

January 23, 2012

## 2011 Greenhouse Gas Assessment for ClearSky Climate Solutions

ClearSky Climate Solutions (ClearSky) is pleased to complete its annual Greenhouse Gas (GHG) Assessment for our corporate operations for 2011. This report represents our third formal GHG Assessment. As a provider of GHG consulting services and a developer of GHG mitigation projects, ClearSky is in a unique position to be able to complete this assessment for our internal operations. As an active proponent of sustainable and climate-friendly business practices, it is crucial for us to “walk the walk,” so to speak. ClearSky is a small business and our carbon footprint is correspondingly small, yet we are poised for growth and it is important for us to establish a baseline to measure future performance.

ClearSky has set to maintain its pledge to be a climate-neutral business. We will mitigate 100% of our corporate GHG emissions from calendar year 2011, by retiring certified carbon offsets from our portfolio. In the interest of transparency, this assessment will be made public on the ClearSky website.

To claim that a segment of our corporate operations are becoming “climate neutral,” ClearSky is essentially pledging that the activities in question will have zero net impact on the atmosphere. Going climate neutral involves three basic steps:

- 1) **Assessing** the amount of greenhouse gas (GHG) a company’s operations are emitting and what kind of activities are contributing to the overall “carbon footprint,”
- 2) **Reducing** GHG emissions by making systematic changes to business practices, and
- 3) **Balancing** remaining or unavoidable emissions with certified carbon offsets.

By making a firm commitment to measure and reduce GHG emissions over time, ClearSky will enhance our understanding of our company’s impacts on the climate. Providing a successful model for other businesses and organizations is an additional benefit from our actions.



In the pages that follow, we present the results of our 2011 Greenhouse Gas Assessment for ClearSky. We also list our climate-friendly business practices and policies to-date, and offer our goals for future reduction of our carbon footprint.

On behalf of the ClearSky team,

A handwritten signature in black ink, appearing to read "Keegan Eisenstadt".

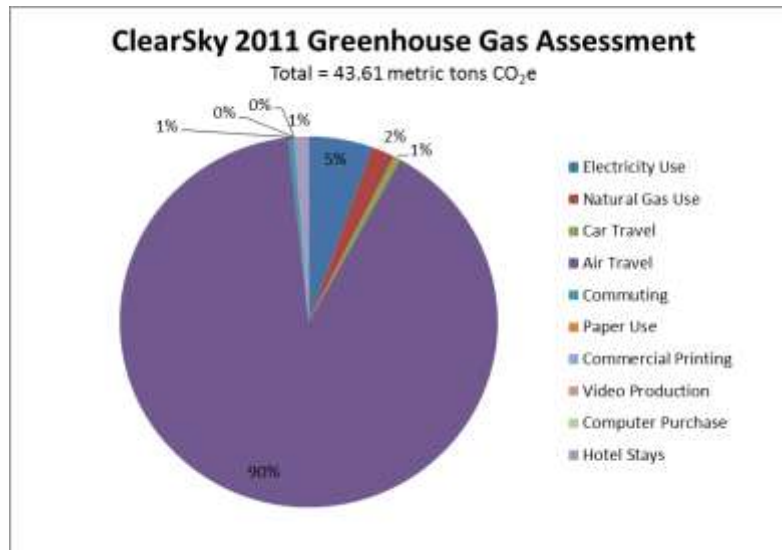
Keegan Eisenstadt, CEO

## Greenhouse Gas Assessment – Summary Results

The full results of ClearSky’s 2011 GHG Assessment are included in **Annex 1** at the end of this document, including all gathered data, assumptions, and emissions factors. The following table summarizes contributions of separate elements of ClearSky’s corporate carbon footprint:

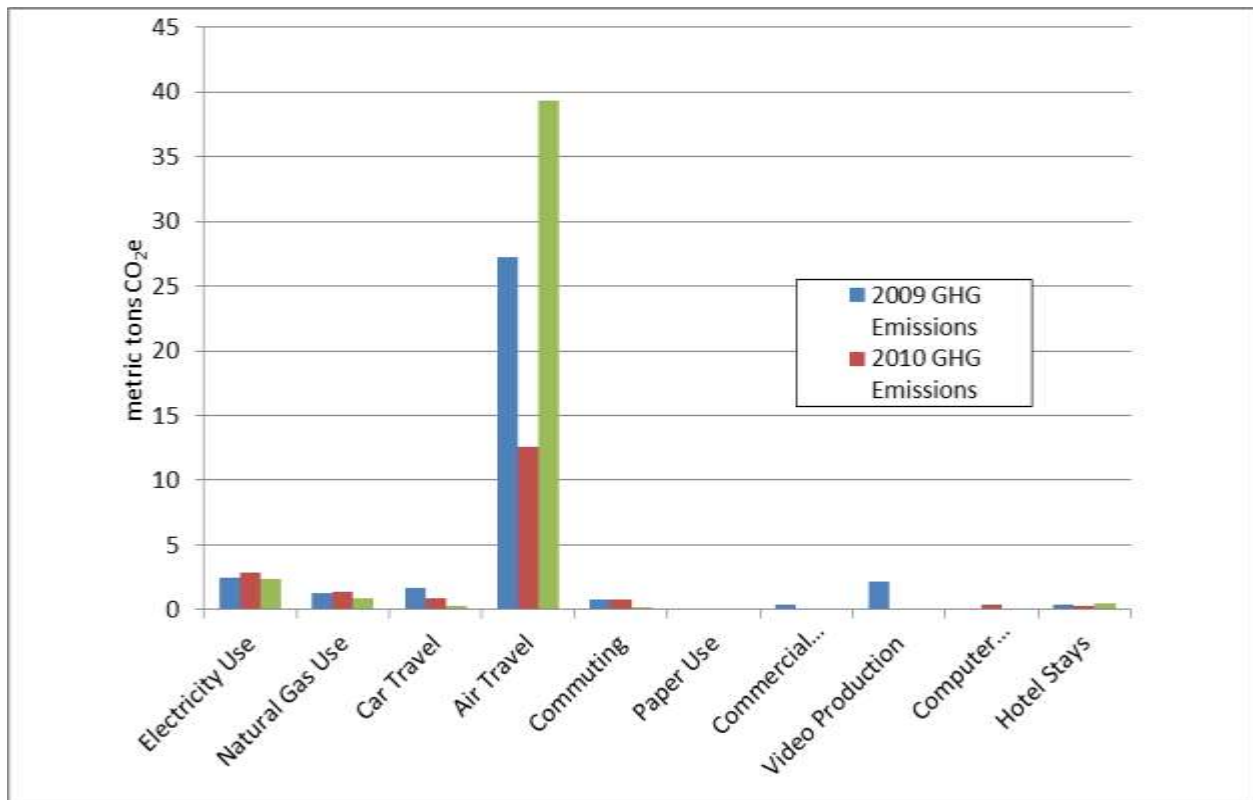
| Activity                   | 2011 GHG Emissions              |
|----------------------------|---------------------------------|
|                            | (metric tons CO <sub>2</sub> e) |
| <b>Electricity Use</b>     | 2.38                            |
| <b>Natural Gas Use</b>     | 0.85                            |
| <b>Car Travel</b>          | 0.28                            |
| <b>Air Travel</b>          | 39.34                           |
| <b>Commuting</b>           | 0.23                            |
| <b>Paper Use</b>           | 0.01                            |
| <b>Commercial Printing</b> | 0.00                            |
| <b>Video Production</b>    | 0.00                            |
| <b>Computer Purchase</b>   | 0.00                            |
| <b>Hotel Stays</b>         | 0.52                            |
| <b>Total</b>               | <b>43.61</b>                    |

This chart also displays the calculated GHG emissions ClearSky’s operations:



Further explanation of the boundary of this GHG Assessment and can be found in **Annex 2** at the end of this document.

This chart displays 2011 emissions compared to 2009 and 2010 emissions:



## Climate-friendly Business

Beyond measuring our carbon footprint, ClearSky employs a number of business practices that currently reduce our carbon footprint as well as our operating costs:

- flexible schedule work program for employees and remote work program for employees to reduce commuting when possible
- frequent webinars, video conferencing, and conference calls to avoid company travel
- eco-friendly purchasing policy for all company-branded materials
- working with the owners of our office building and other ClearSky attended events to measure and offset GHG emissions from the entire building or event
- offering an employee benefit of free carbon offsets for employees to use for their personal carbon footprints
- participating in Missoula In Motion's Momentum program, which records and tracks employee commuting history



By implementing these practices and continually searching for new ways to reduce our operational carbon footprint, ClearSky hopes to become a role model for small businesses in the new green economy. We also want to be a resource for information and experience for like-minded companies seeking to improve their own performance.

## Going Climate Neutral

The crucial, final step in reaching the goal of climate neutrality is offsetting any remaining or unavoidable GHG emissions with high-quality, verified carbon offsets. ClearSky is able to use offsets from a project that has been independently verified and registered, namely the Pinehurst Acres Methane Capture Project. Additionally, this project offers important ecological and community benefits to the surrounding area. More information about this project is included in **Annex 3** at the end of this document.

ClearSky has already taken significant action to offset portions of our carbon footprint. We have successfully convinced the owner of the office building where our headquarters are located to offset the entire building's GHG emissions for 2011 (86 metric tons in total, including electricity and natural gas use). In addition, we also worked with our employees to offset GHG emissions related to their individual annual footprints. Therefore, these segments of our operations are already climate neutral. These activities account for 3.44 metric tons CO<sub>2</sub>e. ClearSky's remaining carbon footprint stands at 40.17 metric tons CO<sub>2</sub>e.

**Therefore, ClearSky is retiring 41 metric tons of CO<sub>2</sub>e to mitigate the remainder of our 2011 carbon footprint.** We can be sure that the investment we're making in offsets will be delivered to a high-quality project that permanently reduces GHG emissions, boosts local livelihoods, and contributes to the Green Economy in the USA.

More information about carbon offsets and going climate-neutral is included in **Annex 4** at the end of this document.

## Moving forward

ClearSky will continue working to improve our environmental performance into the future. Here are some steps we will take in 2012:

- 1) Setting a goal. ClearSky is committed to maintaining our status as a climate-neutral business, and we will continue to offset our entire carbon footprint into the future. This is our primary goal.

Additionally, ClearSky will establish a target for reducing our corporate GHG emissions over time. This will give us a goal to shoot for over time, and a structure for taking future steps. Given that ClearSky is a small business poised for growth, an absolute emissions reduction target isn't suitable for us at the moment. Several options are possible for setting a carbon intensity target, such as carbon footprint per employee,

per client, per \$ revenue, and so forth. ClearSky was unable to reach its aggressive emission reduction target for 2011 of 5% below 2010 levels (pro-rated on a per-employee basis). This was due to ClearSky's international travel increasing substantially. Therefore, for 2012, we feel a per \$ revenue goal is better well suited. Our goal will be to achieve a per-\$ carbon footprint of 5% below 2011 levels.

