



Greenprint Performance Report™

VOLUME 2, 2010¹



**GREENPRINT
FOUNDATION**

REDUCING CARBON. BUILDING VALUE.



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Greenprint Foundation is a worldwide alliance of real estate owners, investors, financial institutions and other industry stakeholders committed to reducing carbon emissions across the global property industry. Greenprint Foundation is a catalyst for change, taking meaningful, immediate and measurable actions to generate solutions that improve energy efficiency while demonstrating the correlation with increased property values. Greenprint focuses on reducing the carbon footprint of the built environment, which currently represents one-third of all carbon emissions. Greenprint works to achieve its carbon reduction goals through education and action.

Greenprint's mission is to lead the global real estate community toward value-enhancing carbon reduction strategies that support the Intergovernmental Panel on Climate Change (IPCC) goals for global greenhouse gas stabilization by 2030.²

FOUNDING MEMBERS

Platinum:

Beacon Capital Partners
Douglas Emmett
GLL Real Estate Partners
Jones Lang LaSalle
LaSalle Investment Management
McArthurGlen Group
Paramount Group
PATRIZIA Immobilien
Prologis
RREEF, a member of
Deutsche Bank Group

Gold:

Aetos Capital
AvalonBay
The Blackstone Group
Equity Office Properties
GE Capital Real Estate
Henderson Global Investors
Hines
Prudential Real Estate Investors
Sonae Sierra

Silver:

TIAA-CREF
DEXUS Property Group

STRATEGIC ALLIANCES

LONDON
LEADING TO A GREEN LONDON

BETTER
BUILDINGS
PARTNERSHIP



Analysis provided by:



Real value in a changing world

Design provided by:

Lstudio

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Letter from the President & CEO

I am pleased to present Volume 2 of the Greenprint Performance Report™ which marks the first report in which Greenprint Foundation members can measure their relative progress in reducing greenhouse gas emissions over time. Volume 2 expands on our mission of providing a clear and consistent standard of greenhouse gas emission measurement and performance for the real estate industry, which, along with its scope and size, makes it not only one of the largest, but also one of the industry's most verifiable, transparent and comprehensive benchmarking tools. For this and subsequent volumes, we have changed the name to the Greenprint Performance Report so as not to limit ourselves from presenting and analyzing the wide range of sources that contribute to greenhouse gas emissions. While the core of the Report is based on indexing and benchmarking, the increased depth and breadth of our participation creates the opportunity to look at not only emissions reduction but, also, lower energy consumption, and the impact of renewable energy and clean technology.

The Greenprint portfolio analyzed in Volume 2 is substantially larger than that in Volume 1, including 1,623 properties (a 170% increase) and 31 million square meters of commercial space (a 93% increase). The growth has come both from new member submissions and an impressive increase in properties submitted by our original participating members.

With two reporting periods available to compare, we have expanded the information and analysis, and are now able to provide the beginnings of a true performance index. The Greenprint Carbon Index™ (GCX) on page 23 has become a key component in the overall report, and is a tool that will become more and more useful to the global property industry. I am pleased to report that the Greenprint portfolio's CO₂ emissions between 2009 and 2010 decreased by 0.6% toward our long-term goal of reducing emissions 50% by 2030. While the opportunity to present a time series of performance data on a year over year basis is exciting, we are in the early stages of this process. With only 2009 and 2010 data, and an aggregated sample size that is still small relative to the overall market, we are not yet in a position to draw comprehensive conclusions from our work. Our near term goal continues to be to increase participation in the Greenprint Performance Report by expanding the database with new members and broader data contributions from our existing members. We hope to experience at least as much growth in Volume 3 of the Greenprint Performance Report and GCX as we have achieved with Volume 2.

The Greenprint Performance Report is unique in that it provides an open standard for measuring, benchmarking and tracking energy usage and resulting emissions down to the level of individual buildings. Carbon-equivalent emissions are measured in kilograms per square meter of space per year. The analysis is done for each building or group of buildings and reported in the aggregate for each asset type: office, industrial, retail, multifamily and hotels. The data submitted by building owners is then verified as reflected in the Quality Controls & Verifications processes set forth in Appendix A.

The Greenprint Performance Report is otherwise rich with both information and possibilities. Like for Like comparative data on a global, regional, national and local level is now a possibility, as is analysis by property type, age and quality. These are critically important elements for setting the stage for meaningful progress in the emissions/property value conversation.

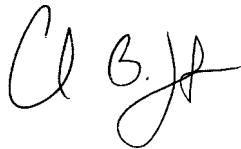
Over the past several months, Greenprint has added several new members and forged significant strategic alliances with the NRDC's Center for Market Innovation and the Better Buildings Partnership. As our membership ranks increase along with the number of their property submissions, the size and statistical significance of the GCX will grow. Moreover, we continue to work together to promote increased awareness of innovative technologies and best operating practices to reduce energy and carbon usage via lighting solutions, smart meters, energy management systems, building

Letter from the President & CEO (continued)

commissioning, window solutions and HVAC systems. We are also developing member and non-member sponsored pilot programs that test new technology and management practices, and include publishing white papers and case studies that detail program results in terms of effectiveness and cost.

I envision the Greenprint Performance Report as the global real estate industry's diary of our journey to dramatically lower our adverse impact on the global environment. This will happen, I believe, by working with our members, partners and other market stakeholders to establish a level of data collection, measurement standardization and transparency to set the framework for analyzing the relationship between emissions reduction performance and enhanced financial performance over time. The following pages document the second chapter in our story, with many more to come.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. B. Leitner III', written in a cursive style.

Charles B. Leitner III
President & CEO, Greenprint Foundation

Executive Summary

The results of the Greenprint Performance Report, Volume 2 are based on 1,623 property submissions representing 31 million square meters across 44 countries, which is a 170% increase in number of submitted properties from Volume 1.

Highlights from the Greenprint Performance Report, Volume 2

- **Greenhouse gas emissions decreased 0.7% from 2009 to 2010 on a Like for Like portfolio basis.** Emission reductions are attributed to a decrease in energy consumption, as well as our members' increasing commitment to renewable energy.
- **Overall energy consumption of the Greenprint portfolio also decreased 0.7% from 2009 on a Like for Like portfolio basis.** Eleven members decreased energy consumption, while six members increased energy consumption on a Like for Like basis from 2009 to 2010. Median energy intensities vary geographically due in large part to activities undertaken at the property level, local climate and regulatory structure. Sample sizes also vary by region and country and, therefore general conclusions surrounding geographic intensity indicators have not been made.
- **The proportion of energy from renewable sources essentially has remained the same from 2009 to 2010.** Procurement of renewable energy from offsite sources, such as certified renewable electricity, remained nearly the same, averting 8% of Greenprint's total emissions. However, investment in onsite renewable energy, such as solar installations, increased, averting 0.03% of emissions in 2010.

A Guide to the Greenprint Performance Report

Greenprint sets the global standard for a common system to measure and benchmark energy and emissions across the global property industry. This standard is transparent and accessible, and the data in the Greenprint Performance Report represents the most comprehensive voluntary disclosure of energy and emissions performance by commercial property owners.

