual" projects. It can also be challenging to estimate the baseline methane emissions from existing manure piles or settling ponds, but it can be done.

- *Medium Quality:* Paying for the installation of more efficient light bulbs or motors to reduce energy consumption and GHG emissions. Many factors affect decisionmaking about equipment and efficiency upgrades; key ones include energy prices, discount rates, and the rapidly expanding availability of more efficient technologies. It can be difficult to differentiate between efficiency measures that would have been pursued anyway and those that occur because of the carbon offset market. Energy efficiency-based reductions also usually pose significant ownership issues, since the emissions reductions occur at a power plant, not where the light bulbs are installed. This also means that reductions are likely to be double-counted (even if not double-sold), which may not be a disqualifying factor in voluntary offset markets, but must be recognized.

- *Low Quality:* Paying people for practices in which they are already engaged. This can include paying farmers for existing no-till agricultural practices, or selling credits from other projects that are already up and running, or soon will be, with or without the support of the offset market. This can include projects with seemingly desirable characteristics, from renewable energy generation to reforestation. These desirable characteristics do not necessarily have any correlation to the quality of the underlying project as an offset.

## *5. Priority assigned by the provider to educating consumers about global warming and global warming policy*

Achievement of personal carbon neutrality is certainly laudable. But pursuing carbon neutrality at the individual level will not solve global warming, or even mitigate it to any significant extent. Indeed, the potential for the retail offset market to inform and influence the public regarding global warming is almost certainly as important, if not more important, than its role in reducing actual GHG emissions. While public awareness of the urgency of the global warming issue has increased dramatically over the past couple of years, there is still a disconnect between public concern about global warming and the implementation of public policy. The retail offset market requires direct communication with the public; thus, it offers opportunities to help the public understand what needs to happen to address global warming.

### *Box 8: Can RECs Offset GHG Emissions?*

Renewable energy certificates (RECs) represent the creation of 1MWh of electricity from renewable energy sources. RECs are a convenient way to convey the environmental attributes of renewable electricity without having to make a physical transfer of renewable energy electrons. RECs can be used to comply with mandatory markets (such as state renewable portfolio standards), or sold into voluntary markets. The goal of both mandatory and voluntary REC markets is to promote more renewable energy generation over time.

The use of RECs as the equivalent of carbon offsets represents a direct claim to the emission reductions resulting from renewable energy generation. However, the linkages between (voluntary) RECs and $CO_2$ emission reductions are not necessarily straightforward. RECs, for example, cannot be assumed to be "additional" to business-as-usual as discussed in Box 3. Qualifying a renewable energy project for REC generation requires only that it have been built since 1997 and that the REC is not already being used to satisfy a mandatory renewable portfolio standard. Characterizing RECs as GHG offsets however, requires showing more than that a renewable energy facility was not legally required. Renewable energy facilities are being built today for a variety of reasons, including high fossil-fuel prices and tax credits. For the large majority of renewable energy projects, there is little evidence that prospective REC sales influenced the decision to build the project, a prerequisite to arguing that power plant fossil fuel emissions are being reduced from business-as-usual levels as a result of the sale of RECs.

If a project can satisfy REC criteria as well as GHG additionality requirements, the project has the option of selling its environmental benefits either as RECs into the REC market, or as offsets into GHG offset markets, depending on the relative economics of the two markets. Ultimately, RECs and GHG offsets both have important and complementary roles to play in carbon neutrality efforts. But RECs and GHG offsets are fundamentally different environmental commodities, subject to different qualification criteria that prevent them from being mixed and matched.

For this report, provider performance against this criterion was evaluated by asking questions including:

- Does the website explain the causes and impacts of global warming?
- Does the website discuss offsets, including how they are generated, how they work, and relevant issues surrounding the environmental integrity of offsets?
- Does the website discuss the need for public policy to address global warming and the forms such policy may take?
- Does the website help make consumers aware of steps they can take to further reduce their own GHG footprints and promote public policy?
- Are links provided to additional resources?

### *6. Ancillary environmental and sustainable development benefits of the offset portfolio*

Carbon offsets, even if meeting the quality criteria discussed earlier, do not necessarily promote other environmental objectives. For example, the destruction of methane leaking from an abandoned coalmine site may have no environmental or sustainable development benefits other than the reduction of GHG emissions. But many carbon offsets do, in fact, have such supplemental impacts. Reforestation, for example, can create riparian habitat, contribute to biodiversity and cleaner water, and provide other environmental services that supplement its

carbon offset role. Other offsets may demonstrate new technologies with considerable global warming mitigation potential.

