

**GOLDMAN
SACHS**

**2008
Environmental
Report**

**Goldman
Sachs**

The imperative to embrace change: It challenges us to introduce new variables, to work differently, to rethink what was thought of as predictable. It demands the best of us: our skills and talents, our values, our shared sense of purpose.

In these times, it would be easy to retreat from the risks of new markets and the frontiers of new ideas. However, in a changing world, Goldman Sachs' commitment to the environment is unwavering. Our responsibility for environmental stewardship does not fluctuate with changing economic conditions. Rather, it drives us to think creatively about opportunity and growth. Our firm is committed to being a meaningful part of sustainable, successful solutions, investing in those areas where we can make a positive impact on the world and global markets.

As in all of our undertakings, we apply knowledge, talent and hard work to solve problems, advance progress and achieve our goals. Guided by our Environmental Policy Framework, we continue to seek market-based opportunities that benefit our environment and our business, while at the same time examining and modifying our practices to reduce our environmental impact.

We hope our work continues to inspire action and creative market-based solutions that can help our environment endure and thrive.

About This Report

ABOUT THIS REPORT

As a global financial institution, we recognize the importance of a healthy environment as the foundation for a sustainable and strong economy. We take seriously our responsibility for environmental stewardship, and believe that we must play a constructive role to help address the challenges facing the environment. To that end, in 2005 we established an [Environmental Policy Framework](#) (“Framework”). The Framework embodies our commitment to finding effective, market-based solutions to address climate change, ecosystem degradation and other critical environmental issues, and to creating new business opportunities that benefit the environment.

2008 marks our third year of progress reporting on our environmental initiatives. Despite the year’s significant market challenges, we continued to make important

strides across our businesses to help address broad environmental issues. The principles and philosophy our Framework articulates are firmly embedded within each of our businesses, and our commitment to leverage our people, capital and ideas to find market-based solutions to environmental issues remains intact.

The people of Goldman Sachs have shown unanimity of spirit and dedication in exploring new business opportunities that meet our central objectives of creating long-term value for our shareholders and serving the best interests of our clients, while at the same time making a positive impact on the larger world we all share.

The following pages highlight our key areas of progress since our last report.

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Investments

INVESTMENTS

Our Commitment¹

Make available up to \$1 billion for renewable energy and energy efficiency investments.

Our Progress

At year-end, Goldman Sachs' investments in clean technology and sustainable development totaled more than \$2.5 billion since the adoption of The Framework.

As an active investor in clean technology and other environmentally beneficial projects, Goldman Sachs plays a role in the commercial deployment and scaling up of alternative fuel sources and energy-efficient technologies that contribute to lower carbon emissions. Despite the challenging markets, we made several investments in these areas in 2008, bringing our aggregate investment to more than \$2.5 billion since the adoption of The Framework. Our portfolio consists of companies and projects that employ wind, solar, cellulosic ethanol and geothermal energy. We also have investments in energy efficiency technologies, sustainable real estate development and companies that focus on market infrastructure development. The following highlights select investments made since our last report:

- **PHOTOVOLTAIC ENERGY GENERATION:** SpectraWatt, Inc., a new United States company with registered offices in Hillsboro, Oregon, plans to manufacture and supply photovoltaic (PV) cells to solar module makers. In addition to focusing on advanced solar cell technologies, SpectraWatt will concentrate development efforts on improvements in current manufacturing processes and capabilities to reduce the cost of PV energy generation. The company expects initial product deliveries in early 2010.

Another company in the PV space is Georgia-based Suniva, which develops, manufactures and markets high-value, high-efficiency silicon PV cells for clean solar power generation. Suniva's mission is to drive mass adoption of high-efficiency PV technology, which has significant economic, social and environmental benefits. The company's management team has decades of PV industry experience and a unique development approach that enables delivery of leading-edge solar cell performance while dramatically cutting the cost of PV-generated electricity.

- **HYDROELECTRIC POWER:** Cogentrix Energy, a Goldman Sachs subsidiary, established a joint venture with Tasyapi Enerji Grubu, a wholly owned subsidiary of Tasyapi Holdings, to develop, construct, own and operate over 800 MW of clean, efficient electric power generation projects in the growing Turkish marketplace. The new venture will focus its efforts on hydroelectric projects, with the potential to develop wind and thermal generation projects in the future.
- **WASTE-TO-ENERGY:** Eco Energy Holdings Co., Ltd is a renewable-energy project developer focusing on biogas-to-energy projects, converting methane gas from wastewater and landfills into energy. The Korean company currently operates the world's largest landfill gas- (LFG) fired power plant, Sudokwon 50MW LFG, outside Seoul. It also operates the Daejeon LFG power plant and Masan LFG power plant. Additionally, Eco Energy Holdings Co., Ltd has signed an agreement with the Seoul Metropolitan government, Greenlane Investments Limited and Swedish Biogas International AB to build and operate Korea's first facility converting sewage sludge to compressed biogas.
- **WIND POWER:** CS Wind Corporation is a private steel wind tower and internal tower components manufacturer for wind turbine generators incorporated in South Korea with three production facilities based in Vietnam and China. Its subsidiary CS Wind Tower is the first company to produce wind towers (a major component of wind turbines) in Vietnam. CS Wind Corporation has produced more than 1,800 wind towers since 2004, and has exported them to the United States, Asia-Pacific and Europe.

¹ Commitment made in November 2005 as part of our Environmental Policy Framework. Please see the [Environmental Policy Framework](#) for a complete description of our commitments.

TRADING AND CAPITAL MARKETS

Our Commitment

To act as a market maker in emissions trading, weather derivatives, renewable energy credits and other climate-related commodities, and look for ways to promote the development of these markets.

Our Progress

We continue to strengthen our leadership position in the carbon markets through strategic alliances with carbon offset companies Blue Source and E+Co. During 2008, we also placed more than \$1.4 billion in catastrophe-linked securities to address risks of hurricanes and other natural catastrophes.

Trading

Established in New York in 2007 to build businesses around renewable energy and carbon trading, our North American Environmental Commodities Team continued to assist clients in managing greenhouse gas-related risks in the voluntary and pre-compliance carbon markets.

Ahead of the Regional Greenhouse Gas Initiative (RGGI) start date of January 2009, the team traded allowances in the futures market and participated in the first RGGI auction, held in September 2008.

We also formed alliances with two carbon offset companies in 2008, Blue Source and E+Co:

- Goldman Sachs purchased a minority stake in Blue Source and has a multiyear marketing agreement for its offsets. The company's diverse, North American-based offset project portfolio includes methane management, industrial gas destruction, carbon capture and storage, and others. This portfolio provides Goldman Sachs greater liquidity and access to voluntary and pre-compliance carbon risk-management products.

- Goldman Sachs has a multiyear alliance with E+Co, a business that provides financial backing and business support to clean-energy projects in 28 developing countries. Through the alliance, we will off-take the majority of E+Co's offset portfolio, which includes emissions reductions that meet certification standards, including the Gold Standard and the Clean Development Mechanism. Our commitment to buy offsets further promotes E+Co's goal of providing investment capital and support services to small clean-energy business ventures in developing countries.