- Standardized definitions and data collection methodology allow for direct comparisons between properties and portfolios, and the creation of robust energy and emissions intensities.
- Year over year progress from 2009 to 2010 is provided through a Like for Like analysis. This is a direct comparison of the properties' current year data against the same properties' historical data. Properties without historical data are excluded in the Like for Like portfolio, but are included in Current Year snapshots.
- Progress from Greenprint's 2009 baseline is tracked through the Greenprint Carbon Index (GCX). The GCX is the annual normalized emissions intensity (kg CO₂e / m²) of all members' properties with whole building energy consumption during a particular year. The 2009 baseline is equivalent to 100 in the GCX.
- Normalized indicators are used in many instances in order for buildings of different sizes to be compared, and to account for changes in portfolio composition so that trends can be assessed over the longer term.
- The complete methodology is provided throughout this report, including emission boundaries and calculations in line with GHG Protocol, emission factors provided by the Australian NGER, IEA, UK DEFRA, the US EPA and quality control processes in line with ISO 14064. A third-party audit of this report will be publicly available in January 2012.

2010 HIGHLIGHTS

ENERGY

-0.7%

Year over Year – Like for Like

CARBON

-0.7%

Year over Year – Like for Like

OCCUPANCY

-3.6%

Year over Year – Like for Like

NUMBER OF PROPERTIES

+170%

Year over Year - Absolute

NUMBER OF COUNTRIES

+22%

Year over Year – Absolute

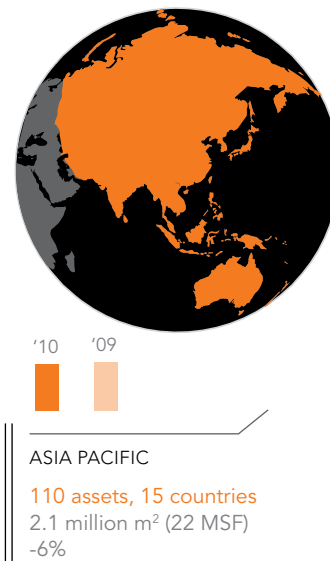
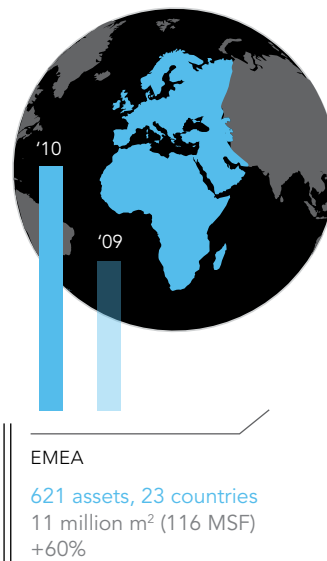
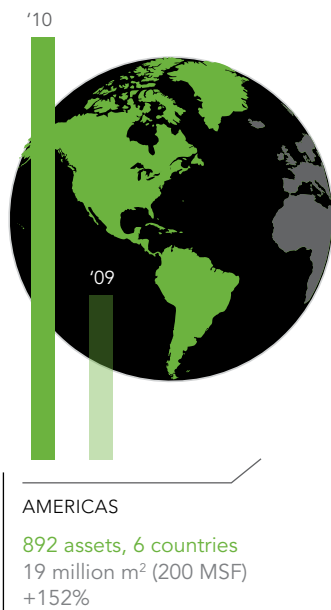
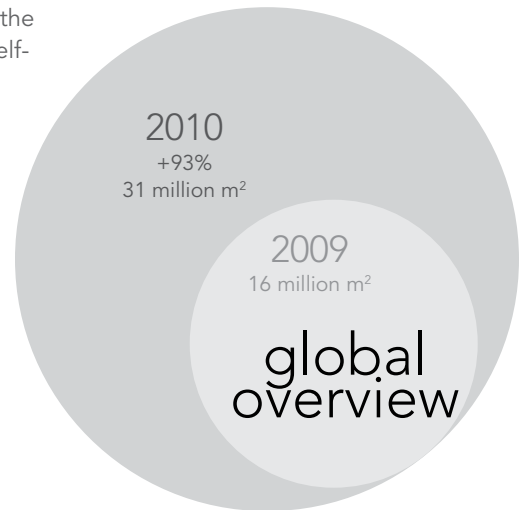
1 Greenprint Portfolio Overview

Distribution by Geography

YEAR OVER YEAR – ABSOLUTE

The Greenprint portfolio spans the globe, with the largest number of assets located in the Americas and EMEA, and a growing Asia Pacific portfolio. Greenprint members have self-selected which assets to submit to the Performance Report based upon:

- Data Availability³
- Geographic Distribution
- Managerial Control



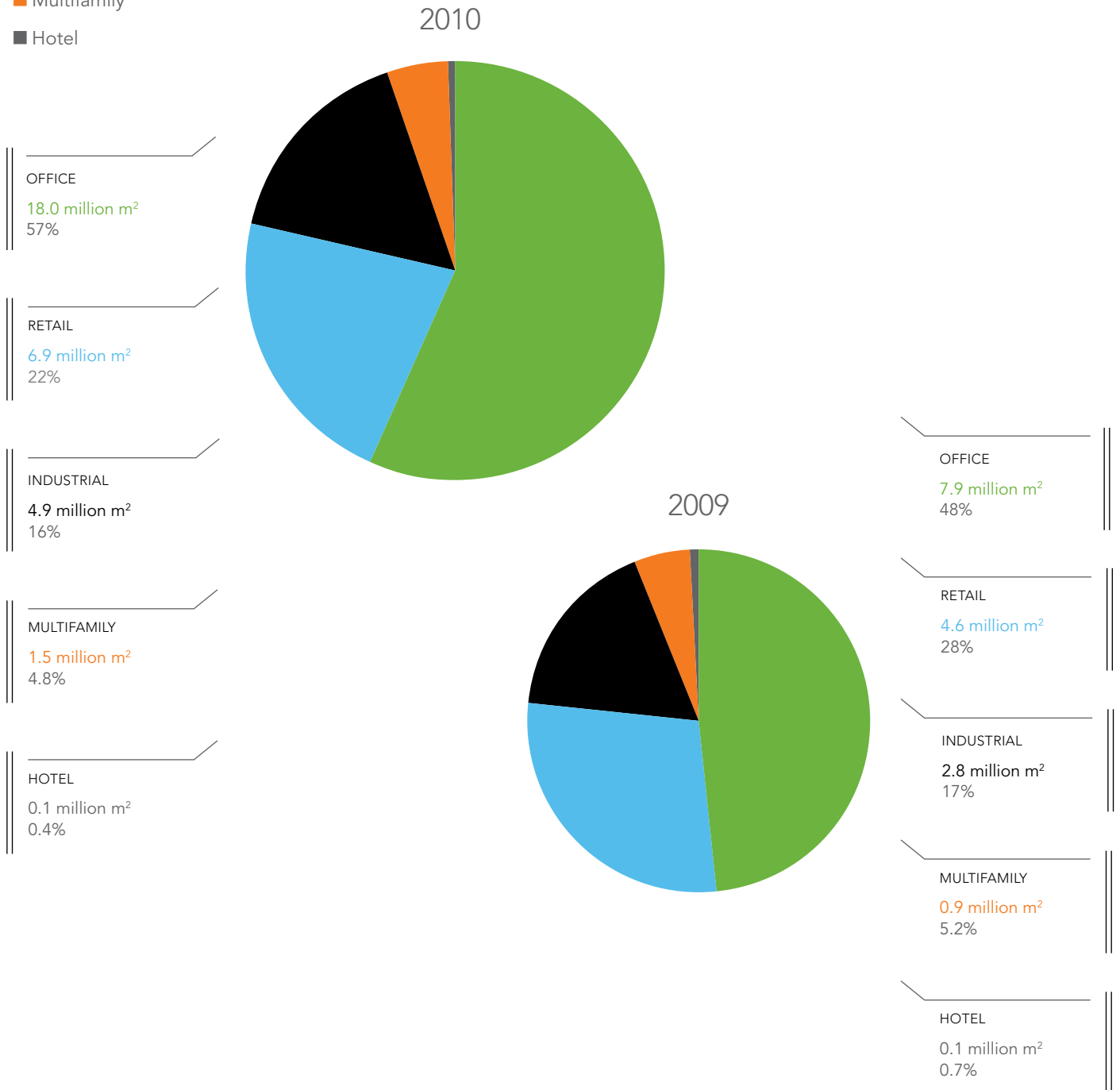
By number of properties, the global Greenprint portfolio increased 170%. The number of countries represented increased by 22% for a total of 44.

