

***Rockefeller Brothers Fund:
Carbon Footprint Report
2007–2009***



NativeEnergy – Climate Solutions

**Rockefeller Brothers Fund
475 Riverside Drive, Suite 900
New York, NY 10115**

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NativeEnergy is pleased to provide this three-year carbon footprint summary for the Rockefeller Brothers Fund. The report covers the Rockefeller Brothers Fund's carbon footprint history from 2007-2009, and provides an overview of the carbon reduction *NativeEnergy* projects that the Fund has supported.

About NativeEnergy

Founded in November 2000, *NativeEnergy* has helped thousands of individuals, businesses, and also event planners to calculate, and then reduce, their carbon footprints. We leverage market demand for carbon offsets to bring online new Native American, family farmer, and community-owned renewable energy projects. Through our novel approach of bringing upfront payment to renewable projects for the estimated future carbon offsets, we enable our clients to help directly finance the construction of specific new wind farms and other renewable energy projects.

NativeEnergy has calculated and offset the footprints of companies, individuals, events, consumer products, and music tours including Rolling Stones and Willy Nelson. We are proud to provide our services to top-level governmental and nongovernmental organizations like UN Summits, Live Earth, and have delegated travel for the 2008 Democratic National Convention, two national presidential campaigns, the Green Inaugural Ball in 2009, and dozens more. In each case, the clients received the highest quality emissions analysis and carbon offsets.

NativeEnergy focuses on real, additional offsets that provide both an environmental and a social benefit. We employ the latest emissions databases from the International Energy Agency, EPA, U.S. Departments of Energy and Transportation, and World Resource Institute's GHG Protocol to establish the most accurate and complete carbon footprint for the event or operations based on data available.

We applaud the Rockefeller Brothers Fund's commitment to environmental responsibility, and we look forward continuing to help the Fund reach its carbon reduction goals.

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Carbon Inventory Overview

Since the Rockefeller Brothers Fund (RBF) engaged *NativeEnergy* in 2005, it has reduced over 2178 metric tons of greenhouse gases emissions by supporting community-based projects that bring both environmental and social benefits. The carbon offsets purchased counteract the emissions created through the Rockefeller Brothers Fund's daily operations including travel, staff commuting, and office energy use. More than 14 projects have benefited from the RBF's initiative including seven dairy farms, four wind farms, one community-based landfill, a micro-hydroelectric dam, and an organization dedicated to installing energy efficient technologies for long-haul, diesel trucks. Of these projects, *NativeEnergy* has selected six projects to describe in detail (see Appendix, page 8).

A carbon offset is a reduction in emissions of carbon or greenhouse gases made in order to compensate for or to offset an emission made elsewhere

For this report *NativeEnergy* worked closely with the Fund's staff—Jacklyn Lloyd, operations manager; Gail Fuller, director of communications; and Jessica Bailey, Sustainable Development program officer—to determine the carbon footprint of the RBF's office and travel activities. The reporting period for this document are the calendar years 2007–2009, which reflects the time during which *NativeEnergy* began analyzing the Fund's carbon footprint. Based on the information provided to *NativeEnergy*, the total carbon emissions resulting from facilities energy use, business travel, and staff commuting is **795.9 metric tons of CO₂e with an annual average of 265.3 metric tons**. These emissions are summarized by source category in Figure 1 and Table 1.