The evidence to date suggests that consumers often prefer offsets that provide ancillary benefits of this kind. Providers' performance against this criterion was evaluated on the basis of questions including:

- Do the funded projects make clear contributions to other environmental objectives such as energy conservation, biological diversity conservation, or reduced water use?
- Do the funded projects make clear contributions to other sustainable development objectives including economic and social development?
- Do the funded projects help deploy new technologies with significant global warming mitigation potential?

### *7. Use of third-party project protocols and certification*

A number of third-party protocols for offsets exist today or are being developed. Offset provider adherence to one or more of these protocols or to third-party certification of offset claims can provide consumers with relevant information as to what they are buying. Yet the state of the voluntary offset market presents significant challenges for consumers looking to evaluate offset quality. First, retail offset providers do not widely adhere to the current offset standards. Secondly, some protocols are proprietary (*e.g.*, that of the CCX). Third, the standards may not be very effective in validating the quality of offsets as characterized in Boxes 2 and 3. Additionality, for example, has proven particularly difficult to address via a general standard. The Gold Standard, for example, requires that reductions be certified through the Kyoto Protocol's Clean Development Mechanism (CDM), although a voluntary market version of the Gold Standard relaxes this requirement. Many quality offsets may not be able to successfully go through the CDM process, or the project proponents may not want to incur the substantial transaction costs of obtaining CDM approval. In either case, a project-specific additionality case remains important.

The bottom line is that a provider using a third-party standard is not necessarily offering higher quality reductions to the market; thus, this criterion was not afforded a particularly high weighting in the evaluation process. Nevertheless, the use of third-party standards and certification can suggest a certain level of commitment to consumers. The development of a third-party "stamp of approval" process for retail offset providers would be valuable to consumers.

### *Box 9: Offsetting GHG Emissions with a Pooled Carbon Commodity*

A pooled carbon commodity results when emissions reductions from different sources and of multiple types are combined into a single commodity pool. Such a pool can be created as part of an emissions trading program in which a fungible trading commodity is created. This occurs, for example, in the European Union's Emissions Trading System (EU ETS), where EU Allowances are the tradable commodity. In a capped trading system like the EU ETS, buying an allowance can be an effective way to reduce or offset one's emissions, since you are effectively taking away someone else's right to emit that ton. Under a cap-and-trade system, the "additionality" of reductions is not really the issue as it is with project-based emissions; it's whether the program as a whole sets a stringent enough cap so as to be environmentally meaningful.

The pooled carbon commodity that has become most relevant to the retail offset market is the one created through the Chicago Climate Exchange (CCX). The CCX represents a voluntary cap-and-trade program in which North American members make voluntary but contractually binding commitments to reduce GHG emissions. It is open to municipalities, businesses, universities, and others who contractually commit to reduce their GHG emissions relative to their historic baseline. To help meet their emissions targets, members can purchase the CCX's own fungible commodity, Carbon Financial Instruments (CFIs). CFIs can be created when member companies reduce emissions more than required; the excess reductions can be sold to other companies. CFIs can also be created by external emissions reduction projects that CCX has approved, thereby becoming eligible to sell reductions to CCX member companies. Overall, the CCX is an innovative mechanism through which members are inventorying their emissions, setting voluntary targets, and gaining experience with emissions trading as a means of complying with their targets.

Today, CFI's are finding their way into the retail offsets market as carbon offsets. These CFIs are coming from two sources:

- *Corporate Over-Compliance:* the Chicago Climate Exchange, being a voluntary program at heart, has tended to attract companies that are already on an emissions reduction path or which can move onto that path relatively easily. As a result, CCX member companies have cumulatively over-complied with their targets.

- *External Reductions*: the CCX allows offsets from external projects to be registered and sold into the CCX as CFIs. The CCX offset protocols, however, are not publicly available. As a result it is very difficult to judge the quality of CCX project-based reductions.

Although the CCX has been successful institutionally and is a learning mechanism for member companies, the net result of the two variables profiled above is that CFIs are not particularly scarce. Thus, selling CFIs into the retail offset market can have the same effect as allowing non-additional offset projects to sell their reductions into the market. Overall, CFIs currently pose the same challenge for the retail offset market as RECs. Legitimate commodities in their own right, they do not correspond to GHG offsets in terms of qualifying criteria. Moving CFIs and RECs into the retail offset market is likely to undercut the environmental integrity of the market and disrupt the ability of the market to deliver carbon neutrality.

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## Explaining Criteria Not Used in Scoring Retail Offset Providers

A number of additional variables may jump to mind as being relevant for evaluating retail offset providers. Evaluative criteria that were considered but not used for this report include the following:

- *Offset Cost to the Consumer:* There is no necessary correlation between the price and quality of retail offsets. One can develop and procure offsets that are quite inexpensive yet credible. One can also do exactly the opposite. As a result, the report does not

include offset cost as an evaluative criterion; it was concluded that this information would not give consumers particularly useful information in selecting a retail offsets provider. To the contrary, consumers should think first about the quality of the offset they are purchasing, and only then about the price they are asked to pay.