In Europe, we continue to take principal risk positions in carbon emissions for the European market through the European Union Emissions Trading Scheme and deliver Kyoto Protocol-approved emissions reductions to European and other Kyoto markets. Our traders are supported by global sales and strategy teams in London, New York, Tokyo and Singapore.

We are also a dealer in other climate- and energy-related commodities such as renewable energy credits.

Trading and Capital Markets

Capital Markets

Goldman Sachs continues to create financial products that protect companies from climate change-related risks. We strive to be a market leader in developing and implementing solutions, including “catastrophe bond” and “sidecar” issuances. These can be attractive to institutional investors who seek to diversify their portfolios while helping to meet the needs of clients looking for greater financial protection against natural catastrophes.

Goldman Sachs also continues its market leadership in developing and placing catastrophe-linked securities. In 2008, we placed six transactions totaling more than \$1.4 billion to hedge the climate-related risk of insurance and reinsurance companies globally. One such transaction was a \$250 million issuance for Nationwide Mutual Insurance Company. This transaction marked the first time that Nationwide has managed natural catastrophe risk through the capital markets, and effectively provides them with collateralized coverage for hurricane and earthquake risk in the United States.

GLOBAL INVESTMENT RESEARCH

Our Commitment

To increase systematic incorporation of environmental, social and governance criteria into our fundamental analysis of companies.

Our Progress

The **GS SUSTAIN** research team has more than doubled its coverage from 200 companies in our last report to more than 500 at year-end. The team now covers all ten global economic sectors, having added Industrials, Technology and Utilities and expanded coverage of Energy, Materials, Financials, Healthcare and Consumer Staples in 2008.

GS SUSTAIN

GS SUSTAIN research highlights long-term investment opportunities by integrating an analysis of the sustainability of corporate performance with our traditional, fundamental analysis. It uses Goldman Sachs' proprietary framework for analyzing competitive advantage in mature industries and identifying winners in emerging industries, including alternative energy; Brazil, Russia, India and China (BRIC) consumer; infrastructure; and biotechnology. The result is a set of objective metrics on environmental, social and governance (ESG) issues that can be integrated with overall measures of corporate performance, industry positioning and return-based valuation methodologies to highlight candidates for long-term investment. Because today's companies are challenged by significant and rapid changes affecting the broader economy, individual corporate industries, society at large and the global environment, investors are increasingly concerned with the implications of these structural shifts and are interested in sustainable investments.

For mature industries, the proprietary GS SUSTAIN framework applies objective and quantifiable analysis of key corporate performance drivers to identify companies best positioned to sustain superior, long-term returns on capital relative to industry peers. Mature industry leaders must lead peers in three areas: (1) return on capital, (2) industry positioning and (3) management quality with respect to ESG issues.

In fast-growing, emerging industries, the key driver of equity market outperformance remains a company's ability to sustain superior growth. The GS SUSTAIN framework identifies companies exposed to structural growth trends and research has identified companies across 12 emerging industry groups (including alternative energy, BRIC consumer, infrastructure and biotechnology) that we believe are well positioned to deliver superior growth rates in coming years.

As of December 31, 2008, the GS SUSTAIN focus list incorporated 51 identified leaders in mature industries, which we believe are well-positioned to sustain industry leadership and superior return on capital, and 36 emerging-industry leaders offering attractive exposure to growth opportunities arising from structural change in global industries.

Global Investment Research

Global Alternative Energy Research

Global Alternative Energy Research covers 64 alternative energy companies around the world, including producers of wind, solar, biofuels, geothermal and fuel-cell technologies. This creates one of the broadest geographic and technological coverage universes in the alternative energy research space, as well as one of the deepest, with coverage ranging from large-cap to start-up companies. In May 2008, more than 900 investors, regulators, market participants and venture capitalists attended our two-day Third Annual Alternative Energy Conference in New York.

Global Economic Research

Global Economic Research conducts global macroeconomic research on environmental themes such as the impact of climate change, energy efficiency, energy policy and the challenges of reconciling environmental protection with economic growth. This research also encompasses demographic themes such as aging populations, urbanization and the role of women in global economies. Examples of reports published in 2008 include “In Urgent Need of a Comprehensive EU Energy Policy” and “Tracking the Energy Profile within the BRICs.”

Please see [Appendix A](#) for a list of Research Reports published in 2008.

INVESTMENT MANAGEMENT

Our Commitment

To seek to create new business opportunities that benefit the environment, consistent with our central business objective of creating long-term value for our shareholders and serving the long-term interests of our clients.

Our Progress

In September 2008, Goldman Sachs Asset Management (GSAM) launched the Goldman Sachs Sustain Portfolio, an innovative global equity fund based on the GS SUSTAIN focus list. The fund provides investors with access to fundamental investment opportunities ensuing from the structural changes reshaping the world economy.

GSAM views the biggest global challenges of today's business environment as potential investment opportunities. We advise clients on what is changing, what it means for them and how they can manage the risk of change and turn it into opportunity. Goldman Sachs and GSAM have a long track record of creating forward-looking, innovative investment opportunities. The Goldman Sachs Sustain Portfolio leverages this expertise.

The Goldman Sachs Sustain Portfolio is a global equity fund that seeks to achieve sustained returns from mature industries, as well as growth from emerging industries. The portfolio is broadly based on an index which tracks the GS SUSTAIN focus list, which integrates an analysis of the sustainability of corporate performance with traditional, fundamental analysis. The fund invests in companies that we believe are well positioned to profit from these trends, with potential to generate returns over the long term.

The Goldman Sachs Sustain Portfolio was launched as an Undertakings for Collective Investment in Transferable Securities (UCITS) III fund to respond to the interest from institutional investors, private clients and retail clients through third party distribution in Europe and the Middle East.

As of February 2009, the fund is registered and available to retail investors in 10 different markets within Europe and the Middle East. The fund is not available to any persons in the United States or in any jurisdictions where the fund is not authorized for sale.

More than 420 institutional investors and private clients across the United Kingdom, United Arab Emirates, Nordics, Netherlands and Germany attended nine different GSAM conferences on GS SUSTAIN.

The [Global Investment Research](#) section of this report offers more detail on the GS SUSTAIN framework and focus list.

BUSINESS SELECTION AND ENVIRONMENTAL ADVISORY

Our Commitment

To consider the environmental and social impacts and practices of our clients and potential clients in our business selection decisions, and to encourage clients conducting industrial and agricultural activity in environmentally sensitive sectors to take appropriate safeguards.

Our Progress

We conducted additional training across our investment banking and principal investing teams and continue to conduct thorough due diligence on relevant environmental and social issues prior to transaction engagement. As an advisor and financier, we have engaged in strategic dialogues to help clients incorporate environmental and social factors into their business decisions.

The [Equator Principles](#) provide a framework for determining, assessing and managing environmental and social risk in project financing, based on the policies of the World Bank and its private sector arm, the International Finance Corporation. We seek to apply the framework to debt and equity underwriting transactions, to the initiation of loans and to investment banking advisory assignments where the proceeds are specified to be used for potentially environmentally damaging projects.

