

# **A Sustainable Environment: Our Obligation to Protect God's Gift**

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## **The Confusion of Carbon Offsets, Green Tags and RECs**

Last month, I introduced the subject of carbon offsets which are provided to those companies or individuals that feel guilty of generating carbon dioxide emissions because of the electricity that they are using. They will buy carbon dioxide credits that are the result of some project that generates electricity without producing carbon emissions, or a project that absorbs or sequesters the carbon dioxide emissions. These carbon offsets that are purchased by the company or individual represent the amount of carbon dioxide produced.

A good example of how these work is with a real leader in carbon offsets, Starbucks. This company has made a pledge to buy 20% of the annual electric power for its North American stores, about 150 million kilowatt hours, from renewable sources like wind power. But there is no way that a single wind farm, or group of wind farms, can service all 8,400 of its U.S. coffee shops. So Starbucks continues to consume power as usual, but it pays a small premium of about one-half cent per kilowatt-hour to a company, in this case 3 Phases Energy, that redistributes these funds to about 40 wind farms across the country. These wind farms then cut the price of their power to increase sales to the local customers that really use the electricity generated by the wind farm. The net effect is that nationwide, an amount of power equal to Starbucks' purchase is shifted to wind and away from conventional sources producing carbon dioxide.

Using the same model, Whole Foods Market Inc. has committed to offset 100% of its energy consumption with renewables. Consequently, it has become the biggest corporate buyer of green tags, another term for carbon offsets. Other companies making large commitments are Liz Claiborne, HSBC and Safeway. But is it really this easy?

Besides 3 Phases Energy, some other companies buying and selling green tags are Terra Pass, Climate Friendly, and My Climate. These companies purchase the credits from companies that are generating renewable energy and thus not producing carbon dioxide. They also purchase credits from companies that, instead of generating non-polluting electricity, actually absorb the carbon emissions from fossil fuel power plants. A traveler flying from Toronto to Vancouver recently decided to go carbon neutral, and contacted several of these companies to determine the cost for the corresponding green tags. He was quoted \$48.49, \$20.12 and \$9.95 from three of these companies. One problem is that there is no standard on how to calculate the carbon dioxide generated by a passenger. Do you assume a full plane or a partially loaded plane? What about some flights traveling during a storm with high winds? What about a flight that has to circle the airport several times before landing? How do you take this extra fuel consumption into account?

Some of these companies also purchase carbon credits from forest companies that remove the carbon dioxide from the atmosphere. You may have heard of recommendations to plant trees to offset the carbon dioxide emissions. However, a recent report indicates that it is not that simple. Forests affect climate in three different ways. 1) They absorb the greenhouse gases, like carbon dioxide, from the atmosphere and help keep the planet cool. 2) They evaporate water to the atmosphere and increase cloudiness, which also helps keep the planet cool. 3) They are dark and absorb sunlight, thus warming the earth. Previously, the strategy to plant trees only takes the first effect into account. The recent study showed that tropical rainforests are very beneficial in reducing global warming, because trees in the tropics, in addition to absorbing carbon dioxide, promote convective clouds that help to cool the planet. However, in other locations, the warming effect either cancels or exceeds the net cooling from the other two effects. So planting trees in the U.S. has little or no effect on global warming. Some of these trees may even wither and die before they absorb much carbon dioxide. And when they die, they will rot and emit carbon in the form of methane which has 23 times the impact on global warming than carbon dioxide.

Several years ago, the U.K. started selling carbon offsets, but they were called Renewable Energy Certificates or RECs. Each REC is equivalent to the elimination of carbon dioxide from the generation of 1,000 kilowatt hours. Each REC has an I.D. number and is registered. No such registry exists in the U.S. In other markets, these RECs, or green tags, or carbon offsets may be known as Tradable Renewable Certificates (TRCs).

Without any standards on calculating the emission or the absorption of carbon dioxide, stay away from carbon offsets. It is a great concept but while it is in its infancy, there are too many uncertainties.