- 2) Pick the low-hanging fruit. There are simple, everyday steps that every business can do to lower emissions and cut costs. ClearSky will continue to identify tactics that are best suited for our operations, and implement changes where possible. ClearSky is a very small business in a rented office space, but there are still changes we can make to improve our environmental performance.
- 3) Keep monitoring and improving our performance. Repeating GHG Assessments each year is an important component of tracking our progress as a business. As we learn more about our operations from year to year, we can identify areas for improvement and establish additional policies to reduce our footprint as we grow.

**Annex 4** offers quick guides to carbon offsets, the benefits of green business practices, and other common areas of interest.



**2011 Greenhouse Gas Assessment for ClearSky Climate Solutions**  
**Annex 1: Complete GHG Data**



**ClearSky Climate Solutions  
2011 Greenhouse Gas Assessment**

|  |  |
|--|--|
|  | Information provided by ClearSky staff |
|  | Standard conversion factor             |
|  | Calculated figure                      |
|  | Greenhouse Gas (GHG) figure            |

| Electricity Use:    | Year [1] | Space occupied [2] | Time occupied [2]         | Emissions Factor [3]       | GHG Emissions [4]               | Carbon Neutral             |
|---------------------|----------|--------------------|---------------------------|----------------------------|---------------------------------|----------------------------|
|                     | (kWh)    | %                  | hrs per wk/40 *<br>mos/12 | (kg CO <sub>2</sub> e/kWh) | (metric tons CO <sub>2</sub> e) |                            |
| 415 N Higgins, MT   | 150,000  | 0.04               | 1.00                      | 0.407                      | <b>2.33</b>                     | Yes, via building.         |
| LB home office - MT | 0        | 0                  | 0                         | 0.407                      | <b>0.00</b>                     | Yes, via employee benefit. |
| KE home office - MT | 7052     | 0.06               | 0.25                      | 0.407                      | <b>0.05</b>                     | Yes, via employee benefit. |
| MW home office - MT | 1208     | 0.05               | 0.2                       | 0.407                      | <b>0.01</b>                     | Yes, via employee benefit. |

|  |             |
|--|-------------|
| <b>Total GHG Emissions:</b>                | <b>2.38</b> |
| <b>Total GHG Emissions Already Offset:</b> | <b>2.38</b> |
| <b>Remaining</b>                           | <b>0.00</b> |

|  |
|--|
| [1] = Electricity usage was calculated or estimated by employees.                            |
| [2] = Calculation is adjusted for the space, number of hours, and number of months occupied. |
| [3] = Emissions factor from the US EPA eGRID 2005 data.                                      |
| [4] = One metric ton = 2205 lbs  |



**ClearSky Climate Solutions**  
**2011 Greenhouse Gas Assessment**

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|--|--|
|  | Information provided by ClearSky staff |
|  | Standard conversion factor             |
|  | Calculated figure                      |
|  | Greenhouse Gas (GHG) figure            |

| <b>Natural Gas Use:</b>                    | <b>Year [1]</b> | <b>Space occupied [2]</b> | <b>Time occupied [2]</b> | <b>Emissions Factor [3]</b> | <b>GHG Emissions [4]</b> | <b>Carbon Neutral</b>      |
|--|-----------------|---------------------------|--------------------------|-----------------------------|--------------------------|----------------------------|
|  | (therms)        | %                         | hrs per wk/40 * mos/12   | (kg CO2e/therm)             | (metric tons CO2e)       |                            |
| 415 N Higgins, MT                          | 3,310           | 0.04                      | 1.00                     | 5.914                       | <b>0.78</b>              | Yes, via building.         |
| LB home office - MT                        | 0               | 0                         | 0                        | 5.914                       | <b>0.00</b>              | Yes, via employee benefit. |
| KE home office - MT                        | 623             | 0.06                      | 0.25                     | 5.914                       | <b>0.06</b>              | Yes, via employee benefit. |
| MW home office - MT                        | 281             | 0.05                      | 0.2                      | 5.914                       | <b>0.02</b>              | Yes, via employee benefit. |
| <b>Total GHG Emissions:</b>                | <b>0.85</b>     |                           |                          |                             |                          |                            |
| <b>Total GHG Emissions Already Offset:</b> | <b>0.85</b>     |                           |                          |                             |                          |                            |
| <b>Remaining</b>                           | <b>0.00</b>     |                           |                          |                             |                          |                            |

|  |
|--|
| [1] = Electricity usage was calculated or estimated by employees.  |
| [2] = Calculation is adjusted for the space, number of hours, and number of months occupied.   |
| [3] = Information from the Energy Information Agency ( <a href="http://www.eia.doe.gov/oiaf/1605/coefficients.html">http://www.eia.doe.gov/oiaf/1605/coefficients.html</a> ) |
| [4] = One metric ton = 2205 lbs  |



**ClearSky Climate Solutions**  
**2011 Greenhouse Gas Assessment**

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|--|--|
|  | Information provided by ClearSky staff |
|  | Standard conversion factor             |
|  | Calculated figure                      |
|  | Greenhouse Gas (GHG) figure            |

| Employee | Trip Description          | Distance Driven | Number of Trips | Total Distance | Reported MPG | Fuel Use  | Emissions Factor [1] | GHG Emissions [2]  | Carbon Neutral |
|----------|---------------------------|-----------------|-----------------|----------------|--------------|-----------|----------------------|--------------------|----------------|
|          |                           | (miles)         |                 | (miles)        |              | (gallons) | (pounds CO2e/gallon) | (metric tons CO2e) |                |
| KE       | Taxi in various locations | 600             | 1               | 600            | 25           | 24.00     | 25.34                | <b>0.28</b>        | No             |

|  |             |
|--|-------------|
| <b>Total GHG Emissions:</b>                | <b>0.28</b> |
| <b>Total GHG Emissions Already Offset:</b> |             |
| <b>Remaining</b>                           | <b>0.28</b> |

|   |
|---|
| [1] = Emissions factor from the Argonne National Labs GREET Model |
| [2] = 1 metric ton = 2205 pounds                                  |