Distribution by Property Type

YEAR OVER YEAR – ABSOLUTE

The Greenprint Performance Report includes all major commercial building types with an emphasis towards office, followed by industrial and retail, sorted by floor area.

- Office
- Retail
- Industrial
- Multifamily
- Hotel

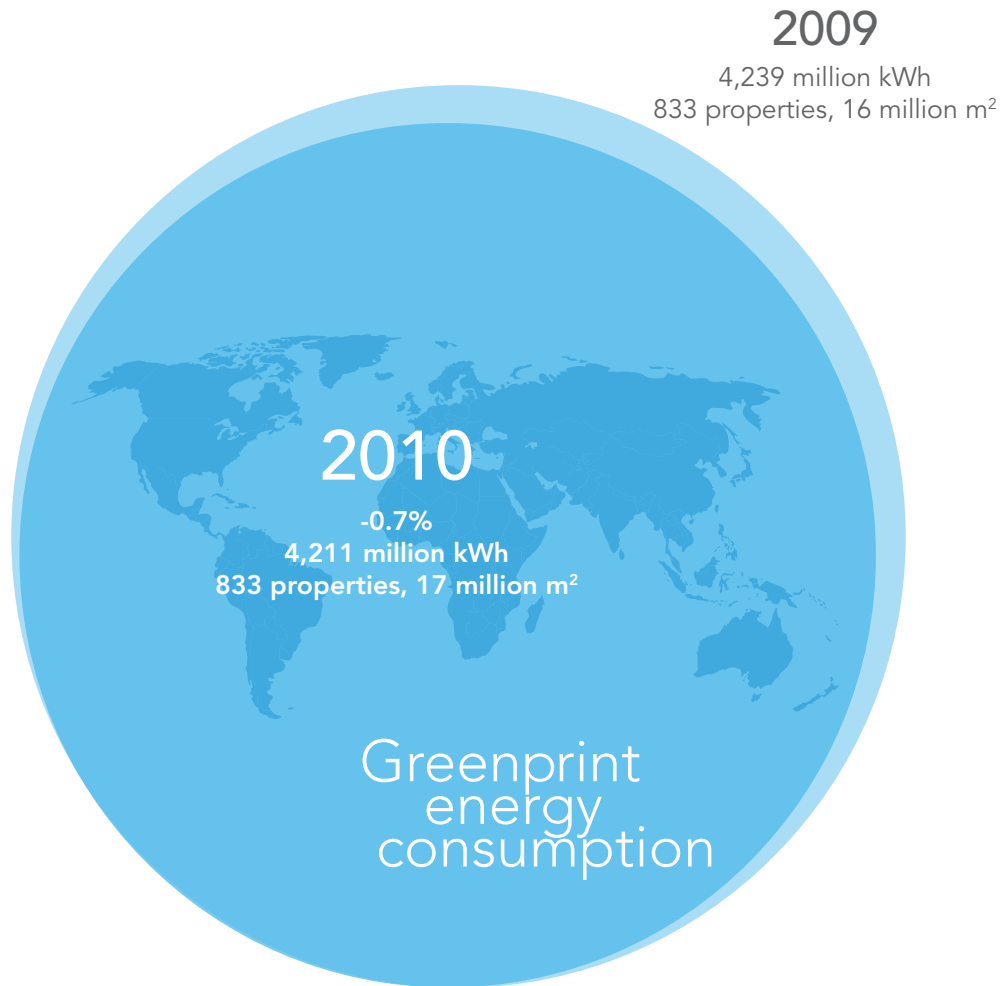


2 Energy Profile

Energy Consumption

YEAR OVER YEAR – LIKE FOR LIKE

Overall energy consumption decreased by 0.7% on a Like for Like portfolio basis. The chart below shows the Like for Like portfolio, which includes 2010 and 2009 data, and consists of 883 properties. Floor area slightly increased as corporate occupiers expanded their leased space, and several buildings expanded through renovations.



The Greenprint portfolio's energy consumption decreased 0.7% on a Like for Like portfolio basis, even while floor area expanded nearly 3%.

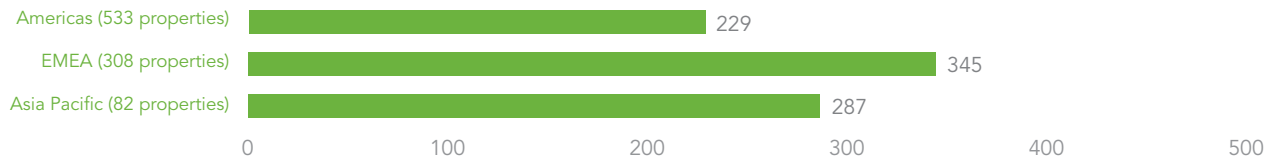
Energy Use Intensity By Property Type and Global Region

CURRENT YEAR – NORMALIZED

Greenhouse gas emissions generated during building operation are the product of a property's energy use intensity multiplied by the energy's CO₂e profile.

Energy intensities for office and industrial properties are based on the properties' lettable floor area. Shopping centre energy intensity is based on the common area of the submitted properties where the common areas and associated energy consumption was reported and verified.

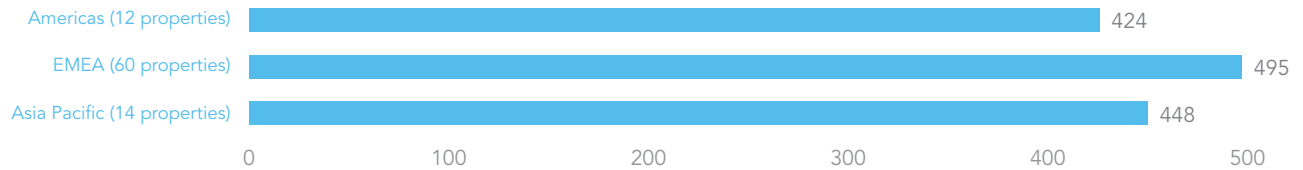
Median Office Energy Use Intensity



ENERGY INTENSITY

annual kWh / m²
(rentable area)