- *For-Profit vs. Non-Profit Providers*: Many observers view non-profit organizations as inherently more credible in a field that has strong "do good" connotations. Conversely, one for-profit provider argues as part of its promotional materials that its for-profit status is appropriate specifically because global warming mitigation needs to move beyond being purely a philanthropic exercise. There is merit to this argument, if the goal is to achieve real GHG reductions. In addition, non-profit retail offset providers often focus on only one kind of offset that is consistent with their particular organizational mission (*e.g.*, reforestation). The projects may or may not be additional, and may simply reflect projects already funded by the organization for other purposes. This could lead to a situation where reductions from non-profit providers are lower quality than reductions offered by for-profit providers that may be specifically geared to provide a quality offset project. The net result is that the tax-status of providers is not an indicator of offset quality.

- *Proportion of Funding Going to Offsets:* Consumers are accustomed to asking in the context of tax-deductible contributions what fraction of an organization's funding goes to overhead expenses and what fraction is spent on actual project activities. While it is tempting to ask this question in the retail offset market, we concluded that this would be an ambiguous criterion at best. First, consumers do not usually ask such questions when buying products and services in an open market. Moreover, many firms are legitimately reluctant to give out the information. Even more important, a low overhead does not necessarily translate into a high-quality offset. In fact, the lower the overhead expenses, one could argue, the less effort the entity has put into securing quality reductions. Thus, the proportion of funding going to offsets is not a good indicator when choosing a retail offsets provider, although this may change in the future.

## Profiling the Top Retail Offset Providers

This report identifies the top performers among the retail offset providers evaluated for the report. The approach used in the report is intended to provide clear guidance to consumers, while recognizing that a more in-depth review of available information would be required to truly determine the "best" retail offset provider. A rank-ordering may not even be relevant to most consumers; final choices by consumers may have as much to do with a provider's geographic location, or the offered project types as with the broader issue of offset quality. What consumers do need to know, however, is that the provider they choose meets key criteria as a retail offset provider.

Using the selected criteria, the report team built profiles for 30 retail offset providers (see Appendix A). Cumulative scores ranged from 1.4 – 7.5 (based on a scale of 1-10, with 10 being the best possible score). This range demonstrates that there is considerable room for improvement, even among the top providers. Of the 30 retail offset providers evaluated, almost ¾ had a cumulative score of less than 5 out of 10; almost 1/3 had a score less than 3.0. Low scores usually resulted from:

- A basic lack of information and transparency
- A lack of attention to offset quality
- Insufficient information about the projects used to generate offsets
- Lack of effort in educating the public about global warming

First, a general review is provided on how providers performed overall against the evaluative criteria; then the top performing providers are profiled. This approach will make it easier to explain why individual providers made it into the top tiers.

- *Priority Assigned to Offset Quality*: Performance against this criterion varied widely. Many providers say they are committed to offset quality, but then it is difficult to determine how the provider implements that commitment. Some retail offset providers state that they sell only project-based emissions reductions and avoid RECs and pooled tons (*e.g.,* CCX CFIs) as a quality-control measure. Other providers get most of their reductions from RECs and CCX CFIs.

- *Offset Project Transparency*: Although some retail offset providers did provide detailed project-specific information, many do not have such information available. Even those that do include project information rarely provide enough information to allow consumers to evaluate the project's offset quality for themselves.

- *Transparency of Provider Activities*: Providers differed markedly in the transparency of their operations and offset selection processes. This is sometimes correlated with the provider's size, since some elements of transparency as evaluated here (*e.g.,* annual reports) are easier for the larger providers to undertake.

- *Understanding the Technical Aspects of Offset Quality*: Many providers fared poorly against this criterion. Some offset providers simply do not address offset quality at their website or in their materials. Others touch on the issue, but do not demonstrate an

understanding of the technical aspects of offset quality. Many providers believe they can define quality themselves and that their definition of quality should be regarded as being as good as anyone else's. This approach does not reflect a good understanding of the technical aspects of offset quality.

- *Educating Consumers Regarding Global Warming*: Retail offset providers generally perform poorly against this criterion. Most providers do not see it as their role to educate consumers about global warming and global warming policy, or they view it as beyond their ability to address. Some providers, however, do use their platform as an opportunity to promote public learning about global warming and global warming policy. TerraPass's frequent newsletter and blog is a particularly good example of this.