All investment banking and principal investing teams conduct thorough due diligence on relevant environmental and social issues prior to our engagement in a transaction. Key committees at the firm review the teams' findings and provide input. Where a transaction may have a significant environmental or social sensitivity, discussions are held and business selection decisions are made by top management with key business leaders and the Chairman's Office.

In 2007, we developed comprehensive due diligence guidelines to help teams with this process, and we have conducted training for our United States investment banking and principal investing teams to ensure that the guidelines are applied consistently. In 2008, we held additional training sessions in the United States as well as with our investment banking and principal investing teams in Europe.

We are currently updating and expanding our existing guidelines, and developing additional guidelines specific to several industries and geographies where environmental and social issues have evolved. In 2009, we will hold further training sessions to introduce the new guidelines and their applications to our investment banking and principal investing teams.

Throughout 2008, we also engaged in strategic dialogues on key developments in environmental policy, risk mitigation and opportunities related to environmental matters with many of our clients, including those in the telecom, utility, airline, private equity and hedge fund industries.

As an institution that brings together providers and users of capital, we believe that capital markets can and should play an important role in creating opportunities to address today's environmental challenges. We received *The Banker* 2008 CSR Award for Best Investment Bank in recognition of our focus on the environmental risks that pose a threat or an opportunity to our core business of forecasting earnings, managing risk and structuring deals. Based on *The Banker's* benchmarking study, Goldman Sachs scored better than any other bank on each bank's ability to turn around weak environmental performers.

DIRECT IMPACT

Corporate Services and Real Estate

Our Commitment

We recognize that an effective environmental policy begins with minimizing the impact of our own operations. Accordingly, we are committed to adopting leading-edge environmental safeguards throughout our facilities and business practices.

Our Progress

We continued to implement initiatives under our global carbon emissions reduction framework and to purchase direct renewable energy as appropriate to help mitigate the carbon footprint of our operations. From 2006 to 2007 we reduced the firm's emissions by 2.2% despite the firm's overall expansion in its real estate portfolio and data-processing capacity.

CARBON EMISSIONS¹

The 2007 emissions data captures Goldman Sachs' indirect emissions from 159 facilities, including office space from the firm's wholly owned subsidiaries as well as owned, leased and co-located data centers. Although the vast majority of the firm's facilities are metered, emissions for rent-inclusive facilities, which represent 6.6% of total global rentable square feet (RSF), were estimated based on the performance of similar facilities in our portfolio.

There was no change to the 2005 adjusted baseline as a result of 2007 acquisitions or divestitures.

2007 Carbon Emissions

The firm's 2007 carbon emissions were 247,873 metric tons, reflecting a decrease of 5,424 metric tons, or 2.2%, over 2006 emissions and an increase of 40,006 metric tons, or 19.3%, over the firm's adjusted 2005 baseline of 207,773 metric tons. The increase over 2005 is primarily due to growth in the firm's global office footprint and data-processing demand.

We continue to mitigate the growth of our carbon footprint by aggressively implementing a global carbon emissions reduction framework that includes the following initiatives:

- Consolidating into energy-efficient real estate by constructing facilities that meet the [United States Green Building Council's Leadership in Energy and Environmental Design \(LEED®\)](#) certification standards
- Improving space utilization through workplace standards and increased occupancy rates
- Consolidating data centers to increase efficiency
- Implementing energy demand management and conservation measures at existing facilities

These efforts, combined with renewable energy purchases in Europe totaling 46,500 metric tons, yielded a slight reduction in emissions from 2006 to 2007.

¹The 2008 Environmental Report includes carbon emissions data for 2007 as a result of the time required to collect, validate and analyze the data. The descriptions of the carbon emissions reduction initiatives pertain to the 2007 data.

Direct Impact

Global Carbon Emissions Summary

	Absolute Value 2005* Adjusted Baseline	Absolute Value 2006**	Absolute Value 2007	Variance 2007 vs. 2006
Global Facilities Reported	102	148	159	11
Total RSF Area	10,926,532 sf	11,053,543 sf	11,577,202 sf	523,659 sf
Actual Utility Consumption				
Electricity	397,592,301 kWh	468,605,034 kWh	559,072,996 kWh	90,467,962 kWh
Gas	1,200,201 Therms	2,079,277 Therms	1,936,119 Therms	(143,158) Therms
Steam	27,292 MLbs	52,707 MLbs	63,347 MLbs	10,640 MLbs
Oil	53,830 Gallons	61,465 Gallons	196,892 Gallons	135,427 Gallons
Carbon Emission Equivalents				
Electric—Metered	174,932 mt	193,224 mt	185,292 mt	(7,932) mt
Electric—Estimated	24,269 mt	44,961 mt	46,423 mt	1,462 mt
Gas—Metered	6,361 mt	11,020 mt	10,285 mt	(735) mt
Steam—Metered	1,657 mt	3,526 mt	3,845 mt	319 mt
Oil—Metered	554 mt	633 mt	2,028 mt	1,395 mt
<i>Total Emissions</i>	207,773 mt	253,364 mt	247,873 mt	(5,491) mt
<i>Total Emissions (excluding data centers)</i>	157,125 mt	174,129 mt	123,753 mt	(50,376) mt
Emissions/FTO	7.13 mt/FTO	8.57 mt/FTO	7.66 mt/FTO	(11)%
Emissions/FTO (excluding data centers)	5.41 mt/FTO	5.91 mt/FTO	3.83 mt/FTO	(35)%
Emissions/RSF	0.019 mt/rsf	0.023 mt/rsf	0.021 mt/rsf	(9)%
Emissions/RSF (excluding data centers)	0.015 mt/rsf	0.017 mt/rsf	0.011 mt/rsf	(35)%
Emissions/\$ Net Revenue (in millions)***	8.23 mt/\$mm	6.73 mt/\$mm	5.39 mt/\$mm	(20)%
Emissions/\$ Net Revenue (excluding data centers) (in millions)***	6.23 mt/\$mm	4.62 mt/\$mm	2.69 mt/\$mm	(42)%
Renewable Energy Purchases	0 mt	0 mt	46,500 mt	46,500 mt

*Does not include facilities below 5,000 sf.

**In 2008, we enhanced our utility tracking process so that we are now able to capture data from facilities smaller than 5,000 square feet, which had been previously excluded. 2006 carbon emissions values were adjusted to reflect this change.

***Based on Goldman Sachs' net revenue as reported in annual financial statements.

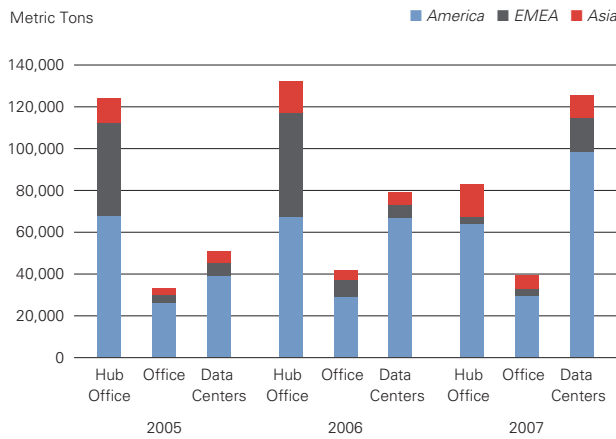
Please see [Appendix B](#) for the reporting methodology.