Figure 1. Carbon Emission by Source 2007 - 2009

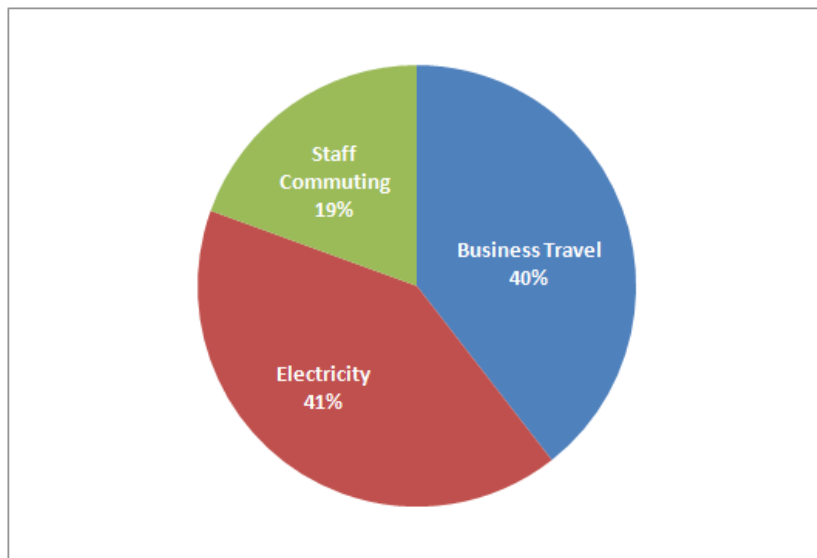


Table 1. Carbon Emissions by Source 2007 – 2009

Emission Sources	CO₂ Emissions (mtons)	% CO₂ Emissions (mtons)
Travel	314.2	40%
Facilities	326.9	41%
Staff Commuting	154.8	19%
Grand Total =	795.9	100%

To help the RBF understand how its 795.9 metric tons of emissions relate to other emission-intensive activities, *NativeEnergy* calculated the following carbon equivalencies:

- Annual greenhouse gas emissions from 152 passenger vehicles
- Annual greenhouse gas emissions from 68 average American households' energy usage
- CO₂ emissions associated with burning 89,528 gallons of gasoline
- CO₂ emissions associated with burning 1,851 barrels of oil

Carbon Footprint Overview

Below is a detailed overview of the RBF's carbon footprint from 2007 to 2009.

Table 2. Carbon Emissions by Source & Category

Emission Sources & Category	2007 CO₂ Emissions (mTons)	2008 CO₂ Emissions (mTons)	2009 CO₂ Emissions (mTons)	Total CO₂ Emissions (mTons)
Business Travel				
Air Travel	87.7	79.6	140.7	308
Train	2.5	2.3	1.4	6.2
Travel Total	90.2	81.9	142.1	314.2
Facilities				
Electricity	116.9	101.52	108.5	326.9
Facilities Total	116.9	101.52	108.5	326.9
Staff Commuting				
Personal Car	20.8	18.9	23.8	63.5
Commuter Train	11.5	10.5	10.8	32.8
Intercity Train	0	0	0.1	0.1
Transit Rail	9.8	8.9	13.9	32.6
Bus	9.2	8.3	8.3	25.8
Staff Commuting Total	51.4	46.6	56.9	154.8
Emission Source	2007	2008	2009	Total
Business Travel	90.2	81.9	142.1	314.2
Facilities	116.9	101.52	108.5	326.9
Staff Commuting	51.4	46.6	56.9	154.8
Grand Total =	258.5	230.02	307.5	795.9

Travel Emissions

Emissions related to business travel and staff commuting is usually the primary contributor to an office carbon footprint. For the RBF, air travel is the largest element of its operational footprint year after year. One factor that contributed to the increase in air travel emissions from 79.6 mtons in 2008 to 140.7 in 2009 was the program staff's travel, which included the United Nations Climate Change Conference (COP15) in Copenhagen.

Commuting Emissions Updated: The Move from 437 to 475

On June 29, 2009, the Rockefeller Brothers Fund moved from 437 Madison Avenue to 475 Riverside Drive, a newly designed, environmentally friendly space. The new office is located in The Interchurch Center, a nonprofit building in Morningside Heights, Manhattan's west side neighborhood. Recently, the Fund's new office achieved LEED Platinum certification (LEED-CI v2009) from the U.S. Green Building Council.