- *Ancillary Benefits*: Providers varied widely in their performance against this criterion. Some providers offer projects with clear and multiple ancillary benefits, others much less so. It should be cautioned here that this is not a quality criterion *per se*, since there is no necessary correlation between the quality of a given offset and the magnitude of its ancillary benefits.

- *Use of Third-Party Protocols and Validation*: Although no universal standards exist, and most providers tend to utilize their own internal (and often proprietary) protocols and standards, some providers actively seek third-party validation of their projects and to utilize third-party protocols and standards.

The top performing providers, based on an evaluation of the 30 retail offset providers against the seven criteria laid out above, are summarized in Box 1. Box 10 (see p. 18) shows the top three performers for each of the seven criteria.

As shown in Box 1, eight providers earned a cumulative score of 5 or above on a scale of 1-10. In alphabetical order these eight providers are:

AgCert/ DrivingGreen™ (Ireland)
atmosfair (Germany)
Carbon Neutral Co. (UK)
Climate Care (UK)
Climate Trust (US)
co2balance (UK)
*Native*Energy (US)
Sustainable Travel/ MyClimate™ (US)

### AgCert International, *Dublin, Ireland*

- *Profile:* AgCert is a major supplier of CERs into the international carbon market, based largely on anaerobic digestion projects in Brazil, Mexico, Argentina, and Chile. Through its DrivingGreen™ program, the company has begun selling retail offsets online. The focus of the DrivingGreen™ program is to educate consumers about the U.S. transportation sector's share of GHG emissions and what consumers can do to reduce their GHG footprints (*e.g.*, drive hybrids, do more biking, use carpools).

- *Pros:* AgCert has considerable experience with regulated emissions markets and should be able to ensure the quality of reductions it brings into the retail offsets market. Offset projects are reportedly developed, verified, and validated using the analogous CDM project protocol.
- *Cons:* The AgCert DrivingGreen™ website contains almost no project-level information, making it difficult for consumers to evaluate the quality or quantity of the reductions generated. The website could also be more effective than it currently is with respect to consumer education about carbon offset and global warming issues.

### atmosfair, *Bonn, Germany*

- *Profile:* atmosfair sells emission offsets for air travel that can be purchased as certificates through a travel agent or on its website. Listed offset projects include electricity generated from waste at the University of Rio (Brazil), solar heaters for school kitchens and temples in India, and solar electricity and heating in South Africa.
- *Pros:* atmosfair's offset projects are approved through the Kyoto Protocol's CDM and all atmosfair projects meet the Gold Standard. The Gold Standard provides a second level of screening beyond simple CDM approval and should ensure that the projects generate sustainable development benefits. Atmosfair's website provides detailed project-level information, including links to the documentation required for the CDM approval process. These documents detail the expected GHG benefits of the project, as well as how benefits are calculated.
- *Cons:* The atmosfair website could be more effective with respect to consumer education regarding carbon offsets and climate change. In addition, it would be helpful for the website to provide explicit information on a project and its offset quality, rather than leaving it to the consumer to sift through complicated CDM documents.

### The CarbonNeutral Company, *London, UK*

- *Profile:* Formerly known as Future Forests, the CarbonNeutral Company specializes in small-scale renewable energy projects, landfill gas collection, and energy efficiency. It has contracted for more than 800,000 tons of offsets; its portfolio consists of approximately 20 percent forestry-based reductions. It certifies businesses, events, and individuals as carbon neutral using its own CarbonNeutral® Protocol.
- *Pros:* The company prominently profiles the issue of additionality and its project selection suggests attention to additionality concerns. In addressing additionality, the company's CarbonNeutral® Protocol requires that a minimum of 10 percent of a project's total capital funding must come from the sale of carbon offsets. Its website provides a considerable amount of information about the projects funded and the volume of offsets generated.
- *Cons:* The 10 percent test is not necessarily a particularly reliable measure of additionality, since it begs the question of whether the GHG credits are actually key to the project's viability. As a result, consumers would do well to also look for other means to assess additionality. The CarbonNeutral Company website could be more effective than it currently is with respect to transparency of the project selection and validation process, as well as how GHG benefits are quantified for each project.