Direct Impact

Emissions Data

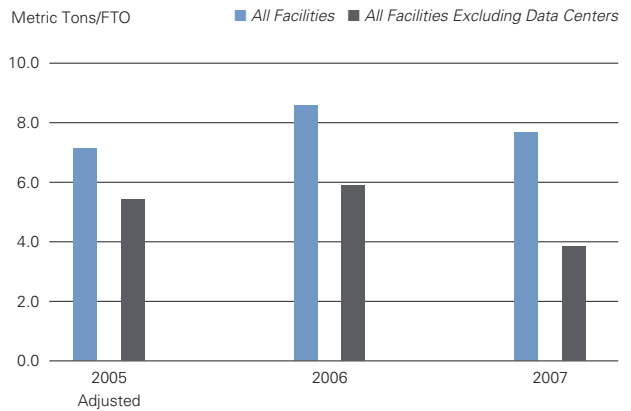
Emissions by Facility Type and Region

The 2007 reduction in Hub office and data center emissions of 46,500 metric tons (or 20%), resulting from the firm's renewable energy purchases for our London campus, coupled with the implementation of the emissions reduction framework reduced our emissions by 2.2% despite increased data-processing demand.



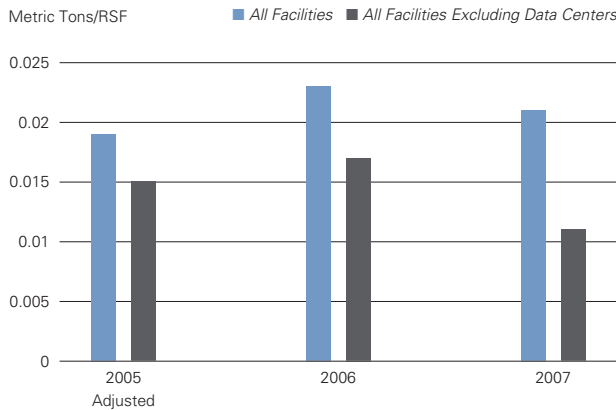
Emissions per Full Time Occupant (FTO)

In 2007, emissions per FTO for all facilities decreased by 11% over 2006, from 8.57 to 7.66 metric tons per FTO. Excluding data centers, emissions per FTO decreased by 35%, from 5.91 to 3.83 metric tons per FTO. While this decrease is primarily attributable to our renewable energy purchases, improved space utilization as outlined in our carbon emissions reduction framework is a contributing factor.



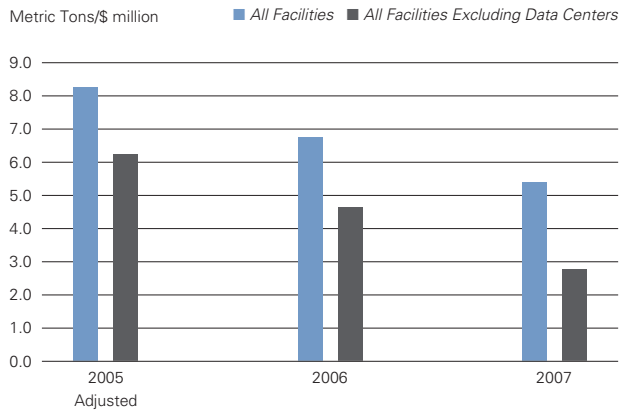
Emissions per Rentable Square Foot (RSF)

In 2007, the firm's global footprint increased by 4.7% to 11.6 mm rentable square feet, while emissions per RSF for all facilities decreased by 9% versus 2006. When data centers are excluded, emissions per RSF decreased by 35%.



Emissions per Dollar Net Revenue (in millions)

In 2007, the firm's emissions per \$ million net revenue decreased by 20%, from 6.73 metric tons/\$ million net revenue to 5.39 metric tons/\$ million net revenue for all facilities.



Direct Impact

Emissions Reduction

From 2006 to 2007, we reduced the firm’s emissions by 2.2% despite the firm’s overall expansion in its real estate portfolio and data-processing capacity. This initial success is attributable to:

- direct purchases of renewable energy in Europe
- implementation of our carbon emissions reduction framework

Renewable Energy Purchases

In 2007, we purchased renewable energy to supply our London campus and four cities in Germany, totaling 46,500 metric tons of carbon emissions reduction. The breakdown is as follows:

	Hub Office	Office	Data Center	Total
United Kingdom	39,825 mt	1,496 mt	3,369 mt	44,690 mt
Germany	—	1,810	—	1,810
<i>Total</i>	39,825	3,306	3,369	46,500

Initiatives Under the Carbon Emissions Reduction Framework

The firm is currently consolidating into energy-efficient LEED® certified facilities, most notably our new world headquarters in New York City, anticipated to be LEED® New Construction Gold certified and scheduled to open in late 2009.

In addition, we have increased space utilization and occupancy rates throughout our Hub and regional offices, and begun the development initiatives required to consolidate our data centers. We anticipate that we will begin realizing and reporting the results of these initiatives in future years.

We continue to focus on improving energy efficiency in existing facilities and identifying additional energy-saving opportunities through energy audits and benchmarking. In 2007, these initiatives reduced our emissions by 12,139 metric tons, or approximately 4.9% of our 2007 emissions. Some of the key initiatives are as follows:

Operational Efficiencies	Lighting Optimization
<ul style="list-style-type: none"> ▪ Optimized mechanical and electrical equipment run times ▪ Changed temperature set points 	<ul style="list-style-type: none"> ▪ Installed occupancy sensors in offices ▪ Encouraged behavioral changes, such as switching off lights ▪ Replaced inefficient light bulbs

We anticipate additional reductions in 2008, related to operational efficiencies and lighting optimization initiatives.

Technology

Technology plays a vital role in the daily operation of our business. We are constantly seeking ways to employ technology in a more energy-efficient manner to help manage the environmental impact of our firm’s complex technological infrastructure. Key initiatives deployed in 2008 include:

- Raising utilization of current resources through technologies such as virtualization and increased consolidation
- Changing our standard servers to models that are more efficient in terms of power/watt
- Increasing lifespan of current resources by focusing on server reuse/repurpose rather than buying new servers
- Participating in forums with IT experts to discuss critical aspects of data-center management and encourage consumer influence on the industry to advance power efficiency
- Introducing enterprise desktop power-saving software by centrally programming desktop PCs to standby during off-hours

Direct Impact

Outside Reporting

Since 2006, Goldman Sachs has been a signatory to the [Carbon Disclosure Project](#) (CDP), a global nonprofit organization seeking to facilitate informed dialogue among shareholders and corporations for the purpose of creating a rational response to climate change. The CDP Web site is the largest repository of corporate greenhouse gas emissions data in the world.

GREEN BUILDINGS

Our green building standards help ensure that the design, construction and operation of all our new capital projects result in a healthier, more energy-efficient work environment. The firm's current green building portfolio includes 30 Hudson Street, a 1.5 million square foot LEED® New Construction certified facility in Jersey City, as well as 71 South Wacker, a 135 thousand square foot LEED® Commercial Interiors certified space in Chicago. By the end of 2009, the firm expects to expand its LEED-certified portfolio to 3.7 million square feet with the opening of the firm's 2.1 million square foot new world headquarters in New York.