With the relocation came many changes, including the distance RBF's employees travelled to work. Jacklyn Lloyd was tasked to examine how the RBF staff's commuting habits had changed. She provided a worksheet to RBF staff, and collected information on total distance traveled by personal car, public transport (train, metro, and bus), walking, and biking. Once this data was collected and placed into *NativeEnergy's* calculator, specific emission factors were applied to each type of travel.

Table 3. Staff Commuting Carbon Emission/Miles by Transport Source

Year	2007		2008		437 - 2009		475 - 2009		Grand Total	
Commuting type	mTons	Miles	mTons	Miles	mTons	Miles	mTons	Miles	mTons	Miles
Public Transport	30.5	145,045.0	27.7	136,931.0	15.7	77,611.0	17.5	83,335.0	91.4	442,922
Personal Car	20.8	55,464.0	18.9	44,864.0	16.4	35,375.5	7.4	17,566.5	63.6	153,270
Walking/Biking	-	1,296.0	-	1,296.0	-	904.0	-	4,280.0	-	7,776
Grand Total	51.4	201,805.0	46.6	183,091.0	32.0	113,890.5	24.9	105,181.5	154.9	603,968

When comparing 437 Madison Avenue to 475 Riverside Drive, it is important to note that the Fund's move marked an increase in use of public transportation, walking, and biking. Walking and biking alone increased from 900 miles at 437 Madison per year to more than 4,000 at the RBF's new location.

Business Travel

The Rockefeller Brothers Fund's corporate travel includes only two sources of emissions: air and train travel. Air travel makes up the majority of these emissions.

Train

Since 2007, the number of miles traveled by train has decreased from 12,000 miles in 2007 to 6,000 miles in 2009.

Table 4. Carbon Emissions by Train Travel

Emission Sources	2007 CO₂ Emissions (mTons)	2008 CO₂ Emissions (mTons)	2009 CO₂ Emissions (mTons)	Total CO₂ Emissions (mTons)
Train	2.5	2.3	1.4	6.2

Air

Since 2007, the number of miles traveled by plane has increased from 280,000 miles in 2007 to 450,000 miles in 2009. This is the largest emissions source, and also the easiest source to reduce, and has the bonus of saving money. This increase can, in part, be attributed to having internationally based staff.

Table 5. Carbon Emissions by Air Travel

Emission Sources	2007 CO₂ Emissions (mTons)	2008 CO₂ Emissions (mTons)	2009 CO₂ Emissions (mTons)	Total CO₂ Emissions (mTons)
Air Travel	87.7	79.6	140.7	308.8

Facilities

The RBF was headquartered at 437 Madison Avenue from 2007 through the first half of 2009. At the end of June 2009, it completed a green build-out and relocated to 475 Riverside Drive, which is more energy efficient. The electricity reduction in 2008 was due to the RBF implementing new efficiency practices and the relocation of one of its tenants.

Table 6. Carbon Emissions by Electricity Usage

Emission Sources	2007 CO₂ Emissions (mTons)	2008 CO₂ Emissions (mTons)	2009 CO₂ Emissions (mTons)	Total CO₂ Emissions (mTons)
Electricity	116.9	101.52	108.5	326.9

Table 7. Electricity Usage

	2007	2008	2009	Total
Electricity (KWh)	257,597	246,524	263,545	767,669

What are Carbon Offsets?

Carbon offsetting involves funding projects that will reduce CO₂ emissions; critical to the integrity of the offset is the “additionality,” or ensuring that this project wouldn’t have happened without the offset. *NativeEnergy* provides an easy and cost-effective way to reduce emissions from fossil-fueled power plants and from common agricultural practices. With *NativeEnergy*’s support, the RBF was able to help finance the construction of new sources of clean and renewable electricity, and in exchange, enable the RBF to claim a portion of the resulting carbon reductions. These projects' electricity reduces the amount of electricity generated by fossil fuel-powered generators, and the farm projects reduce onsite emissions. Offsets can be created by renewable energy projects, energy efficiency, and land use and agriculture-based projects like methane abatement. By buying the offsets, the RBF helps them get financed and built, and their emissions reductions compensate for the CO₂ pollution created by the RBF by driving, flying, and general office operations.