***Box 10: Top Performing Providers Against Individual Criteria***

| Evaluative Criterion | Top Three Providers |
|---|---|
| Providers' Prioritization of Offset Quality | 1. Climate Care<br>2. Climate Trust<br>3. co2balance |
| Buyer's Ability to Transparently Evaluate Offset Quality | 1. Climate Care<br>2. atmosfair<br>3. *Native*Energy |
| Transparency in Provider Operations and Offset Selection | 1. Climate Care<br>2. atmosfair<br>3. CarbonNeutral Company |
| Provider's Understanding of the Technical Aspects of Offset Quality | 1. Climate Care<br>2. Climate Trust<br>3. *Native*Energy |
| Priority Assigned by Provider to Educating Consumers About Global Warming and Global Warming Policy | 1. Climate Trust<br>2. AgCert/ DrivingGreen™<br>3. TerraPass |
| Ancillary Environmental and Sustainable Development Benefits of Offset Portfolios | 1. Sustainable Travel/MyClimate™<br>2. Climate Care<br>3. World Land Trust |
| Use of Third-Party Project Protocols and Certification | 1. CarbonNeutral Company<br>2. Climate Care<br>3. atmosfair |

## Climate Care, *Oxford, UK*

- *Profile:* Climate Care focuses on retail offset projects involving small-scale renewable energy and energy efficiency projects in developing countries with little access to capital. The company has sold more than 350,000 tons of offsets; 20 percent of the reductions are based on reforestation projects.
- *Pros:* Climate Care prominently addresses additionality in its project selection criteria and implementation procedures. Climate Care's portfolio specifically excludes RECs or pooled credits from central registries in order to promote additionality, and the company states that it only funds "future tons," as opposed to projects that may already exist. Transparency is promoted through Climate Care's annual reports. Climate Care promotes the Gold Standard and states that it intends to participate in a registry that will avoid the double selling of tons. Its website provides a fair amount of project-specific information, including estimated GHG benefits.

- *Cons:* Climate Care's website could be more effective than it currently is with respect to educating consumers about global warming and climate policy; the organization argues that such information is already widespread in Europe. The website could also be more transparent in detailing how the expected emission reductions from each project are quantified.

### Climate Trust, *Portland, Oregon, US*

- *Profile:* The Climate Trust was established almost 10 years ago as the entity new power plant developers could use to meet their GHG mitigation requirements under Oregon's $CO_2$ standard. The Climate Trust's main function is to procure emissions reductions with funding provided by power plant developers and it has formalized transactions for almost two million tons of offsets. Through these activities, the Climate Trust has developed a portfolio it makes available to the retail offset market.
- *Pros:* The Climate Trust prominently addresses offset quality at its website and in other forums. The Trust has the advantage of economies of scale, given its role in partially offsetting the emissions of new power plants under Oregon's $CO_2$ standard. The Trust provides specific information for each of its offset projects, including the GHG benefits anticipated over the life of the project. The Trust states that it implements a financial analysis test to ensure the additionality of funded projects. To promote offset quality, the Climate Trust does not sell existing RECs or pooled emission credits. The Trust has been a vocal proponent of offset quality in industry discussion.
- *Cons:* The Trust's website could be more effective than it currently is with respect to the transparency of the project validation process, including documentation of the additionality testing conducted for individual projects. The website could also be more transparent in how the expected emission reductions from each project are quantified.

### co2balance, *Somerset, UK*

- *Profile:* co2balance allows individuals and businesses to offset their carbon footprint through energy efficiency and forestry projects. It has supported three energy efficiency projects in Africa and three forestry projects in the UK, and currently is developing two forestry projects in France. It owns the land on which the trees are planted and conveys ownership to charitable organizations when the planting is complete.
- *Pros:* co2balance suggests it imposes a strict additionality screen. It only funds projects where 100 percent of the funding comes from offset clients and maintains project control and operation.
- *Cons:* The co2balance website could be more effective with respect to the transparency of the project validation procedure. In addition, it provides very little project-specific information on its website to help consumers judge the quality of the reductions.

### *Native*Energy, *Charlotte, Vermont, US*

- *Profile: Native*Energy focuses on the development of new renewable energy projects that benefit Native Americans, family farmers, and municipalities. The company has sold several hundred thousand tons of offsets, aggregating carbon offset and REC funding to fund the early stage development of small renewable energy projects that would not proceed without the carbon offset funding.
- *Pros:* Company policy is that RECs that it sells from its renewable energy facilities must meet the same additionality test required of carbon offset projects generally. The

company has been a vocal proponent of offset and REC quality in industry discussions. Through its CoolWatts[SM] program, *Native*Energy also sells RECs that do not make $CO_2$ reductions claims, clearly differentiating between the two commodities of RECs and offsets. Its website highlights each project and discusses its methodology for calculating emission reductions from the displacement of fossil-fuel generating resources.

- *Cons:* Native Energy's website could be more effective than it currently is with respect to educating consumers about climate change and climate policy. In addition, the website does not provide much transparency regarding *Native*Energy's project selection and validation procedures.