**ClearSky Climate Solutions**  
**2011 Greenhouse Gas Assessment**

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|--|--|
|  | Information provided by ClearSky staff |
|  | Standard conversion factor             |
|  | Calculated figure                      |
|  | Greenhouse Gas (GHG) figure            |

| Employee | Destination | # of Trips | Depart [1] | Lay Over 1 | Lay Over 2 | To  | Round-trip? (1=no, 2=yes) | Mileage First Leg [2] (miles) | Mileage Second Leg (miles) | Mileage Third Leg (miles) | CO2e First Leg [3] (metric tons CO2e) | CO2e Second Leg (metric tons CO2e) | CO2e Third Leg (metric tons CO2e) | Total GHG Emissions (metric tons CO2e) | Carbon Neutral |
|----------|-------------|------------|------------|------------|------------|-----|---------------------------|-------------------------------|----------------------------|---------------------------|---------------------------------------|------------------------------------|-----------------------------------|--|----------------|
| KE/MW    | DC          | 6          | MSO        | -          | -          | IAD | 2.00                      | 1918                          |                            |                           | 0.92                                  | 0.00                               | 0.00                              | <b>10.99</b>                           | No             |
| KE       | Nairobi     | 1          | MSO        | TNR        |            | NBO | 2.00                      | 10,231                        | 1,398                      |                           | 4.89                                  | 0.67                               | 0.00                              | <b>11.11</b>                           | No             |
| KE       | London      | 1          | MSO        |            |            | LON | 2.00                      | 4,607                         | 930                        |                           | 2.20                                  | 0.51                               | 0.00                              | <b>5.43</b>                            | No             |
| KE       | Durban      | 1          | MSO        | JNB        |            | DUR | 2.00                      | 9936                          | 311                        |                           | 4.74                                  | 0.17                               | 0.00                              | <b>9.83</b>                            | No             |
| KE       | Mexico City | 1          | MSO        |            |            | MEX | 2.00                      | 2076                          |                            |                           | 0.99                                  | 0.00                               | 0.00                              | <b>1.98</b>                            | No             |

|  |              |
|--|--------------|
| <b>Total GHG Emissions:</b>                | <b>39.34</b> |
| <b>Total GHG Emissions Already Offset:</b> |              |
| <b>Remaining</b>                           | <b>39.34</b> |

[1] = Flight itineraries were reported by employees or estimated using [www.kayak.com](http://www.kayak.com).

[2] = Distances provided from [www.milecalc.com](http://www.milecalc.com)

[3] = Emissions factors for short, medium, long, and extended flights (0.64, 0.45, 0.39, and 0.39 lb CO<sub>2</sub>/mile, respectively) are taken from the World Resources Institute GHG Protocol for Mobile Sources (<http://www.ghgprotocol.org/>). Short flights are up to 281 miles, medium flights are 281-994 miles, long flights are greater than 994 miles. We also include a Radiative Forcing Index of 2.7 (IPCC 2007). 1 metric ton = 2205 lbs.



**ClearSky Climate Solutions**  
**2011 Greenhouse Gas**  
**Assessment**

|  |  |
|--|--|
|  | Information provided by ClearSky staff |
|  | Standard conversion factor             |
|  | Calculated figure                      |
|  | Greenhouse Gas (GHG) figure            |

| <b>Commuting</b>   | <b>Distance to work</b> | <b>Emissions Factor [2]</b>     | <b>GHG Emissions [3]</b>        | <b>Carbon Neutral</b>      |
|--------------------|-------------------------|---------------------------------|---------------------------------|----------------------------|
|                    | (miles round-trip)      | (pounds CO <sub>2</sub> e/mile) | (metric tons CO <sub>2</sub> e) |                            |
| <b>Carpool</b>     | 92                      | 0.51                            | <b>0.02</b>                     | <b>No</b>                  |
| <b>Vanpool</b>     | 14                      | 0.38                            | <b>0.00</b>                     | <b>No</b>                  |
| <b>Bus</b>         | 16                      | 0.24                            | <b>0.00</b>                     | <b>No</b>                  |
| <b>Drive Alone</b> | 401.6                   | 1.10                            | <b>0.20</b>                     | Yes, via employee benefit. |

|  |             |
|--|-------------|
| <b>Total GHG Emissions:</b>                | <b>0.23</b> |
| <b>Total GHG Emissions Already Offset:</b> | <b>0.20</b> |
| <b>Remaining</b>                           | <b>0.03</b> |

|   |
|---|
| [2] = Emissions factor from the Argonne National Labs GREET Model |
| [3] = 1 metric ton = 2205 pounds                                  |