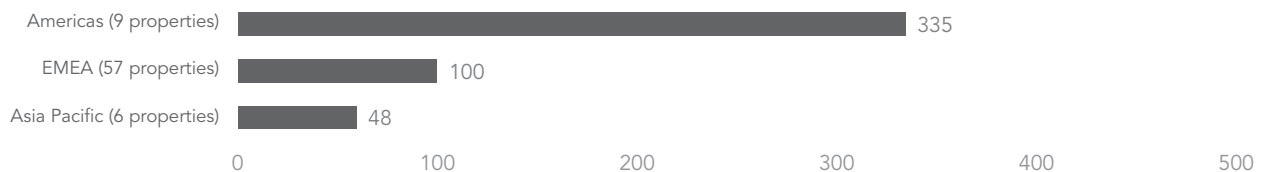
Median Shopping Centre Energy Use Intensity



ENERGY INTENSITY

annual kWh / m²
(common area)

Median Industrial Energy Use Intensity



ENERGY INTENSITY

annual kWh / m²
(rentable area)

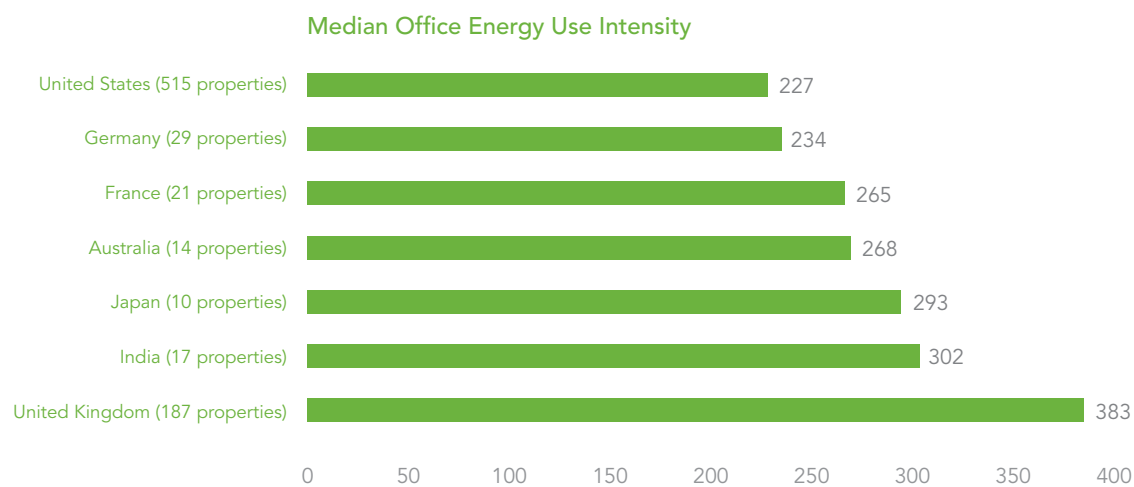
Energy Use Intensity (EUI) is annual energy consumption divided by the floor area of the space. With energy, less is more, so higher efficiency comes from properties with a lower energy intensity.

Energy Use Intensity of Office Properties in Select Countries

CURRENT YEAR – NORMALIZED

The following chart shows the median energy use intensity (EUI) for Greenprint's portfolio of office properties in seven countries. The seven countries displayed represent the markets with the largest number of assets of whole-building energy data submitted for the Greenprint Performance Report.

The properties include a range of air-conditioned and non-air-conditioned office buildings. Samples for each country are not necessarily representative. As the Greenprint database grows and diversifies, we expect that the median energy use intensities will become increasingly representative of property subtypes in cities, countries and regions.



ENERGY INTENSITY

annual kWh / m²
(rentable area)

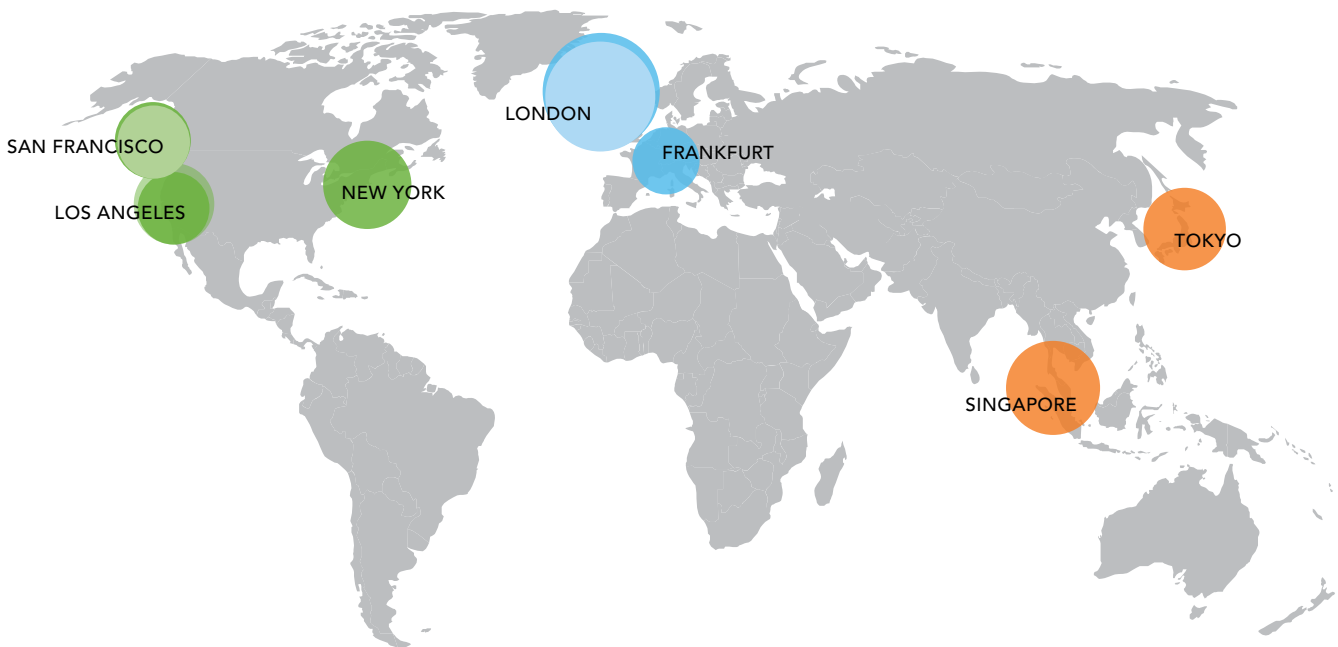
The installation of a solar array in a Deutsche Bank-owned 7,710 square meter office building in Piscataway, New Jersey has produced more electricity than the site needs. Excess power will be fed back to the utility grid, spinning the electricity meter backwards.

Over the course of one year, the return of power to the grid will offset night time electric use, creating a net zero electric commercial building and providing annual savings of approximately €785,000 and 1,200,000 kWh, the CO₂ equivalent of removing 166 cars from the road.

Energy Use Intensity of Office Properties in Select Cities

YEAR OVER YEAR – LIKE FOR LIKE

This chart presents the median energy use intensity for the Greenprint office properties in San Francisco, Los Angeles, New York, London, Frankfurt, Tokyo and Singapore. The sample sizes for New York, Frankfurt, Tokyo and Singapore are too small to demonstrate a reliable or informative change in energy use intensity between 2010 and 2009 and, therefore, only the 2010 energy use intensity is presented for these cities.