### Sustainable Travel International, *Boulder, Colorado, US*

- *Profile:* Sustainable Travel International is the exclusive North American distributor of retail and wholesale offsets for MyClimate™ (based in Zurich, Switzerland). Sustainable Travel International states that offset funding is used specifically for the development of renewable and energy efficiency projects in developing countries. It claims to have contracted for nearly 6 million tons for the period 2007 to 2012.
- *Pros:* The website states that the company funds projects that comply with CDM documentation requirements. This is characterized as showing that the project would not have occurred without the carbon offset funding. To promote offset quality, Sustainable Travel and MyClimate™ do not sell RECs or pooled emissions credits as offsets. Its website provides a fair amount of project level information, including the volume of reductions anticipated from each project.
- *Cons:* Approval by the CDM or simply following CDM protocols does not guarantee the additionality of the claimed reductions; projects should still be evaluated and documented for consumers. The Sustainable Travel International website could be more effective than it currently is with respect to transparency of the project selection and validation process and information about why the projects should be considered additional, as well as how the expected GHG benefits are quantified.

## Conclusions

In our judgment, the top providers profiled in this report are offering carbon offsets to the retail market that are more likely than those of other providers to result in high-quality GHG emissions reductions. At the same time, this review did not carry out a comprehensive due diligence at the entity or project level, and did not intend to do so. The analysis was also limited by the availability of information and the willingness of retail offset providers to fill in the gaps left by their websites. As a result, while we can identify top-tier providers based on currently available information, we cannot categorically state that purchasing offsets from them will render you carbon neutral. Moreover, we would not want to conclude that purchasing offsets from providers not included in the top tier would necessarily fail to render you carbon neutral.

Based on the review carried out for this report, there is considerable potential for improvement among retail offset providers from the standpoint of offset consumers' interests. Depending on the provider, potential improvements range from increasing transparency, providing more project-specific information, or fundamentally changing the nature of the retail offset commodity offered.

The evaluation presented in this report grouped providers into two tiers based on their score on a scale of 1-10. It is interesting to note that retail offset providers can also be grouped into three general types, based on their general approach to the market:

- *Offset Entrepreneurs:* This category tends to include entrepreneurial start-ups that focus on business opportunities in the retail offsets market. While being drawn to the "do good" aspects of the market, these providers often have modest internal levels of knowledge about key technical aspects of offset quality.

- *Offset Philanthropists:* This category of providers includes many providers who assume that their philanthropic or public interest mission provides a sufficient basis for the sale of carbon offsets into the retail offsets market. For example, environmental and sustainability-oriented non-profits may focus primarily on their bread-and-butter forestry or economic development projects, and assume that those projects qualify as carbon offsets. Renewable energy suppliers and brokers, similarly, often assume that RECs should qualify as offsets. As with offset entrepreneurs, offset philanthropists often have modest internal levels of knowledge about key technical aspects of offset quality.

- *Offset Professionals:* These providers are characterized by high levels of knowledge about the technical aspects of offset quality, and considerable transparency in how information is conveyed on their websites and other materials. These organizations are also more likely than others to seek to play an educational role for consumers on global warming and global warming policy.

In principle, providers from any of these three categories can supply high-quality offsets into the retail market. Moreover, offset purchasers may be driven to one or another of these types for their own reasons. The bottom line, however, is that consumers should be able to expect that the providers they are buying offsets from meet a minimum threshold against the types of criteria

used in this report. As noted above, there is a lot that can be improved in this regard, and consumers can help in that effort.

## Action Take-Aways

The retail offset providers evaluated in this report differ significantly from each other. The report confirms what many readers already know: consumers in this market have many choices. Consumers exercising this choice by focusing on quality providers can play a major role in improving the transparency and quality of the overall retail offsets market. Such a focus will not only push more providers to provide better information at their websites, but will likely result in many providers improving the quality of what they are offering to the market.

Informed consumers can ask several questions as they go through the process of becoming carbon neutral. Some of these questions are for the individuals considering the purchase of offsets; other questions can be directed at the source of the carbon offsets.

## Questions to Ask Yourself

- What steps have you taken to reduce your own emissions? If the opportunity to go carbon neutral by spending a few dollars online becomes an excuse to not think about what else you can do at home or elsewhere, or lets you feel that it is acceptable to emit more emissions than you might otherwise, then buying offsets may have a negative result.

- In choosing a retail offsets provider, have you paid attention to the quality of the offsets you are purchasing, so that you can credibly claim that you are carbon neutral?

- Is going carbon neutral the beginning of your global warming mitigation journey, or the end? The opportunity to go carbon neutral at an individual level should not become an excuse to avoid thinking about the larger problem of global warming policy. Addressing global warming will require much more than individuals and businesses going carbon neutral.

- What are you doing to leverage your efforts to go carbon neutral? Rewarding with your dollars companies offering carbon neutral products and services? Using your carbon neutrality as a platform to push for global warming policy by your elected representatives? Without public policy, individuals' carbon neutrality cannot solve the problem. Indeed, a key contribution of the retail offsets market may be to promote public understanding and ultimately public policy.