**ClearSky Climate Solutions**  
**2011 Greenhouse Gas Assessment**

|                         |  |                             |                      |
|-------------------------|--|-----------------------------|----------------------|
|                         | Information provided by ClearSky staff |                             |                      |
|                         | Standard conversion factor             |                             |                      |
|                         | Calculated figure                      |                             |                      |
|                         | Greenhouse Gas (GHG) figure            |                             |                      |
| <b>Office Paper Use</b> | <b># of Reams Used</b>                 | <b>Emissions factor [1]</b> | <b>GHG Emissions</b> |
|                         |  | (kg CO2/virgin ream)        | (metric tons CO2e)   |
| Higgins Plaza           | 3                                      | 2.5                         | <b>0.0075</b>        |

|                      |                             |                             |                      |
|----------------------|-----------------------------|-----------------------------|----------------------|
| <b>New Computers</b> | <b>Dollars Spent (2010)</b> | <b>Emissions factor [1]</b> | <b>GHG Emissions</b> |
|                      |                             | (kg CO2/\$)                 | (metric tons CO2e)   |
| MW and SH            | \$0                         | 0.287                       | <b>0.00</b>          |

| <b>Employee Hotel Stays</b> | <b>Trip</b>                              | <b>Number of Hotel Nights</b> | <b>Emissions Factor [2]</b> | <b>GHG Emissions [3]</b> |
|-----------------------------|--|-------------------------------|-----------------------------|--------------------------|
|                             |  |                               | (kg CO2e/room/night)        | (metric tons CO2e)       |
| LB                          |  | 0                             | 29.53                       | 0.00                     |
| MW                          | DC                                       | 5                             | 29.53                       | 0.07                     |
| KE                          | DC, Nairobi, Durban, London, Mexico City | 34                            | 29.53                       | 0.46                     |
|                             | <b>Total</b>                             | 39                            | 29.53                       | <b>0.52</b>              |

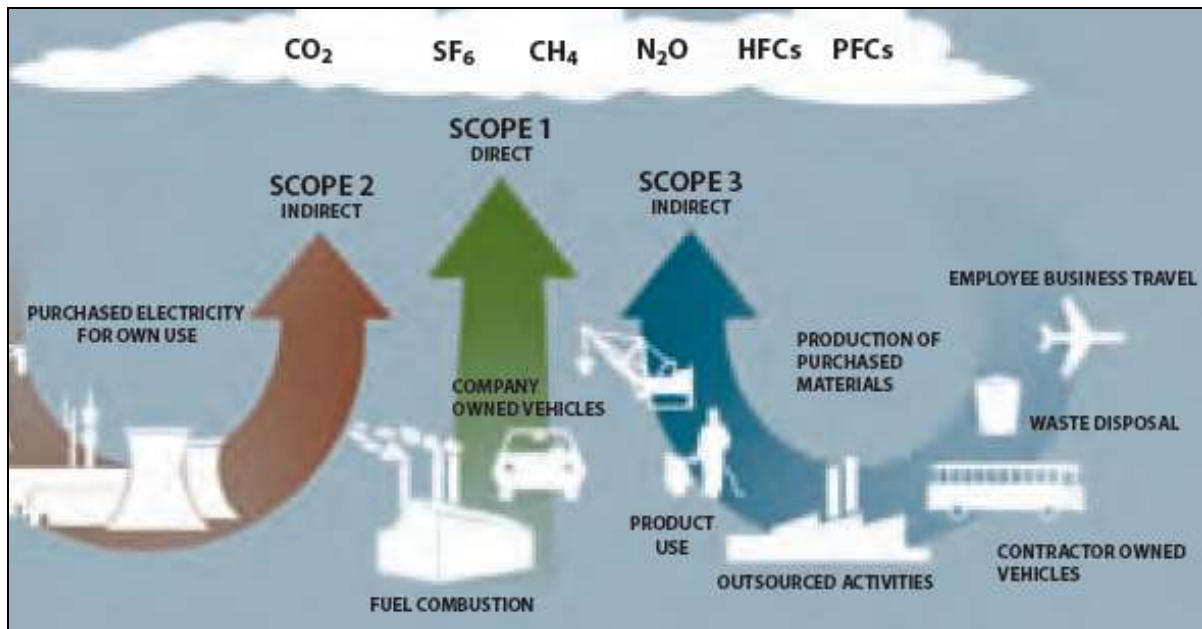
|  |             |
|--|-------------|
| <b>Total GHG Emissions:</b>                | <b>0.53</b> |
| <b>Total GHG Emissions Already Offset:</b> | <b>0.00</b> |
| <b>Remaining</b>                           | <b>0.53</b> |

|   |
|---|
| [1] = Emissions factor from the Seattle Climate Partnership ( <a href="http://www.seattleclimatepartnership.org">www.seattleclimatepartnership.org</a> )                  |
| [2] = Information from the US EPA ( <a href="http://www.epa.gov/chp/documents/hotel_casino_analysis.pdf">http://www.epa.gov/chp/documents/hotel_casino_analysis.pdf</a> ) |
| [3] = 1 metric ton = 2205 pounds  |

## 2011 Greenhouse Gas Assessment for ClearSky Climate Solutions

### Annex 2: Assessment Boundary and Calculation Methods

Every company performs many activities, some of which are not directly controlled by the company itself. Thus, there is some grey area in terms of what should be included in an environmental assessment of ClearSky's operations. A useful way to organize an organization's functions is presented in the figure below.<sup>1</sup>



Traditional Greenhouse Gas Assessments require only Scope 1 and Scope 2 activities to be included in the assessment, while Scope 3 (indirect) emissions can be included based on the desires of the organization. We attempted to include as many Scope 3 activities as possible, leading to a very comprehensive estimate. The 2009 GHG Assessment for ClearSky included the following sectors:

- electricity and natural gas use at the headquarters office
- electricity and natural gas use at the offices of employees working remotely
- company car travel
- company air travel
- employee hotel stays
- employee commuting

<sup>1</sup> Modified from the World Resources Institute Greenhouse Gas Protocol – [www.ghgprotocol.org](http://www.ghgprotocol.org).