In 2008, we concentrated on maximizing operational efficiencies. Where applicable, fit-out and new construction projects included measures that enhance energy efficiency, decrease water consumption, reduce the use of raw materials and promote a healthy indoor environment.

Construction Waste Management

To address waste debris from our major capital projects, we began tracking generated and recycled construction waste. Of the eight projects with sizeable scope, we have been able to divert 87% of the 18,000 tons of construction waste debris from landfill. We will continue to track our construction waste debris annually and strive to increase the volume of recycled waste.

Highlights

Data Centers: The firm recently completed development of two data centers in New Jersey and one in London that took sustainability into consideration from the onset.

- Core construction values for the New Jersey facilities include reduced energy use through efficient lighting and cooling systems, use of sustainable materials and [Forest Stewardship Council™](#) (FSC) certified wood, purging of office space to eliminate volatile organic compounds and recycling of 100% of construction metal, concrete, paper and sheetrock.
- In our London facility, water use was reduced by 20% through water-efficient landscaping, 75% of construction waste materials were recycled, 10% of materials were processed regionally and a low-emitting carpet system was installed in office spaces. In addition, energy is more effectively managed through advanced power management, outdoor air delivery monitoring and lighting and thermal comfort controls.

New World Headquarters: The firm's new world headquarters in New York is expected to achieve LEED® New Construction Gold Certification upon opening in 2009. The building is designed to reduce energy consumption by 28% over a code-compliant building, save approximately 12 million gallons of water per year and feature reclaimed and FSC certified wood as well as other renewable materials.

Office Fit-outs: The firm completed fit-outs of several new office spaces around the globe, including office space at The Center in Hong Kong, Sunriver in Bangalore, as well as business continuity planning space in Global Gateway in Hong Kong and Lansdowne House in Croydon, United Kingdom. Across the board, the firm sought to limit the impacts of construction by reusing existing infrastructure, materials and furnishings. A variety of energy efficiency measures have also been implemented, including more efficient lighting, adjusting standard temperatures and incorporating denser shades in the workplace to minimize solar heat gain.

Direct Impact

RESPONSIBLE PRODUCTS AND PROGRAMS

Paper Reduction

We completed the implementation of global duplex printing on black-and-white floor printers and copiers in the firm's Hub and regional offices. Through these efforts, we anticipate an estimated annual environmental savings of 27.2 million sheets, or 136,000 pounds of paper, which translates to:

Type of Impact	Environmental Savings
Wood Use	165 tons
Total Energy	2,268 million BTUs
Purchased Energy	1,308 million BTUs
Sulfur dioxide (SO ₂)	1,763 lbs
Greenhouse Gases	343,928 lbs CO ₂ equiv.
Nitrogen oxides (NOx)	1,171 lbs
Particulates	742 lbs
Wastewater	1,118,609 gallons
Biochemical Oxygen Demand (BOD)	423 lbs
Total Suspended Solids (TSS)	624 lbs
Chemical Oxygen Demand (COD)	4,930 lbs
Solid Waste	132,005 lbs

Environmental impact estimates were made using the Environmental Defense Paper Calculator. For more information visit <http://www.papercalculator.org>.

Equipment Optimization

To ensure maximum use and energy efficiency from our printing devices, we removed 858 printers and copiers from our equipment fleet. We estimate this resulted in 159,652 watts per hour of energy savings. We will continue the global implementation of this initiative in the coming months.

Increased Use of Hybrid Vehicles

Our ground transportation program in New York added hybrid vehicles to our fleet by partnering with three additional vendors and continuing to work with current vendors. This work resulted in a 75% increase in the use of hybrid vehicles over 2007. We calculate that these efforts will reduce annual carbon emissions by 395 metric tons.

Single-Use Water Bottle Reduction

To address waste associated with single-use glass and plastic water bottles, we implemented several bottle-reduction initiatives across the globe. In addition to reducing waste associated with single-use bottles, we have reduced the impact of water delivery, packaging and refrigeration. We:

- replaced single-use plastic water bottles in the New York campus beverage service with water coolers on several floors. We estimate that 394,236 plastic bottles of water were eliminated with this initiative.
- installed an on-site table water bottling system at our London campus to eliminate the disposal of single-use glass bottles in our catering program. We anticipate this will reduce consumption by 84,700 glass water bottles annually.
- discontinued the use of plastic water bottles and introduced a water filtration system in Hong Kong and Tokyo.

Direct Impact

Enhanced Facilities Management

Recycling Programs in Asia: We are committed to establishing recycling in all of our offices, regardless of location or size. To that end, in 2008 we extended the reach of our recycling programs across Asia by launching recycling programs in Beijing, Shanghai and Taipei.

Green Shield CertificationSM: Our 30 Hudson location was named the first **Green Shield Certified** office facility in the country for our environmentally friendly pest management program. Green Shield is an independent, nonprofit certification program that promotes effective, prevention-based pest control while minimizing the need for pesticides. The certification was obtained in partnership with our on-site vendors.

Use of Green Cleaning Products: In 2008, we began tracking our use of green cleaning products.

- In London, over 75% of our janitorial supplies are green certified and bleach-based products are not used.
- In New York, 46% of our wood/metal/stone maintenance supplies and 36% of our janitorial supplies are green-certified products.
- We introduced green cleaning products in India to reduce water contamination.

Promoting Environmental Awareness

We continued to promote environmental awareness by launching a campaign to increase awareness and behavior changes amongst our employees to reduce the use of certain highly consumed products like napkins, single-use plastic water bottles, paper cups and copy paper. The campaign both encouraged mindful consumption and offered the purchase of more environmentally sound alternatives—including reusable water bottles, coffee mugs and carry-all bags. Additionally, we created a special section of our online employee discount program that features green offers and promotions.

We recognize that as a global company we have an impact on the environment through the goods we purchase, the manufacturing and production we finance and the investments we make. Goldman Sachs has received recognition for our efforts in this area:

- The 2008 Rainforest Alliance Corporate Green Globe Award
- *Working Mother Magazine*—2008 Best Green Companies for America's Children
- 2008 Covalence Ethical Ranking—Top Ranking in Financial Services
- Ranked 34th among top 100 Best Corporate Citizens for 2008 for our corporate responsibility efforts

Direct Impact

Cogentrix

Our Commitment

To report and reduce, whenever practical, the carbon emissions of Cogentrix Energy, Inc., a Goldman Sachs subsidiary that operates independent power plants throughout the United States.

Our Progress

While reducing the environmental impact of the conventional power plants it owns, Cogentrix is developing and building a new generation of clean, renewable and low-carbon energy projects worldwide.