Conclusion

The greenhouse gas emissions associated directly with RBF operations including facility energy use, travel, and staff commuting totaled 795.9 metric tons—equivalent to the electricity use of about 97 average homes for one year. While the RBF takes seriously its commitment to conservation and does its best to reduce its carbon footprint, offsetting has proven an effective way to counteract the climate impacts of unavoidable energy use.

Appendix

14 RBF-Supported Projects

AVEC 1 Wind Project	Penn England Dairy Farm Methane Project
Brubaker Dairy Farm Methane Project	Salish Kootenai Small Scale Hydro
Des Plaines Landfill Gas Project	Schrack Dairy Farm Methane Project
Dovan Dairy Farm Methane Project	St. Leon Wind Project
Greensburg Wind Farm	Truck fuel efficiency
Hillcrest Dairy Farm Methane Project	Wanner Dairy Farm Methane Project
Langdon Wind Project	Wray Wind Turbine Project

Project Descriptions

Below are a collection of *NativeEnergy* carbon reduction projects that the Rockefeller Brothers Fund has supported since 2007.

Greensburg Wind Farm Project

On May 4, 2007 an EF-5 tornado leveled Greensburg, Kansas, destroying 95 percent of the town and leaving a path of devastation two miles wide. Eleven of the town's 1,400 residents died in the disaster. In their communal search for meaning in the days that followed this catastrophe, the people of Greensburg individually and collectively agreed to rebuild their town.

They committed to make Greensburg the *greenest town in America*.

In his first address to a joint session of Congress, President Obama said, "Greensburg . . . is being rebuilt by its residents as a global example of how clean energy can power an entire community—how it can bring jobs and businesses to a place where piles of bricks and rubble once lay. 'The tragedy was terrible,' said one of the men who helped them rebuild. 'But the folks here know that it also provided an incredible opportunity.'"

NativeEnergy is extremely proud to play a necessary role in helping build the Greensburg Wind Farm. As the exclusive renewable energy credits (REC)/offset marketer for this historic project we are excited to offer everyone the opportunity to join this American renewal project by purchasing the carbon offsets this project will generate.

This new wind energy project is being developed with critical upfront financing from *NativeEnergy*, whose funding is made possible by the collective community support of our clients, partners, and individual supporters.

Sustainable Development Benefits: The Greensburg Wind Farm will create significant economic and environmental benefits for the city as the community continues to rebuild. The wind farm will generate enough energy to power 4,000 homes—more than enough for every home, business, and municipal facility in Greensburg. The City will retain the rights to the green benefits from about one-third of the wind farm, making the town "wind powered." *NativeEnergy* will purchase the remaining REC output,

converting the RECs to carbon offsets for its customers. The energy generated by the wind farm will displace fossil-based energy and reduce hundreds of thousands of tons of carbon pollution that otherwise would enter our atmosphere.

This wind farm will be located on farmland just southwest of the city—several farm families will receive direct economic benefits from hosting the turbines.

Greensburg had seen its school enrollment cut in half in recent decades, but now residents see new and compelling reasons for young people to stay and build their lives and raise their families in this community. New green businesses are already relocating or starting up there. Greensburg is already the first U.S. city to light all streets with LED lights, the first to have a LEED-certified town hall, and has a new Business Incubator Building, which hopes to achieve LEED Platinum status. Twelve new eco-homes are in development, and the rebuilding of the Greensburg community is an inspiring example of the new green economy.

We are offering our community—businesses, partners, and individuals—high-quality carbon offsets that will be generated by this new wind project so they can directly (through *NativeEnergy*) help build this project while offsetting the emissions from the energy they use to run their businesses, travel, drive, and run their households.