SAN FRANCISCO
(91 properties)

2010: 197 annual kWh / m² +4.9%
2009: 188 annual kWh / m²

NEW YORK
(15 properties)

2010: 271 annual kWh / m²

LONDON
(125 properties)

2010: 427 annual kWh / m² +8.9%
2009: 392 annual kWh / m²

SINGAPORE
(7 properties)

2010: 274 annual kWh / m²

LOS ANGELES
(74 properties)

2010: 196 annual kWh / m² -3.7%
2009: 204 annual kWh / m²

FRANKFURT
(10 properties)

2010: 161 annual kWh / m²

TOKYO
(5 properties)

2010: 293 annual kWh / m²

Energy Performance & Disclosure Requirements in Select Locations

Commercial buildings are constructed and operated in a regulatory context with governments driving energy standards and disclosure. Here we highlight just some of the energy disclosure and benchmarking requirements at play in these office markets.

California: AB 1103⁴

- Commercial buildings that are sold, leased or refinanced must disclose the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager Statement of Energy Performance and the California Energy Performance Disclosure Report to a prospective buyer, lessee or lender.
- Utilities are required to release 12 months of energy use data within 15 days of receiving a request from the owner.
- Beginning 1 January 2012 disclosure will apply to properties containing greater than 4,645 square meters of gross floor area. Disclosure will apply to properties with less than 4,645 square meters of gross floor area in the near future.

New York City: Local Law 84 – Energy Benchmarking⁵

- Commercial buildings, including office properties, industrial buildings, retail, hotels and multifamily communities greater than 4,645 square meters of gross floor area are required to benchmark energy consumption annually.
- Buildings must be benchmarked annually using U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager beginning 1 May 2011.
- Building owners must request data on tenants' metered energy use where the tenant is separately metered by the utility company.
- A benchmarking non-compliance penalty cannot exceed €351 per violation.

United Kingdom: CRC Energy Efficiency Scheme⁶

- Organizations that have at least one meter settled on the half-hourly market, and whose annual electricity use in 2008 exceeded 6,000,000 kWh are required to report emissions.
- The registration deadline was 30 September 2010, with the purchase of carbon allowances beginning 1 April 2012. The organization must determine its respective emissions, and identify the emissions applicable for inclusion in the CRC. Energy suppliers are obligated to provide an annual statement of energy consumption upon request.
- Carbon allowances will initially be priced at €13 per tonne of carbon. The penalty for not registering by the deadline is a €5,600 fine, and €560 per business day for 80 days. Failure to provide a footprint report will result in a €5,600 fine and €560 per business day, which doubles after 40 days.

Energy Performance & Disclosure Requirements in Select Locations *(continued)*

Germany: Energy Savings in Buildings Regulation (Energieeinsparverordnung, EnEV)⁷

- EnEV is Germany's implementation of the European Union's 2003 Energy Performance of Buildings Directive, and stipulates mandatory disclosure of energy performance in all cases of leasing or sales transaction for both new construction and existing commercial buildings.
- EnEV was introduced in 2002, revised in 2007 and amended in 2009 and provides for minimum primary energy demand to be reduced by 30% compared to previous regulations.
- Results of EnEV performance calculation are displayed in the standard format of an EU Energy Performance Certificate, visualizing primary energy demand in kWh/m² per year.
- Neither federal nor local legislation currently requires carbon disclosure or emissions taxation of building owners.

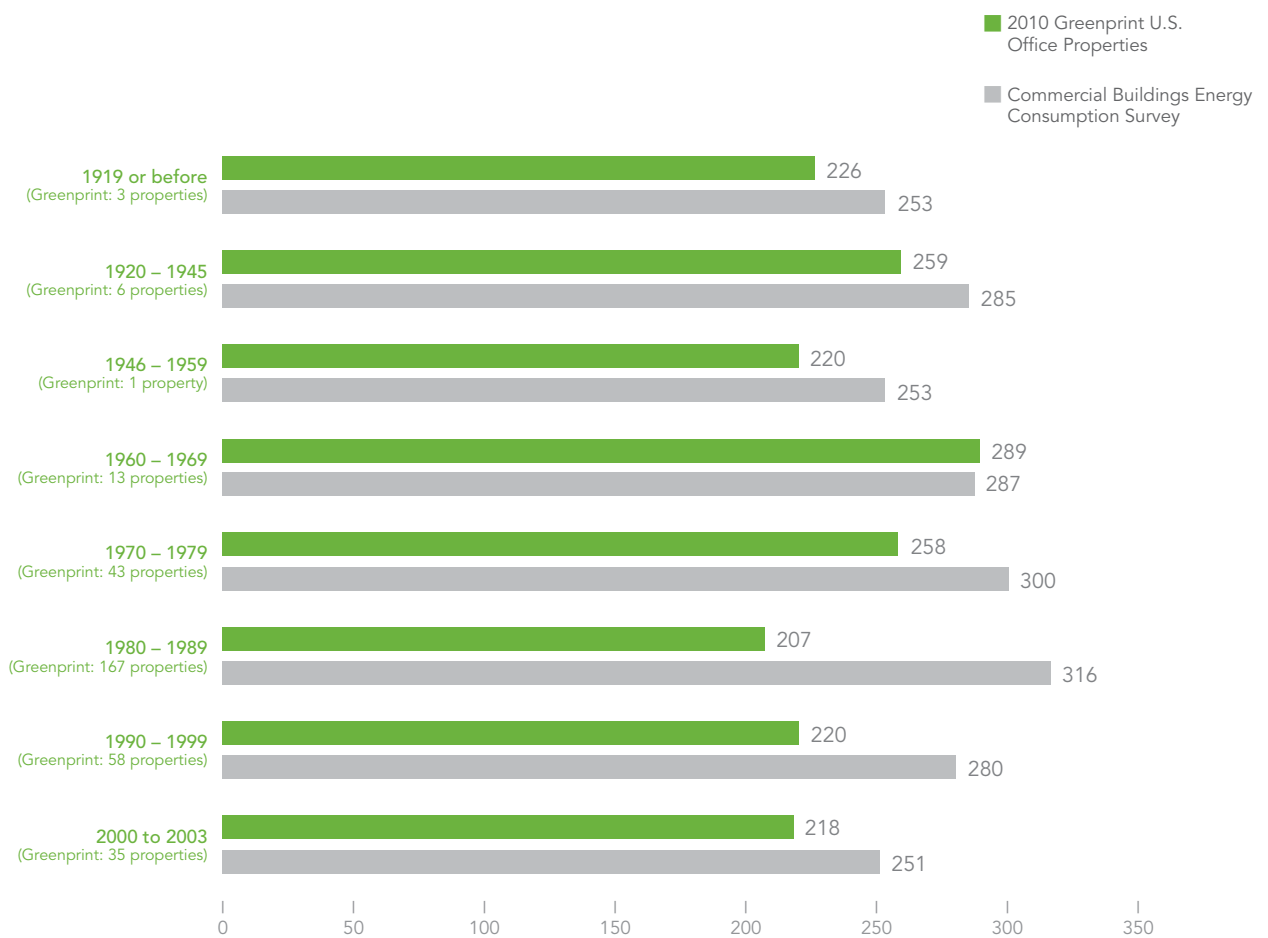
Tokyo: Tokyo Metropolitan Government Emissions Trading Scheme (ETS)⁸

- The program took effect in April 2010 and covers 1,340 large facilities, including industrial factories, public buildings, educational institutions and commercial buildings. Single buildings that consume at least 1,500 kL crude oil-equivalent are required to participate.⁹
- Building owners must track energy and associated emissions, as well as complying with a 6%-8% reduction target in the first compliance period (2010-2014). Emission audits must be provided at the expense of the facility.
- Building owners with properties that fall within the ETS requirements must request data on tenants' metered energy use in instances where the tenant is separately metered by the utility company.
- A €3,833 fine is imposed on each building that does not meet its target, coupled with additional emissions reduction obligations beyond the reduction shortfall. Names of offenders are made public.