2007 Total Carbon Dioxide Emissions Summary*	Solid Fuel Sites	Gas Fuel Sites	Total
Total Site Emissions			
Total Power Generation CO ₂ Emissions (tons)	16,243,424	4,076,041	20,319,465
CO ₂ emissions for energy production (tons)	15,516,834	4,030,891	19,547,725
Net MWh generated	12,233,925	9,016,178	21,250,103
Total MWh generated (Net + Steam)	13,479,603	9,196,861	22,676,464
Ton CO ₂ per Net MWh	1.27	0.45	0.92
Ton CO ₂ per (Net + Steam) MWh	1.21	0.44	0.90
Pro Rata Ownership-Based Emissions**			
Total Power Generation CO ₂ Emissions (tons)	13,086,720	2,727,115	15,813,836
CO ₂ emissions for energy production (tons)	12,466,545	2,710,212	15,176,756
Year-End Ownership-Based Emissions***			
Total Power Generation CO ₂ Emission (tons)	5,881,246	1,315,197	7,196,443
CO ₂ emissions for energy production (tons)	5,505,934	1,311,424	6,817,358

* Cogentrix adopted the general reporting protocol of California. The 2008 Environmental Report includes carbon emissions data for 2007 as a result of the time required to collect data, compute carbon emissions and review and validate the computation.

** Emissions data shown pro rata for Cogentrix's September 2007 divestiture of 80% of its interest in 14 power generation plants.

*** Emissions data adjusted to reflect year-end ownership applied to full-year 2007.

Please see [Appendix B](#) for the reporting methodology.

Under Goldman Sachs' ownership, Cogentrix has focused on reducing the environmental impact of its existing asset base while targeting a diversified energy portfolio that includes clean, renewable and low-carbon energy projects.

In 2008, Cogentrix completed the installation and initiated the operation of new flue gas desulphurization equipment (scrubbers) at its wholly owned Hopewell and Portsmouth

coal-fired units in Virginia. With the completion of this project, Cogentrix has voluntarily become a power company with a fully sulphur-mitigated coal-fired fleet, via both scrubbing and circulating fluidized bed boilers.

Direct Impact

Cogentrix continues to migrate its power generation portfolio towards clean, renewable and low-carbon energy projects. For example, combining efforts with one of the major suppliers of gasification equipment, Cogentrix is developing potential coal gasification sites in the Gulf Coast that will be able to take advantage of CO₂ pipelines used for oil recovery and ultimately result in sequestration. The coal gasification plant will provide usable energy and natural gas with virtually no carbon emissions.

Cogentrix has launched three pilot projects at plants located in Pennsylvania and New Jersey in partnership with companies who are developing innovative carbon reduction technologies:

- Logan Generating Plant: demonstration site for Carbozyme, Inc. in the development of a new CO₂ separation and capture system that uses liquid membranes to capture CO₂ more efficiently and with less energy than existing technology
- Scrubgrass Generating Plant: demonstration site for g6 Energy in the development of a process to make electricity and other clean fuels from waste coal without combustion or the resultant CO₂ emissions
- Carney's Point Plant: demonstration site for Calera Corporation in the development of a process designed to trap CO₂ in building materials, potentially taking a large portion of the untreated flue gas (including the fly ash) from a pulverized coal fired power plant

Cogentrix is also developing and building a new generation of clean, renewable energy projects worldwide, such as solar power in the California/Nevada desert, wind energy in Puerto Rico and run-of-river hydroelectric plants in Turkey.

In addition, Cogentrix is a strategic investor in clean technology firms such as Gridpoint, as well as photovoltaic cell manufacturers Suniva and SpectraWatt. For more details on these investments, please see the [Investments](#) section of this report.

CENTER FOR ENVIRONMENTAL MARKETS

Our Commitment

Establish and fund a Center for Environmental Markets (“The Center”) to undertake independent research with partners in the academic community and non-governmental organizations (NGOs) to explore and develop public policy options for establishing effective markets around climate change, biodiversity conservation and ecosystem services.

Our Progress

In addition to making two new grants in 2008, The Center continued to advance its existing partnerships to promote market-based solutions and public policy options to address environmental issues. The Center also conducted outreach programs to better inform and advance public discourse on climate change and other pressing environmental issues.

Resources for the Future (RFF)

Following the November 2007 release of a report entitled “Assessing United States Climate Policy Options” from Center grantee RFF, The Center hosted seminars throughout the United States and agreed to further support RFF’s Climate and Technology Policy Program—specifically, a new initiative to examine opportunities for United States leadership in global action on climate change. Under this initiative RFF will develop and analyze various design options that could comprise United States foreign policy in the climate change arena which will be written into a series of policy briefs. The briefs will address topics such as: meaningful engagement of developing countries to implement policies that link emissions reductions with broader trade and development issues; the creation of international institutions designed to foster global cooperation on climate change; global competitiveness and emissions leakage concerns; and financing and transfer of technology.

In 2008, The Center also partnered with RFF to create a multiyear interdisciplinary research effort to support the integration of forestry policy into emerging global greenhouse gas emissions markets. The initiative will develop targeted policy briefs on key forest carbon policy questions, direct foundational research to expand the overall base of knowledge and influence technical decisions, prepare and disseminate special market reports for forest carbon market players and conduct direct outreach to United States and international decision makers on the issue of forest carbon.

World Resources Institute (WRI)

The Center partnered with WRI to analyze the viability of various energy technology options that could be deployed at scale to reduce greenhouse gas emissions and diversify the world’s energy sources. The project was based on the “Wedges” framework developed by Robert Socolow and Stephen Pacala of Princeton University, and it examined large scale technology deployment in the context of policy and finance requirements.

After releasing two reports during 2007 (“Scaling Up: Global Technology Deployment to Stabilize Emissions” and “Plants at the Pump: Biofuels, Climate Change and Sustainability”), WRI produced a third report in 2008, entitled “Capturing King Coal: Deploying Carbon Capture and Storage (CCS) Systems in the United States at Scale.” This report outlines complex technical and financial challenges that investors would face when deploying CCS technologies at scale. The report was extensively distributed through WRI and Goldman Sachs networks, and presented at various United States and international forums, including at COP-13.

Center for Environmental Markets

Woods Hole Research Center (WHRC)

As part of a commitment to the Clinton Global Initiative, The Center partnered with the WHRC on a three-year project to examine ways to value forest ecosystems and analyze economic alternatives to rainforest destruction. Competing economic and environmental demands on forests, including timber, land, soils, water, vegetation and carbon capture, necessitate a method of valuing these ecosystems and their associated services when assessing the costs and benefits of various land-use decisions. Under the partnership, WHRC hired a senior scientist and policy analyst to lead the effort. As part of this collaboration, WHRC is actively involved in providing new ways to value standing forests through research on how to design and implement a program to reduce emissions from deforestation in developing countries within the United Nations Framework Convention on Climate Change.

Prince's Rainforests Project

The Center is a corporate partner in The Prince's Rainforests Project, which was launched by His Royal Highness the Prince of Wales. The project seeks to identify and develop a range of practical mechanisms to value the world's rainforests and provide incentives and encourage commitment by necessary parties to reduce tropical deforestation. This project brings together private-sector, government and environmental experts to develop practical solutions to reduce deforestation and raise global awareness of the true value of tropical rainforests. After completing the initial research and analysis phase, the Project is in the engagement phase, which includes looking at funding to ensure sustainable agriculture and forest use and deforestation monitoring; creating positive change in the production practices of deforestation's largest drivers; engaging with governments to determine appropriate market-based solutions; and creating global awareness to influence the climate change agenda.