- office paper use
- commercial printing
- advertising production

Given a known quantity of fuel, energy, or raw material, we can multiply by an emissions factor, which is a rate of tons or lbs of CO<sub>2</sub>e emitted per quantity of the material consumed (for example, 25.34 lbs CO<sub>2</sub>e/ gallon of gasoline).

When the quantity of raw material is not known, or ClearSky's share of the total cannot be known, we used emissions factors based on secondary units of consumption, such as passenger air-miles flown (0.64 lbs CO<sub>2</sub>e/passenger air-mile flown), or hotel room-nights (65 lbs CO<sub>2</sub>e per hotel-night).

In cases where consumption data aren't available, we converted dollars spent on the activity into CO<sub>2</sub>e emissions, using an Economic Input-Output Life Cycle Assessment (EIO-LCA) tool built by the Carnegie Mellon Green Design Institute. An EIO-LCA breaks an economic activity into its main component activities, estimates average CO<sub>2</sub>e per dollar for the entire sector of the economy related to each activity, and sums the greenhouse gas emissions of each component activity.<sup>2</sup> For example, a dollar spent on "commercial printing" emits greenhouse gasses from several component sectors, including pulpwood harvesting, paper manufacturing, transportation, energy use, ink manufacturing, etc. Although EIO-LCAs are powerful tools, they rely on many assumptions and give outputs that represent an aggregated national perspective rather than a particular, localized activity. EIO-LCAs are becoming increasingly sophisticated; for instance some models discriminate between printing on recycled versus virgin paper.

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<sup>2</sup> Please see <http://www.eiolca.net/cgi-bin/dft/use.pl> for complete information on this particular tool and LCAs in general.





**2011 Greenhouse Gas Assessment for ClearSky Climate Solutions**  
**Annex 3: Pinehurst Acres Methane Capture Project**



## ClearSky Carbon Offset Project Description

### *Pinehurst Acres Swine Methane Capture Project (PA, USA)*

#### Project Activity:

ClearSky is providing certified carbon offsets from a methane capture project at the Pinehurst Acres hog farm near Danville, PA. Animal waste from up to 4,200 hogs is fed into an anaerobic digester, which processes the manure and collects methane. Methane is a potent greenhouse gas, having **21 times** the warming potential of CO<sub>2</sub>. This gas is then burned as an alternative energy source to create electricity. Prior to this project the animal waste was stored in an open-air lagoon, so the capture and combustion of methane produced by the anaerobic digester will lead to a significant reduction in the methane emissions from this facility.



#### Certification:

This project was verified by an independent, 3rd-party auditor and the emissions reductions have been certified by the Chicago Climate Exchange (CCX). This project entered the CCX through an aggregator.

#### Greenhouse Gas Emissions Reduction:

This project's certification period began in 2004, and runs for 20 years. **27,119 metric tons** of CO<sub>2</sub> equivalent will be avoided through the capture and destruction of methane. Approximately 16,875 ft<sup>3</sup> of methane are produced every day in this digester.



#### Additional Benefits:

Beyond sequestering CO<sub>2</sub>, this project helps to:

- Provide an additional source of revenue for a rural agricultural operation;
- Contribute to the development and implementation of green technology;
- Generate clean, renewable energy (224,000 kWh of electricity are generated each year through this project, all of which is sold to Pennsylvania Power and Light.)
- Improve air and water quality; and
- Create green-collar jobs related to manure and nutrient management, digester construction, and project auditing.

#### How to Purchase Offsets:

##### Organizations:

We will work closely with you to design a customized greenhouse gas mitigation plan. This will include an emissions audit, strategies to reduce emissions, and a personalized selection of offsets from our project portfolio to mitigate remaining, unavoidable emissions.



##### Individuals:

Please visit our web page to purchase carbon offsets from this project ([www.clearskyclimatesolutions.com](http://www.clearskyclimatesolutions.com)). Use our custom Carbon Footprint Calculator to determine your yearly personal greenhouse gas emissions, or work with us to design a carbon footprint assessment for your special event!

The emissions reductions credits we're selling **have already been certified and verified by an external, 3rd-party auditor**. This means the emissions reductions have already happened, and you can have confidence that your offsets are legitimate, rather than promises of future action.

[www.clearskyclimatesolutions.com](http://www.clearskyclimatesolutions.com)

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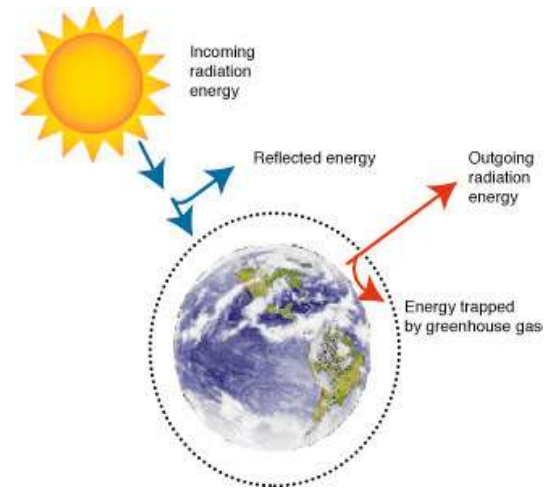


**2011 Greenhouse Gas Assessment for ClearSky Climate Solutions**  
Annex 4: Information About Carbon Offsets and Going  
Climate-Neutral