Energy Use Intensity by Building Age

The chart below shows the mean average energy use intensity by decade of Greenprint's U.S. office portfolio and the Commercial Buildings Energy Consumption Survey (CBECS).¹⁰ This reinforces the need for the industry to achieve improved energy efficiency of existing buildings through best management practices and energy retrofits. Government databases, such as CBECS and European Energy Performance Certificates (EPCs), are important qualifiers of energy data.

CBECS is the underlying database for ENERGY STAR Portfolio Manager's rating system, which has not been updated since the publication of the 2003 data. Increased efficiency of properties since 2003 may explain some of the variances between the Greenprint portfolio and CBECS, which reinforces the need for updated government surveys.



ENERGY INTENSITY

annual kWh / m²
(rentable area)

3 Greenhouse Gas Emissions (GHGs)

Methodology

The Greenprint Performance Report separates Greenhouse Gas Emissions (GHG) into three categories – Scopes 1, 2 and 3. This reporting system is aligned with the World Resources Institute/WBCSD’s Greenhouse Gas Protocol. Categorizing emissions by Scope enables separate accounting of GHG sources by different related entities, such as landlord and tenants, and also increases transparency.

Organizational Boundary: Greenprint Foundation has chosen to use the Operational Control approach, and defines areas under control to include all areas where Greenprint members (landlord or tenant) have full authority to introduce and implement operating policies at the building.

Scope 1 primarily covers emissions generated onsite. It includes emissions from the onsite combustion of fuels to generate electricity, heat or steam within Greenprint members’ buildings. Fugitive emissions created by the operation of buildings, such as the use of refrigeration and air conditioning equipment, are also included. Scope 1 does not include energy generated offsite, building construction or waste disposal.

Scope 1 includes emissions from:

- Onsite combustion of fuels for electricity, heat or steam
- Fugitive emissions from refrigeration and air conditioning equipment

Scope 2 covers emissions from energy produced offsite, but consumed onsite. These emissions are attributed to the organization paying the energy bill, unless the energy is passed through on a submetered basis to another organization. Emissions from energy that is submetered by landlords to their tenants falls into Scope 3.

Scope 2 includes indirect emissions associated with the consumption of purchased or acquired electricity and thermal energy, such as district heating or cooling. These emissions are a consequence of energy consumption that takes place within the building’s boundaries, but are generated at sources controlled by another entity. Scope 2 does not include emissions from transport, building construction, waste disposal, energy generated onsite or fugitive emissions.

Scope 2 includes emissions from:

- Electricity and imported thermal energy

Scope 3 covers emissions from energy consumed onsite that does not fall into Scope 1 or 2. Within the Greenprint Performance Report, Scope 3 does not include emissions from transport, building construction, or waste.

Scope 3 includes emissions from:

- Energy consumed onsite that is attributable to tenants through direct utility meters or landlord-provided submeters.
- Occupier members’ energy that is attributable to an occupier by the landlord on a prorated basis (floor area).

Greenhouse gas emissions are calculated using the following formula:

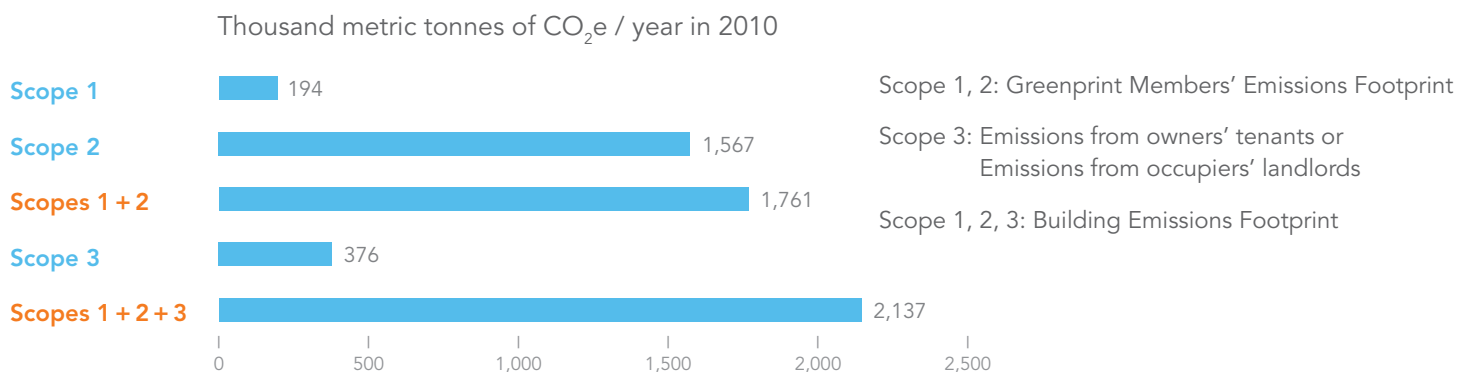
$$\text{Energy [kWh]} \times \text{Emissions Factor} = \text{Greenhouse Gas Emissions}$$

Emissions coefficients are used to calculate the amount of generated CO₂e. Developing and applying accurate emissions’ coefficients is critical to reliable GHG emissions reporting. For additional information regarding emissions coefficients refer to Appendix B.

Absolute Emissions

CURRENT YEAR – ABSOLUTE

The chart below shows the absolute greenhouse gas emissions by Scope, in line with Greenhouse Gas Protocol. Scope 3 emissions for landlord members are associated with directly metered or submetered energy to tenants. Scope 3 emissions for occupier members are associated with energy provided by the landlord on a prorated basis (floor area).



Emissions

YEAR OVER YEAR – LIKE FOR LIKE

The table below shows the change in absolute emissions by property type from 2009 to 2010 on Greenprint's Like for Like portfolio basis.

Thousand Metric Tonnes CO ₂ / year Like for Like Portfolio Over Last Two Years			
	2010	2009	Change
Office Portfolio (707 properties)	1,302	1,305	(0.2%)
Industrial Portfolio (62 properties)	59	55	8.0%
Retail Portfolio (91 properties)	161	178	(9.0%)
Multifamily Portfolio (19 properties)	14	13	8.3%
Hotel Portfolio (4 properties)	25	22	13.7%
Greenprint Total	1,562	1,573	(0.7%)

The table below shows the change in absolute emissions by anonymous members from 2009 to 2010 on Greenprint's Like for Like portfolio basis. Greenprint occupier members' portfolios change on an annual basis as leases are consolidated and expanded. When floor area is taken into account, the emissions of corporate occupiers is lower than when only absolute emissions are provided.