Initiative for Global Environmental Leadership (IGEL)

The Center is a founding corporate member of IGEL, which was launched by the University of Pennsylvania ("Penn") and The Wharton School ("Wharton") in 2007. IGEL is intended to provide a forum for discussion and research of environmental issues important to the business community and to leverage expertise at Wharton and other Penn Schools including Law, Design, Engineering, Medicine, and Arts and Sciences, along with a network of leading experts in fields around the world. In 2008, IGEL hosted several events, including the First Annual Conference on Business and the Environment, which brought together stakeholders including NGOs, government, business and academia, to provide academic and policy-oriented perspectives on addressing environmental issues that influence the business world. In December 2008, the Wharton School and Penn's School of Arts and Sciences, in conjunction with IGEL, announced a new program that enables graduate students to earn dual masters degrees—in business administration and environmental studies—in three years or less.

UC Davis: Energy Efficiency Center

In April 2008, The Center became a Leadership Sponsor of the UC Davis Energy Efficiency Center (EEC), the world's first university center of excellence in energy efficiency. Its objective is to speed the transfer of new energy-saving products and services into the marketplace. The EEC's research efforts are organized along energy-efficient technology in agriculture and food, buildings and transportation. In addition to research, the EEC works to analyze and propose policy options that encourage a more energy-efficient future. The EEC also works internationally to bring energy efficiency technologies to developing countries.

Center for Environmental Markets**Conferences**

During 2008, The Center held five major [conferences](#), attended by several hundred of our stakeholders, including clients, investors, NGOs, policy makers and Goldman Sachs professionals.

**Thought Leadership Forum
with John P. Holdren
New York, April 2008**

The Center hosted a Thought Leadership Forum event with Dr. John P. Holdren, now the Assistant to the President for Science and Technology, Director of the White House Office of Science and Technology Policy and Co-Chair of the President's Council of Advisors on Science and Technology. Dr. Holdren is a leading climate-change scientist and technology expert and an advisor to top United States policy makers. More than 400 people attended the presentation, "Global Environment and the Sustainability Challenge," including several dozen leaders in the business and NGO communities.

**Assessing United States Climate Policy Options
New York, January 2008
San Francisco, April 2008
Chicago, June 2008**

During the first half of 2008, The Center and RFF held half-day seminars in three cities to inform the business, investment and NGO communities about possible options for federal legislation to address United States greenhouse gas emissions. The seminar's content leveraged the RFF report, "Assessing United States Climate Policy Options," and featured senior leaders from both organizations discussing the alternatives, challenges and opportunities associated with federal climate policy.

**Global Water Conference
London, December 2008**

The Goldman Sachs Global Investment Research team and the Goldman Sachs Center for Environmental Markets hosted a global water conference in December 2008 in London, England. The conference convened over 100 thought leaders, practitioners, investors and industry analysts in the water sector. The wide-ranging discussion included detailed accounts of trends in water equipment, technology and services, as well as a robust conversation on desalination, industry opportunities and investing strategies. A presentation by WRI brought forth scientific data that highlighted global trends and challenges due to increased water scarcity.

Tierra del Fuego

TIERRA DEL FUEGO

Our Commitment

Continue to support conservation efforts to preserve the value of highly fragile ecosystems and protected areas that are particularly threatened.

Our Progress

In its fourth year of a public-private partnership, Goldman Sachs, The Goldman Sachs Foundation and Wildlife Conservation Society made significant progress to promote the conservation of Karukinka and the broader [Tierra del Fuego](#) complex, including several notable outreach programs and strategic collaboration with Chilean authorities and stakeholders.

Since 2004, Goldman Sachs, The Goldman Sachs Foundation¹ (GSF) and Wildlife Conservation Society (WCS) have worked in partnership to promote conservation of Karukinka, a protected area established on the island of Tierra del Fuego in southern Chile, for the benefit of the people of Chile. With an additional tract of land from the Onamonte Community in 2007, Karukinka now spans more than 735,000 acres. Through this unique public-private partnership, Goldman Sachs, GSF and WCS continue to progress toward protecting the lands while developing sustainable economic opportunities for the benefit of the local community.

During the past year, a number of important outreach programs helped raise awareness and promote the conservation work in Karukinka. Highlights are as follows:

- National Geographic produced a documentary on Tierra del Fuego titled *Eden at the End of the World*. It premiered in Santiago and Punta Arenas, Chile, in March 2008. The Chilean Ministry of Environment provided personal support to the Santiago premiere. The documentary also premiered in New York and Washington, D.C.
- On March 26, 2008, a seminar, “Private Sector Leadership in Conservation Finance,” was co-hosted in Santiago by the Centro de Estudios Públicos de Santiago, Goldman Sachs and WCS. The event brought together domestic and international thought leaders and featured a keynote presentation by Ricardo Lagos, UN Special Envoy for Climate Change and former President of Chile.

- WCS also presented at a number of other local and international seminars to promote its conservation work in Karukinka. Select examples include National Seminar of invasive species at Universidad Santo Tomas Santiago, V Encuentro de Estudiantes de Veterinaria at Universidad de Chile, IUCN National Parks Meeting in Argentina, Bi-National Peat Bog meeting in Argentina and Society for Conservation Biology in South Africa.

Key achievements to date on the conservation program include the following:

Management for Conservation

WCS is managing Karukinka as a private, protected area for the public good, and has continued to facilitate and promote education and research activities while opening up opportunities for visitors. Building on the team of permanent park rangers established in 2007, WCS has strengthened staff capacity in areas such as safety procedures, biological and ecological monitoring, and assisting researchers and visitors as local guides. Infrastructure at key locations including Vicuna and Lago Escondido were improved to open sites for visitors and to make progress on implementing Karukinka’s Public Use Plan. In addition, WCS has continued to implement its fire prevention and mitigation plan, including creating a pamphlet on fire prevention that has been distributed to local residents and visitors.

¹ As of January 1, 2009, The Goldman Sachs Charitable Fund changed its name to The Goldman Sachs Foundation.

Tierra del Fuego

Invasive Species Control

A key conservation goal for Karukinka is to reduce or eliminate populations of invasive species and to ultimately restore the ecosystems on Tierra del Fuego and in Patagonia to their natural state. In addition to the large-scale experiments WCS has conducted to evaluate the effect of beaver control on ecosystem recovery, the governments of Chile and Argentina worked with WCS to assemble international experts to assess the feasibility of beaver eradication from the entire archipelago of Tierra del Fuego. The completed feasibility study is providing the basis for design and implementation of a control program in Karukinka and for WCS in its bi-national discussions on the subject with the Chilean and Argentinean governments.

Conservation Research and Monitoring

WCS' work in Karukinka aims to advance the understanding of endangered ecological resources, including *Nothofagus* forests, threatened or endangered species, and vital ecological processes. The goal is to leverage this understanding to influence land-use practices in Karukinka and elsewhere on Tierra del Fuego, and to enhance wildlife and wild lands conservation. Toward that objective, WCS has continued its research on guanaco ecology and migratory processes and, in the past year, has made progress in capturing a significant number of guanacos for radio-collaring. A bi-monthly monitoring program continues and published study results are expected in 2009. In addition to WCS' research, the Karukinka Fellowship program was fully established as an open and competitive process to fund priority research in Karukinka among Chilean graduate students. Three scholarships were awarded as of year-end 2008. WCS has also taken an active role in conservation programs in the local scientific community through sponsorship of seminars and workshops.