Offset type: *NativeEnergy's* 20-year offsets purchase is consistent with the duration of the power purchase agreement and the grant of RECs to the town. The offset type is commonly referred to as Forward Stream “Help Build” offsets for the first 20 years of the project’s operating life, with forward crediting of carbon offsets against current year carbon emissions by offset purchasers.

Additionality: This project demonstrates financial additionality according to United Nations Framework Convention on Climate Change definitions in that the project faces barriers to implementation that are overcome by the opportunity to receive carbon revenues. The principal barriers are capital costs of the equipment and lack of economy of scale. The upfront payment commitment from *NativeEnergy* is required to satisfy the developer’s investment requirements. Carbon funding helps *NativeEnergy* enable the developers to finance and fund the successful development of this project.

Project details:

- 10 new wind turbines, 1.25 MW each for a total 12.5 MW new wind energy
- Enough energy to power ~4,000 homes
- Construction scheduled for August 2009
- Commercial operation in 2010

The developer: John Deere Renewables

Verification/Monitoring: The project plan will be validated against the Voluntary Carbon Standard, with an extension of the standard project term from 10 to 20 years and additional discounts to be conservative. The project’s electrical performance will be third-party verified annually, and the resulting CO₂ reductions will be third-party verified every five years.

Brubaker Farms Family Dairy Farm Methane Project

The Brubaker family farm, founded in Mt. Joy, Pennsylvania in 1929, has a history of environmental stewardship in its farming efforts. The Brubaker family sponsors local events that promote environmental efforts at the farm, and also holds educational tours for local community members. In 2003, *NativeEnergy* began working with the Pennsylvania Biomass Working Group to help support the state's digester initiative. In 2004, we began discussions with the farm regarding funding support for their planned manure anaerobic digester project. The farm was awarded grant money from the State of Pennsylvania in 2005 and then earned funds from the U.S. Department of Agriculture in 2007. Our discussions with the Brubakers continued, and after exploring other alternatives, the Brubakers selected *NativeEnergy* to purchase upfront the carbon emission reductions and renewable energy credits associated with the operation of the digester and generator. This additional funding from *NativeEnergy* allowed for the Brubaker family to successfully complete the project financing.



The Brubaker family farm methane digester produces renewable energy, some of which is delivered to the local electric power grid. The digester also powers a portion of the farm's operations. Additionally, excess heat from the electric generator engine is used to heat the farm buildings, reducing the farm's fossil fuel use. Brubaker Farms is among the first to receive the Pennsylvania Environmental Agricultural Conservation Certification of Excellence. The farm received the National Environmental Stewardship Award in 1999 and a major livestock award in 2000.

The project is an example of a working and successful farming operation that is a responsible steward of the environment, an active member of the local community, and able to co-exist in an area that is experiencing a growth in residential development.

Cascade Sierra Solutions Trucking Efficiency Project



Nearly everything we use today spends some of its journey on a truck. Long-haul truckers, like Keddy and Sonya (left) deliver our goods where neither rail systems nor ships can go. They put in long hours, log thousands of miles, and, unfortunately, generate tons of CO₂ and other polluting emissions. Like you, they don't like that last part. They love blue skies, wide open spaces, and the great outdoors. And the locally owned, owner-operator drivers in particular, just like family farmers, do their best to build a livelihood against the challenges of nature, weather, and rising energy costs. Sometimes it's a hard road.

Cascade Sierra Solutions (CSS), an Oregon-based nonprofit, provides education and outreach directly to owner-operators like Keddy and Sonya.

CSS serves its clients with energy-efficient products, regulatory advice, installation contracting and coordination, and below-market financing, which enable these long-haul truckers to cut their costs and their CO₂.

This first trucking carbon offset project results from the grouping of several different customized, energy- efficiency measures applied to long-haul, heavy-duty diesel trucks from a locally owned fleet, through the operations of Cascade Sierra Solutions. These measures reduce the consumption of diesel fuel through reductions in weight, aerodynamic drag, tire rolling resistance, and fuel consumption while idling.