Thousand Metric Tonnes CO ₂ / year Like for Like Portfolios Over Last Two Years			
Member	2010	2009	Change
O	97	115	(15.2%)
M	79	91	(12.7%)
K	2	2	(8.8%)
A	67	71	(5.3%)
H	36	38	(5.0%)
C	150	157	(4.3%)
G	198	204	(3.2%)
D	98	100	(2.7%)
P	181	184	(1.8%)
R	127	126	0.8%
B	75	74	1.9%
J	25	25	2.9%
Q	250	240	3.9%
L	18	17	4.6%
I	50	44	13.9%
N	25	21	21.1%
F	84	65	30.7%
Greenprint Total	1,562	1,573	(0.7%)

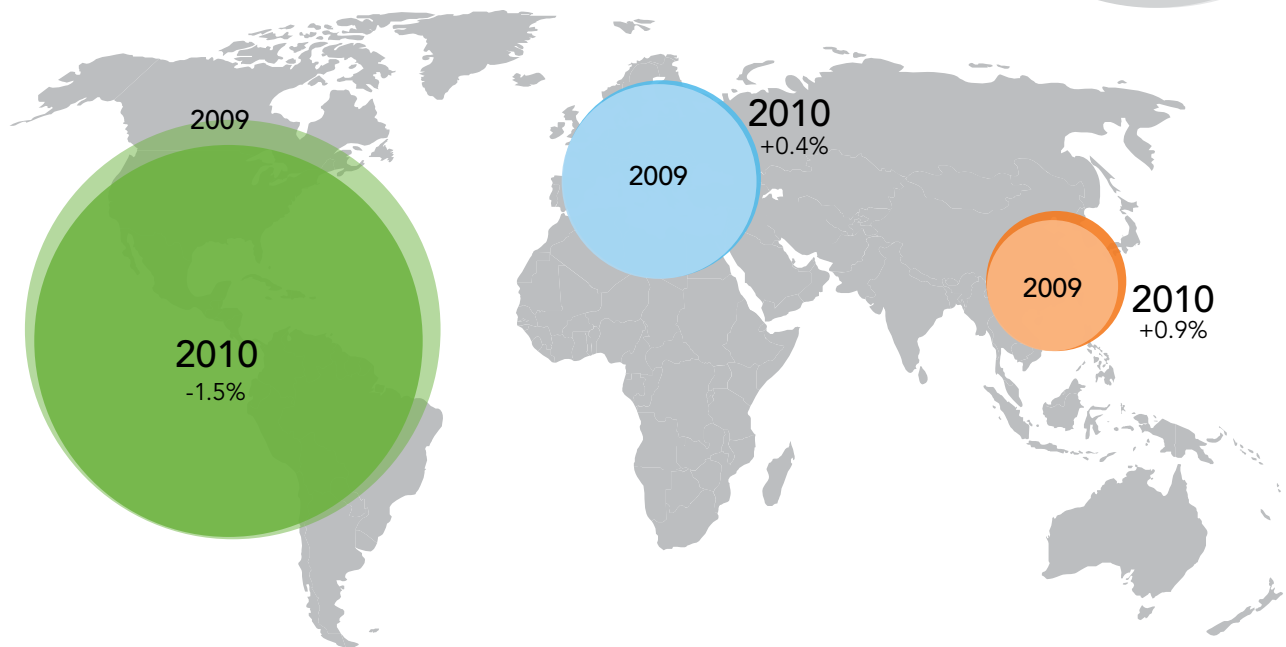
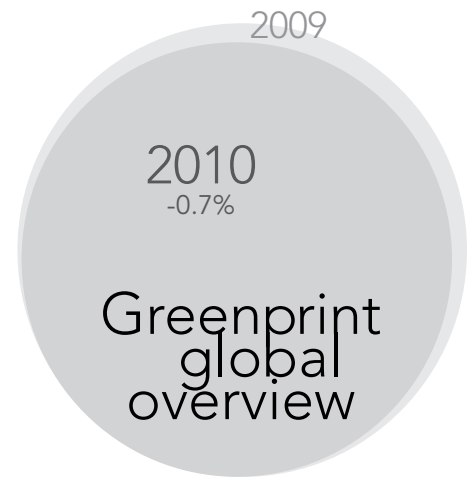
Greenhouse gases (GHG) include methane, nitrous oxide and carbon dioxide and all contribute to climate change. Carbon emissions are frequently used as shorthand for all GHG. CO₂e translates the global warming impact of all GHG into the carbon dioxide equivalent.

Emissions by Global Region

YEAR OVER YEAR – LIKE FOR LIKE

This map illustrates the change in emissions (Scopes 1, 2 and 3) from 2009 to 2010 for the Like for Like portfolio for each global region.

- Americas
- EMEA
- Asia Pacific



AMERICAS

402 assets
12 million m²

2010: 909 thousand metric tonnes CO₂e
-1.5% decrease

2009: 923 thousand metric tonnes CO₂e

EMEA

401 assets
7.8 million m²

2010: 507 thousand metric tonnes CO₂e
+0.4% increase

2009: 504 thousand metric tonnes CO₂e

ASIA PACIFIC

80 assets
1.9 million m²

2010: 147 thousand metric tonnes CO₂e
+0.9% increase

2009: 145 thousand metric tonnes CO₂e

From 2009 to 2010, emissions in the Americas decreased by 1.5% while emissions in EMEA and Asia Pacific increased by 0.4% and 0.9%, respectively.

Emission Equivalencies By Global Region

YEAR OVER YEAR – LIKE FOR LIKE

The chart below provides context to the change in the Greenprint portfolio's emissions from 2009 to 2010 on a Like for Like portfolio basis. Properties consuming the same amount of energy can emit different amounts of CO₂e for several reasons, including:

- **Government Approaches:** Policies and incentives to decarbonise the power supply vary. For example, combined heat and power (CHP) options are widely available in Germany due to government support and three quarters of French electricity is now produced by low carbon nuclear plants.
- **Geographic Location:** The viability and utilization of onsite renewable energy technologies varies by location according to natural factors, such as water availability and sunlight intensity.

Emissions by Global Region Comparison¹¹

	Americas		EMEA		Asia Pacific	
	2010	2009	2010	2009	2010	2009
Number of properties	402	402	401	401	80	80
Floor Area (million m ²)	12	12	7.8	7.8	1.9	1.9
CO ₂ e emissions (Thousand metric tonnes) (Scopes 1, 2 and 3)	909	923 ↓	507	504 ↑	147	145 ↑
 Barrels of oil equivalent to amount of CO ₂ e emissions	2,113,953	2,146,512 ↓	1,179,070	1,172,093 ↑	341,860	337,209 ↑
 Cars on the road in a year equivalent to amount of CO ₂ e emissions	178,235	180,980 ↓	99,412	98,824 ↑	28,824	28,431 ↑
 Number of trees needed to sequester the equivalent amount of CO ₂ e emissions	23,307,692	23,666,667 ↓	13,000,000	12,923,077 ↑	3,769,231	3,717,949 ↑