Sustainable Development

A primary focus of Karukinka's conservation program is to generate value for local communities by providing sustainable economic opportunities based on public access and low-impact economic activities. At the core of this effort is the Karukinka Public Use Plan, which emphasizes conservation research, education and tourism. In the past year, WCS began implementing this plan, raising funds and starting to develop and create trails in the surroundings of Vicuna Sector. At year-end, one trail was completed, two were under development and plans for three others were complete. In addition, WCS has continued its public support and local outreach program, including developing significant educational programs in Tierra del Fuego for local children and teachers. Examples include two conservation projects financed by the National Commission of Science and Technology, and a project that brought together 40 schoolchildren with their teachers to visit and conduct research in Karukinka, who were acknowledged with the First Prize in the V National Science Fair.

Conservation Beyond Karukinka

WCS aims to promote the protection of wildlife and ecosystems in the broader Tierra del Fuego complex and across the region of selected Patagonian landscapes. An important initiative is to conserve the coastal marine border by establishing a marine-protected area on Karukinka's coast. WCS has begun exploring this initiative by holding meetings with local public-sector stakeholders. Another initiative would protect the unique wildlife, landscapes and seascapes of the Bernardo O' Higgins National Park, particularly the endangered huemul deer. To that end, WCS signed a formal cooperation agreement with the Chilean National Parks Service (CONAF) to protect the park, provided conservation training remote assistance to CONAF rangers in relation to their monitoring activities of the huemul deer and supported wildlife surveys conducted in the park.

Appendix A

APPENDIX A

GLOBAL INVESTMENT RESEARCH

Client Reports

GS SUSTAIN

- **GS SUSTAIN:** Powering up: Sustainable returns in global utilities (December 9, 2008)
- **GS SUSTAIN:** Focus on sustainable leaders in a challenging environment (November 6, 2008)
- **GS SUSTAIN:** A warming investment climate (October 17, 2008)
- **Consumer Staples:** Stocking up on global brands—new products and new markets drive returns (July 3, 2008)
- **Healthcare:** Pills, proteins and products for healthy returns (July 2, 2008)
- **Basic Materials: Basic elements:** Sustainable returns in mining, steel and chemicals (July 1, 2008)
- **Energy:** Counting Carbons: Sustainable returns in Global Energy (July 1, 2008)
- **Banks:** Banking on sustainable outperformance: Mature governance, emerging promise (June 30, 2008)
- **GS SUSTAIN:** Expanding and enhancing the focus list (June 30, 2008)
- **GS SUSTAIN:** Long-term opportunities in a changing world (April 18, 2008)
- Technology Hardware added to GS SUSTAIN (March 28, 2008)
- Capital Goods added to GS SUSTAIN (January 7, 2008)

Global Alternative Energy Research

- **Europe: Energy: Alternative Energy:** Credit-related slowdown for solar equipment makers; more cautious near-term outlook (November 12, 2008)
- **Europe: Energy: Alternative Energy:** Structural winners offer material upside, even in a hard landing scenario (October 24, 2008)
- **Europe: Energy: Alternative Energy:** Credit and oversupply risks to downstream solar (October 9, 2008)
- **Europe: Energy: Alternative Energy:** Initiating coverage of AMG, Centrotherm and SMA Solar Technology (all Neutral) (August 11, 2008)
- **Europe: Energy: Alternative Energy:** Significant risks priced into solar (July 16, 2008)
- **Global: Energy: Alternative Energy:** Takeaways from our 3rd Annual Alternative Energy Conference (May 7, 2008)
- **Global: Energy: Alternative Energy:** Wind turbine manufacturers: Assessing the ramp-up risk (March 7, 2008)
- **Europe: Energy: Alternative Energy:** Downstream solar demand faces greatest risk (February 29, 2008)

Global Economic Research

- **Global Economics Paper:** 172—In Urgent Need of a Comprehensive EU Energy Policy (September 12, 2008)
- **BRICs Monthly:** 08/05—Tracking the Energy Profile Within the BRICs (May 14, 2008)

Appendix B

APPENDIX B

Baseline Methodology

In developing its baseline projection for emissions, the firm created an online utility tracking database to record global facility utility information. This database helps the firm track carbon emissions and utility consumption. Global data is collected monthly in local units and normalized into United States units.

Carbon emissions factors from various utility sources were used to calculate CO₂ emissions for our 2005 base year. Electric emissions factors for the United States were taken from the eGRID Subregion Emission Factors year 2000 as the most up-to-date published electric emissions factor in Pounds CO₂ per Kilowatt-Hour (lbs CO₂/kWh). Electric emissions factors for EMEA and Asia were taken from the International Energy Agency (IEA) Electricity Emission Factors for all fuels year 2004 as the most up-to-date published electric emissions factor in Pounds CO₂ per Kilowatt-Hour (lbs CO₂/kWh). Global gas, oil and steam emissions factors were recommended by our environmental consultant, Viridian Energy & Environmental, LLC.

For subsequent years, we apply the most up-to-date emissions factors from the above-mentioned sources in the year the new emissions factors are published. If new emissions factors are not published in a given year, the most up-to-date tables are applied.

Office Type Definitions:

- **Hub Office:** office space in major business centers, including Bangalore, Hong Kong, London, New York and Tokyo
- **Regional Office:** office space outside major business centers

Changes to Reporting Methodology

In 2008, we enhanced our utility tracking process so that we are now able to capture data from facilities smaller than 5,000 square feet, which had been previously excluded. 2006 carbon emissions values were adjusted to reflect this change. Emissions/\$ Net Revenue (in millions) reflects Goldman Sachs' net revenue as reported in annual financial statements.

Outside Consultation

The firm has consulted with World Resources Institute and the United States Department of Energy to develop a consistent and transparent global reporting strategy.

The firm will report progress on performance targets, energy consumption, emissions reductions and further measures we are taking to meet our goals annually.

Cogentrix

Total CO₂ emissions are expressed as "total power generation," and hence does not include all sources of CO₂ such as space heating, SO₂ control, etc. Our reporting methodology mirrors the protocol used in California which takes into account steam generation for other uses and the double work steam does in cogeneration. More specifically:

- Emissions per MWh (tons/net MWh) takes into account power generated
- Emissions per MWh (tons/net + steam MWh) takes into account additional steam generation and use
- The Steam Production Emissions Allocation equation calculates a MWh equivalent for the steam exported, which is then used in the tons per net + steam MWh calculation
- The Pro Rata Ownership Based Emissions shown in the summary table take into account Cogentrix's percent ownership interest in each site
- The Year-End Ownership Based Emissions shown in the summary table reflect what 2007 emissions would be if the percentage ownership in each plant at the end of 2007 is applied to the full-year emissions.

CO₂ emission factors from the California protocol for bituminous coal, oil, and natural gas are used except for waste coal (Scrubgrass and Northampton), TDF (Richmond), and fiber rejects (Cedar Bay), where the emission factors are adjusted to the carbon in the fuel.