## The Basics About Carbon Offsets:

### A quick review on global warming:

Global climate change has been undeniably linked to an increase in greenhouse gases (GHGs) in the atmosphere, caused primarily by human activities over the past 200 years. GHGs act to trap solar heat energy, and the excess heat is changing the earth's climate patterns and natural ecosystems. The atmospheric concentration of CO<sub>2</sub> has risen from 315 parts per million (ppm) in 1958 to 385 ppm in 2008. Leading scientists now believe that we must quickly reduce atmospheric concentrations of CO<sub>2</sub> to around 350 ppm to avoid catastrophic changes to our climate in the future



### What are carbon offsets?

A carbon offset is equivalent to one metric ton (2,205 lbs) of CO<sub>2</sub> equivalent that has been removed from the atmosphere or prevented from being released. Offsets are “created” by specific projects, whether they are based on removing GHGs or based on preventing the release of GHGs. Every offset represents the same amount of CO<sub>2</sub> equivalent, which allows offsets to be compared and traded like any other product.

*Note: We say “CO<sub>2</sub> equivalent” because there are several classes of greenhouse gases (GHGs), like methane, CFCs, and so on, and each type of GHG has a different severity of impact on the climate. CO<sub>2</sub> is by far the most common GHG in the atmosphere, so other gases are converted to equivalent amounts of CO<sub>2</sub> by using multiplication factors.*

### How do carbon offsets work?

When you make a decision to purchase a ClearSky carbon offset, you're saying that there are unavoidable GHG emissions from your company, your lifestyle, or your event that you would like to “balance” by paying for an equivalent reduction in GHG emissions from somewhere else. According to the nonprofit group Clear Air-Cool Planet, carbon offsets work because:

*Unlike most conventional pollutants, GHGs mix well in the atmosphere and can travel around the planet quickly. As a result, it doesn't 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 emissions reductions by sector and geography.*

The main criticism of carbon offsets is that they're a way for the rich to pay for their pollution rather than changing their ways. This is a valid point, because carbon offsets should only be used as a tool **after** you've assessed your overall emissions and made a sincere effort to reduce your climate footprint. Ultimately, the future of our planet depends on everyone reducing their impact, not paying to remain at the status quo. This is why ClearSky will work with you to calculate and lower your emissions, whether you're a company or an individual.

## Climate-Neutral Business

### Why should my company or group be interested in going climate-neutral?

At ClearSky, we regularly hear this question. Businesses are quickly adjusting to the reality of greenhouse gas regulation in the United States. CO<sub>2</sub> emissions are now a liability, and companies are working hard to incorporate green business practices into their operations. We think going “climate-neutral” with a GHG assessment and carbon offsets can offer the following benefits to nearly any organization:



- **Helping the environment and contributing to meaningful work.** Your company’s energy use, water consumption, and GHG emissions all take a toll on the environment, and reducing these impacts should be a goal for all businesses. With ClearSky, you can reduce your impact and contribute to projects that benefit the climate, local communities, and native biodiversity.
- **A powerful green image and marketing story.** Adopting green business practices and going “climate neutral” will send a clear message of environmental commitment to your clients and your staff. Concerned customers are increasingly seeking this kind of social responsibility, and will discriminate between companies that are taking action and those that aren’t.
- **Improved efficiency and reduced operating costs.** Identifying sources of GHG emissions will lead to strategic reduction of these liabilities, which will ultimately lead to lower energy consumption and expenses. The proven financial benefits from eco-efficiency activities are a valuable benefit from the ClearSky GHG audit.

- **First-mover advantage when regulation comes into place.** If your company has already begun tracking greenhouse gas emissions and adopting programs to reduce emissions you’ll have a significant head-start and fewer headaches adapting to mandatory regulation. Even if your business isn’t explicitly targeted by GHG regulation, our nation’s climate policy will affect nearly every sector of the economy. Companies that have taken the initiative to lower CO<sub>2</sub> emissions voluntarily may also receive preferential treatment in the transition to a regulatory scheme.



- **Increased employee participation and morale.** Employees want to work for progressive, socially responsible employers, and green business programs are a great way to encourage worker involvement and boost morale. Increased employee satisfaction is directly related to increased productivity.

## Climate-Neutral Business - Continued

### The ClearSky Solution

ClearSky can offer the following services to help your company go climate-neutral:



- **Auditing** the greenhouse gas emissions related to direct operations, building energy use, company transportation, employee commuting, and other activities. This will yield a total carbon footprint figure, in metric tons of CO<sub>2</sub>. We can make this assessment for a typical year or a period of years in order to develop an emissions baseline, and develop a system to track emissions from year to year. This will allow your company to track changes as green programs are put into place.
- **Consulting** for best practices and strategies to reduce emissions for these activities. We can help your company identify policies and programs to shrink your carbon footprint in a cost-effective manner.
- **Providing** high-quality carbon credits from our portfolio of projects to offset the remainder of the climate footprint. Each offset, or carbon credit, is equal to 1 metric ton of CO<sub>2</sub> that has been removed from the atmosphere or avoided through the projects that we work on. These reductions have already occurred and passed certification, so they represent actual offsets and not promises of future action.

Transitioning to a green economy that rewards environmental sustainability and home-grown solutions will be a key focus for our entire nation in the coming years. We would like to help your company be at the forefront of this evolution. That's our aim at ClearSky – helping an environmentally responsible economy become a reality.