## Questions to Ask a Provider

Regardless of whether you choose to purchase offsets from the offset providers profiled in this report, you may wish to query a provider along the following lines.

- Do your offsets result from specific projects?
- Do you use an objective standard to ensure the additionality and quality of the offsets you sell?
- How do you demonstrate that the projects in your portfolio would not have happened without the GHG offset market?
- Have your offsets been validated against a third-party standard by a credible source?
- Do you sell offsets that will actually accrue in the future? If so, how long into the future, and can you explain why you need to "forward sell" the offsets?
- Can you demonstrate that your offsets are not sold to multiple buyers?
- What are you doing to educate your buyers about global warming and the need for global warming policy?

# Appendix A: Retail Offset Providers Summary Chart

**Appendix A: Retail Offset Providers**

* Providers are listed alphabetically within their categories

| Retail Offset Provider | Location | Website Address | Price/Ton (USD) | Year Started | Retail Offsets Sold | Dominant Offset Types |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Top Tier Providers** | | | | | | |
| AgCert/Driving Green | Ireland | www.agcert.ie | $5.00 - $7.00 | 2004 | 4,000 | Anaerobic Digestion |
| AtmosFair | Germany | www.atmosfair.de/index.php?id=9&L=3 | $18.80 | NA | 6,000 | EE, Waste methane, Solar |
| Carbon Neutral Co. | U.K. | www.carbonneutral.com | $16.00 - $20.00 | 1998 | 800,000 | RE, EE, Reforestation |
| Climate Care | U.K. | www.climatecare.org | $13.91 | 1998 | 350,000 | RE, EE, Reforestation |
| Climate Trust | U.S. | www.climatetrust.org | $6.00 - $10.00 | 1997 | 1.9 million | RE, EE, LFG, Reforestation |
| CO2 Balance | U.K. | www.co2balance.com | $16.69 | 2005 | NA | RECs, Reforestation |
| Native Energy | U.S. | www.nativeenergy.com | $12.00 | 2000 | 400,000 | RECs, Anaerobic Digestion |
| Sustainable Travel Int'l/My Climate | U.S. | www.sustainabletravelinternational.org | $17.50 - $8.75 | 2005 | NA | Mix |
| **Remaining Providers** | | | | | | |
| AtmosClear | U.S. | www.atmosclear.org | $4.00 - $20.00 | 2004 | 2000 | LFG |
| BEF - Bonneville Environmental Fdn | U.S. | www.b-e-f.org | $14.30 | 1998 | NA | RECs |
| Carbon Clear | U.K. | www.carbon-clear.com | $12.00 | 2005 | NA | Reforestation |
| Carbon Fund | U.S. | www.carbonfund.org | $5.50 | 2004 | 40,000 | RECs, CCX tons, LFG, Reforestration |
| Carbon Planet | Australia | www.carbonplanet.com | $14.89 | NA | NA | Reforestation |
| Certified Clean Car | U.S. | www.certifiedcleancar.com | $6.00 | NA | NA | RECs/CCX |
| Clean Air Pass | Canada | www.cleanairpass.com/cap/home.jsf | NA | NA | NA | Reforestation |
| Climate Friendly | Australia | www.climatefriendly.com | $3.93 - $8.93 | NA | 2300 | RECs |
| Climate Neutral Group | Netherlands | www.businessforclimate.nl | $10.00 - $13.00 | 2002 | NA | Reforestation |
| Climate Save | U.S. | www.climatesave.com | $8.75 | 2005 | NA | RECs |
| Conservation Fund:Go Zero | U.S. | www.conservationfund.org | $4.00 | 2000 | NA | Reforestation |
| Drive Neutral | U.S. | www.driveneutral.com | $6.90 | 2005 | 1000 | EE |
| e-Blue Horizons | U.S. | www.e-bluehorizons.com | $5.00 | 2006 | NA | Reforestation |
| EnviroTrade/Plan Vivo | U.K | www.envirotrade.co.uk/index.html | $8.49 - $18.54 | NA | NA | Reforestation |
| Green Fleet | Australia | www.greenfleet.com.au | $6.88 | 1997 | 600,000 | Reforestation |
| Leonardo Academy | U.S. | www.leonardoacademy.org | $20.00/ family | 1998 | NA | EE |
| Natsource/Dupont/BlueSource | U.S. | www.natsource.com/buycredits/index.asp | $4.00 | NA | NA | Mix |
| Offsetters | Canada | www.offsetters.ca | $14.13 | 2006 | NA | CCX |
| SELF - Solar Electric Light Fund | U.S. | www.self.org | $10.00 | 2001 | 6000 | RE |
| Terra Pass | U.S. | www.terrapass.com | $8.00 - $10.00 | NA | 10,000 | RECs |
| TIST - Int'l Small Group & Tree Planting Svc. | U.S. | www.tist.org | $5.00 - $20.00 | NA | <5,000 | Reforestation |
| World Land Trust | U.K | www.carbonbalanced.org | $5.00 | 2005 | NA | Reforestation |
| | | | | | | |