Typically, long-haul drivers must idle their engines to provide livable cab temperatures while they sleep. APUs and other idle-reduction technologies provide alternative power sources for climate control while using a fraction of the fuel the main engine would otherwise consume idling, or in some cases, none at all. These measures reduce the amount of diesel fuel combustion necessary to operate the truck over a fixed distance.

Depending on the specific measures installed, most trucks will save between 10 and 60 short tons of carbon dioxide from being emitted into the environment each year. That is equivalent to converting five to 25 average cars into hybrids. A critical sample of the trucks in this project will be using GPS tracking to collect driving distance data for reporting. With these data and conservative calculations of the fuel savings from the measures installed, *NativeEnergy* is able to track and verify the amount of tons of carbon credits generated from the trucks. *NativeEnergy* does not include in its calculation any fuel savings from measure when used in states requiring, or effectively requiring, the implementation of such measure.

St. Leon Wind Power Project

The St. Leon Wind Power project in Manitoba Province, Canada is a wonderful collaboration between the community and its U.S .neighbors in fighting climate change. This 63 turbine project, located just 40 miles north of the North Dakota-Canadian border, spans 23,000 acres over 51 family farms and is generating enough electricity to power more than 35,000 homes. All of the power output is sold into the Midwestern United States electrical grid, via Manitoba Hydro, and will in turn reduce more than 370,000 tons per year of CO₂ by displacing electricity usage from U.S.-based coal-power plants. This is equivalent to converting more than 82,000 sports utility vehicles into hybrids—a great result for the planet, and an economic boost to the St. Leon farm community, which is still recovering from devastating floods in 2005–2006. Each of the farms benefits from leasing revenues and an annual share of the output from turbines on their lands.

After seven years of efforts, St. Leon finally attracted a wind project developer to help optimize one of its greatest assets—prairie wind. The biggest challenge has been making the project's economics work. The wind may be strong there, but the price a utility is willing to pay for the energy is not, especially Manitoba Hydro, which has its own low-cost hydro available, and can source cheap fossil fuel power in the United States. Without the promise of funding available from sales of the environmental attributes of the wind power, Manitoba Hydro was initially unwilling to contract for a long-term electricity purchase. With the promise of the carbon offset sales, the project was developed and has become economically viable. *NativeEnergy* and our customers are helping to keep that financing promise, which in turn is reducing greenhouse gases and supporting family farms.

Offsets offered are based on the second half of 2007's REC generation, with CO₂ emissions reductions calculated by *NativeEnergy* consistent with the Green-e Climate methodology, assigning 1,813 lbs CO₂/MWh for fossil fuel power displaced in the Midwest ISO grid.

The Boulder Creek Hydro Project

The Boulder Creek Hydro Project is owned by the Confederated Salish and Kootenai Tribes. Located on the Flathead Reservation, the facility is in Lake County in western Montana. Part of the tribes' mission is to provide sound environmental stewardship to preserve, perpetuate, protect, and enhance natural resources and ecosystems, and they have done so by renovating this renewable energy project on their reservation.

In operation since 1984, the project was unable to repay principal on its outstanding debt and was operating at a loss. It had reached the point that continued operations were not feasible, and incurring additional debt to refurbish the project in 2007 did not make financial sense based on expected costs and available revenue from the power sales.



"It became evident that unless we could find a way to increase revenue through REC sales, to service both the pre-existing debt and the refurbishment loans, the project would cease operations," said Steve Clairmont, General Manager of the S & K Holding Company, which manages the Boulder Hydro Project. After researching REC sales opportunities, S & K determined that incremental REC revenues would make the refurbishment economically feasible, and began the process to have the project certified by the Low Impact Hydro Institute so the project would be able to generate marketable RECs. The institute certifies environmentally low-impact hydropower facilities nationwide on behalf of green energy consumers.