## Quality Standards for Carbon Offsets

### What should I look for in carbon offset? Are there good offsets and bad ones?

It's absolutely true that some carbon offsets are more legitimate than others, depending on how carefully the offset project is designed. It may be difficult at first to discriminate between one project and another, but there are a few key criteria that you should look for before purchasing offsets:

- **Real GHG emissions reduction** – carbon offset projects should depend on tested and transparent methods for establishing a baseline and calculating the GHG reductions due to the project activity. Also, offsets should be sold based on documented emissions reductions – that is, **emissions reductions should have already happened**, and you should not be paying for promises of future action.
- **Additionality** – a carbon offset project should generate emissions reductions that are above and beyond business as usual, meaning they should be “additional.” Finance from carbon credits needs to catalyze action that wouldn't have happened otherwise in order to meet this test.



- **Permanence** – if there is the potential for a reversal, in which emission reductions are returned to the atmosphere in the future, insurance must be held to protect against those scenarios. For example, a forestry project can insure against the risk of a forest fire by maintaining extra forested acreage not included in emissions reduction calculations. This reserve can then be allocated in the event of a problem.
- **Leakage** – the project activity should not simply shift emissions from one location to another, i.e. halting logging in one area but spreading logging to other areas.
- **Certification** – certification standards exist for both the voluntary and regulatory carbon markets, so all offset projects should be certified to a high-quality standard. The certifying body is an **outside perspective** that will critically evaluate a project's merits. Never purchase un-certified offsets, or offsets certified by the same agency that developed the project.
- **Verification** – as a part of the certification process, a 3<sup>rd</sup> party verifier is required to examine the project and perform an audit of the stated emissions reductions. Verifiers are trained to work in particular sectors and they provide another layer of scrutiny for offset reliability.
- **Environmental and social benefits** – offset projects should have a demonstrated positive impact on the local environment and on human communities in the project area. These ancillary benefits could include protecting habitat for endangered species, creating green-collar jobs, or providing a clean water source.

## ClearSky Carbon Offsets

### Why should I buy ClearSky offsets?

With 13 years of experience developing climate change mitigation projects internationally and in the United States, ClearSky is skilled at designing carbon offset projects that meet certification criteria in both voluntary and regulatory markets. We're well aware of the need for transparency and quality in this market, which is why we represent only projects that meet our standards. Also, all of our project information is publicly available to interested partners on our website ([www.clearskyclimatesolutions.com](http://www.clearskyclimatesolutions.com)), where certification and verification information can be reviewed.

The ClearSky philosophy is that purchasing offsets is only the final step in going climate-neutral. The two previous steps are equally important: assessing your GHG footprint and reducing your emissions where possible. That's why our services also include assessment of GHG footprints for companies, organizations, individuals, and special events, as well as consulting to reduce GHG emissions.

By offering our clients high-quality offsets and the total package of services to go climate-neutral, we're confident that ClearSky Climate Solutions is a superior partner in the effort to halt global climate change. We think you'll feel the same way.



### Where does the money go when I purchase ClearSky offsets?



ClearSky offsets typically retail for \$15 per metric ton of CO<sub>2</sub> equivalent. Of the retail price, approximately 30% goes toward project development, certification, and transaction costs. The remaining 70% goes back to the project to pay for materials and labor, and to distribute revenue to project participants. The percentages will vary slightly from project to project depending on the complexity of the certification process – forestry projects are generally more complex than energy efficiency projects, for example.

In some cases, ClearSky purchases certified offsets through project aggregators, and the details of the agreements between project owners and aggregators are usually not available.



## Additional Carbon Offset Questions

### **If I buy offsets, how long can I claim to be climate-neutral?**

This depends on the goals of your GHG assessment and how you've chosen to purchase offsets. Our corporate clients and private individuals will usually calculate their annual carbon footprint and purchase offsets to mitigate this quantity of CO<sub>2</sub> equivalent. In this case, you're balancing your yearly carbon footprint, so you can claim to be climate-neutral for the year covered by your calculation. GHG assessments can run backward or forward in time – that is, you can estimate your emissions for the upcoming year and purchase offsets to cover yourself into the future, or complete the assessment based on actual energy use for the past year.

In the case of hosting a climate-neutral event, the GHG assessment will only cover the activities associated with the event in question.

### **I like forestry projects, but what if something happens to the trees?**

Permanence is a required test for any certified carbon offset project. If there is the potential for a reversal, in which emission reductions are returned to the atmosphere in the future, insurance must be held to protect against those scenarios. ClearSky forestry projects include appropriate reserve buffers to insure against insect attack, wildfire, or other unplanned reversals of the GHG emissions reductions.

### **What is the difference between carbon credits and renewable energy certificates (RECs)?**

The Environmental Defense Fund offers the following comments on this difference:

*Carbon offsets are verified tools to achieve greenhouse gas emission reductions. Buying a carbon offset allows you or your company to claim a reduction of your carbon footprint.*

*A renewable energy certificate, or REC, is proof that a megawatt hour (MWh) of renewable energy has been supplied to the market. Purchasing RECs helps develop the renewable energy supply by subsidizing the higher cost of renewable energy.*

*While RECs provide proof that renewable energy has been supplied, they do not offer verified proof that greenhouse gas emissions are reduced.*

*Purchase offsets when you want to buy an emission reduction to reduce your net carbon footprint. Purchase RECs when you want to buy "green power."*



While both products are ways to stimulate change toward a green economy, only certified carbon offsets can result in fully accountable benefits in the effort against global warming. This is why ClearSky develops carbon offset projects, and offers these offsets to our partners who desire to be climate-neutral.