# Appendix B: For More Information

For a relevant discussion of one company's mission to become carbon neutral, see: Stonyfield Farm Carbon Cookbook: Guide to Offsetting Carbon Dioxide Emissions, available at http://www.stonyfield.com/images/PDFs/Environmental_Cookbook.pdf.

For an in-depth profile of the retail offset market, see: Trexler, M.C., Kosloff, L.H., and Silon, K., *Going Carbon Neutral: How the Retail Carbon Offsets Market Can Further Global Warming Mitigation Goals.* Ecosystem Marketplace Report: EM Market Insights 2006, available at www.ecosystemmarketplace.com.

For what is being billed as the first comprehensive overview of voluntary carbon offset markets, including the first statistics detailing market volumes, see Bayon, R., Hawn, A., and Hamilton, K. *Voluntary Carbon Markets: An International Business Guide to What They Are and How They Work.* Earthscan, London, UK, 2006 (forthcoming).

For an interesting look at the issues arising when you try to "green" electricity, see Roberts, K., "Greening Your Electricity," Environmental Building News, October 2006, at 1.

For a recent buyer's perspective on the challenges of purchasing RECs as a means of promoting renewable energy, see Schendler, A., "Energy-Credit Buyers Beware," Harvard Business Review, September 2006, at 24.

For a policy-oriented review of voluntary carbon markets, see Trexler, M.C., and Kosloff, L.H. "Selling Carbon Neutrality," Environmental Forum, March/April 2006, at 34.

For an in-depth review of additionality as it applies to carbon offsets, see Trexler, M.C., Broekhoff, D.B., and Kosloff, L.H., "A Statistically Driven Approach to Offset-Based GHG Additionality Determinations: What Can We Learn?," Sustainable Dev. Law & Policy Journal 6(2):30-40, Special Edition on Climate Law (Winter 2006).

# Appendix C: Trexler Climate + Energy Services, Inc.

Trexler Climate + Energy Services, Inc. (TC+ES) was established in 1991. The company is internationally known as one of the first firms in the climate change field and as a provider of high-quality information, consulting, and market services on climate change risk and opportunity management. TC+ES seeks to provide insight into how companies can most credibly and cost-effectively position themselves for the future of climate change markets and climate change policy. TC+ES has provided cutting-edge policy development support in forestry and climate change, early action crediting, project-based emissions trading systems, and state and local climate change policies and measures. TC+ES clients have included global energy companies such as PacifiCorp, Southern California Edison, TransAlta Utilities Corp., AES Corp., J-Power, and Statoil, as well as consumer products companies such as Nike and Stonyfield Farm, and environmental groups like The Nature Conservancy and the Solar Electric Light Fund. TC+ES also works with national and international agencies including the United Nations Development Programme and the Global Environment Facility.

TC+ES has a range of analytical tools and databases that it uses to support corporate strategic planning, GHG market forecasting, and mitigation project analysis. The firm also has a standardized array of other consulting products (see www.climateservices.com). TC+ES's expertise includes sustainable development, power plant siting, energy efficiency, renewable energy, national and international environmental law and policy, energy research and development, water law, and environmental product development, including green branding.

TC+ES and its principals have been leaders in the development of voluntary GHG programs and markets, including:

- Working on the first carbon offset project in 1989;
- Working with Stonyfield Farm to become the first company to go carbon neutral;
- Being an early stakeholder in founding the Climate Neutral Network;
- Representing Shaklee Corp. as the first company to be certified as Climate Neutral™;
- Supporting AES Power Direct in developing the first carbon neutral electricity product;
- Supporting organizations like The Nature Conservancy and the Solar Electric Light Fund in developing projects for the voluntary offset market; and
- Developing the first carbon offset portfolio used in a power plant siting proceeding.

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***Disclosure:*** *TC+ES has been extensively involved in the evolution of voluntary offset markets, and has interacted at many levels with retail offset providers surveyed for this report. TC+ES has no business relationship with any of the offset providers surveyed, including those profiled in the report as top-tier providers. During 2006, TC+ES did support a small U.S. oil and gas company in developing and documenting a small coal-mine methane project for the voluntary offset market. The ClimateNeutral Company has since contracted for those reductions with the project developer.*


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