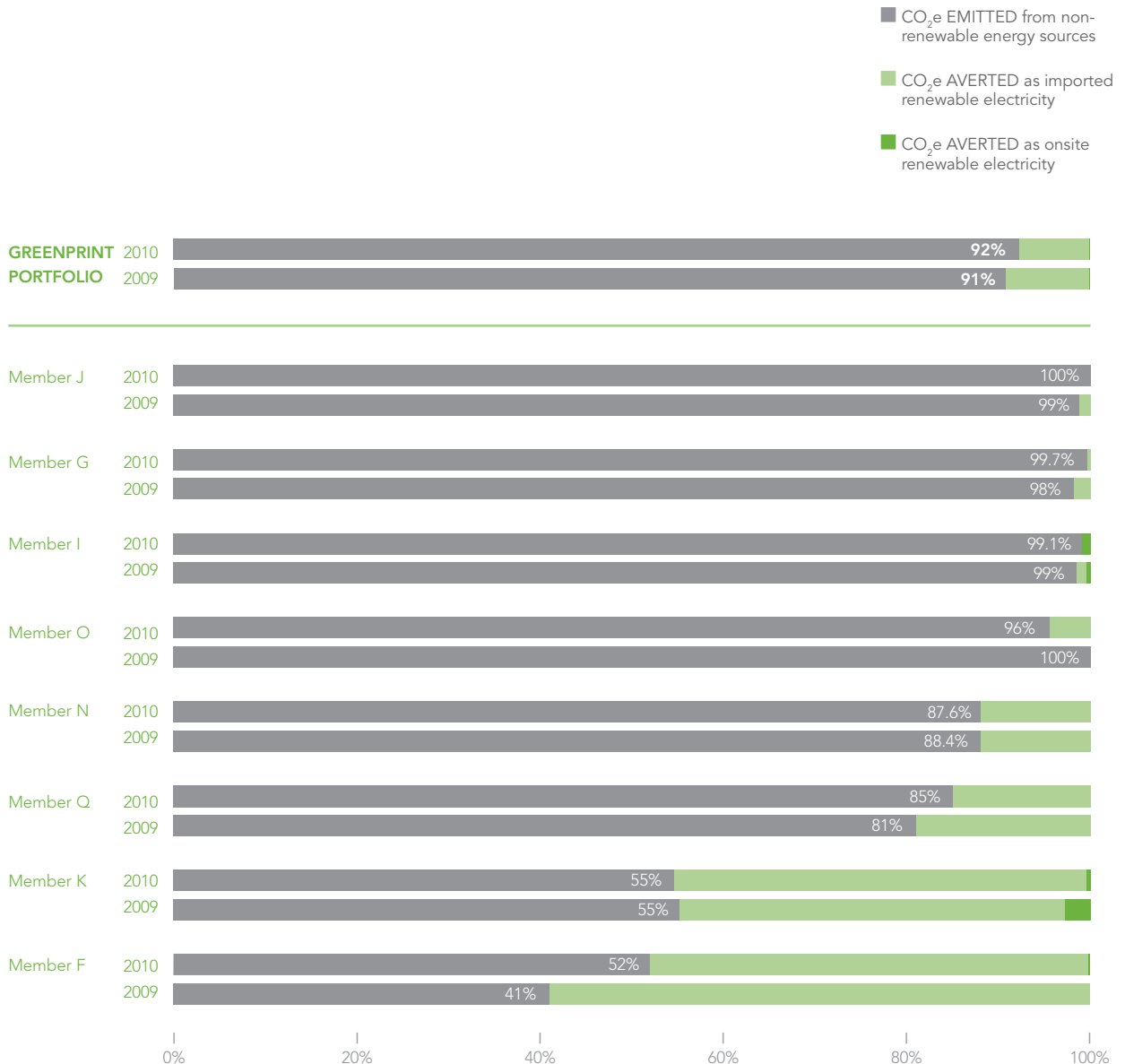
The 35,500 m² La Reggia Designer Outlet, owned by McArthurGlen Group, is one of Europe's biggest retail development solar energy installations with 10,000 m² of solar roof panels. These panels will produce a total of 390,000 kWh/year, equivalent to 30% of the centre's annual energy consumption, which will be returned to the national grid.

Emissions Averted Due to Renewable Energy

YEAR OVER YEAR – LIKE FOR LIKE

Greenprint members are committed to increasing the use of onsite renewable energy, such as rooftop photovoltaic panels, as well as the procurement of renewable energy from power suppliers. The chart below presents greenhouse gas emissions averted as a percentage of total emissions emitted.

Seven Greenprint members account for all renewable generation and purchases in the Greenprint portfolio. Only 0.03% of emissions averted is due to onsite renewable energy generation, while 7.8% of emissions averted is due to the purchase of certified renewable electricity.



PERCENTAGE
of CO₂e/
2010 compared to 2009

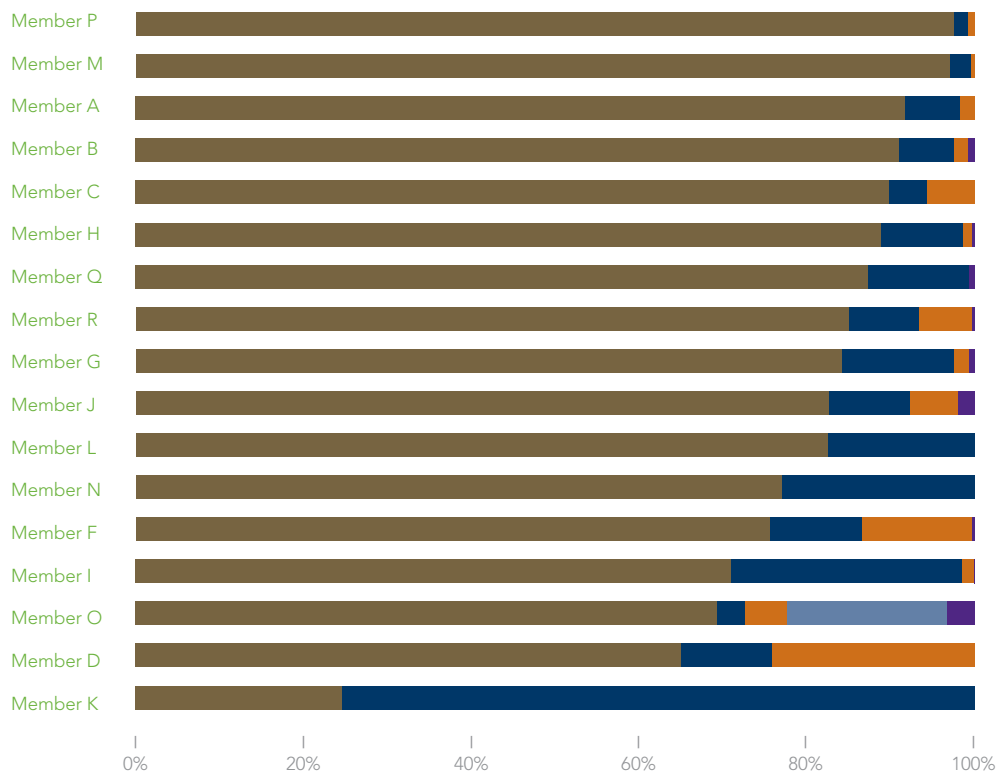
Emissions Profile by Member Portfolio

CURRENT YEAR – ABSOLUTE

The chart below shows each Greenprint members’ emissions by source of energy for the Current Year. The members are sorted by emissions attributable to the purchase of electricity. Greenprint members’ portfolio greenhouse gas emissions (CO₂e) vary due to:

- Geographic distribution of individual portfolios
- Regional policies and incentives
- Property type allocation
- Corporate sustainability policies

- CO₂e EMITTED by standard grid electricity (i.e. non-certified renewable)
- CO₂e EMITTED burning imported fossil fuels
- CO₂e EMITTED by imported thermal energies
- CO₂e EMITTED running onsite CHP (including Scope 3 exported electricity)
- CO₂e EMITTED from fugitive emissions (refrigerants)

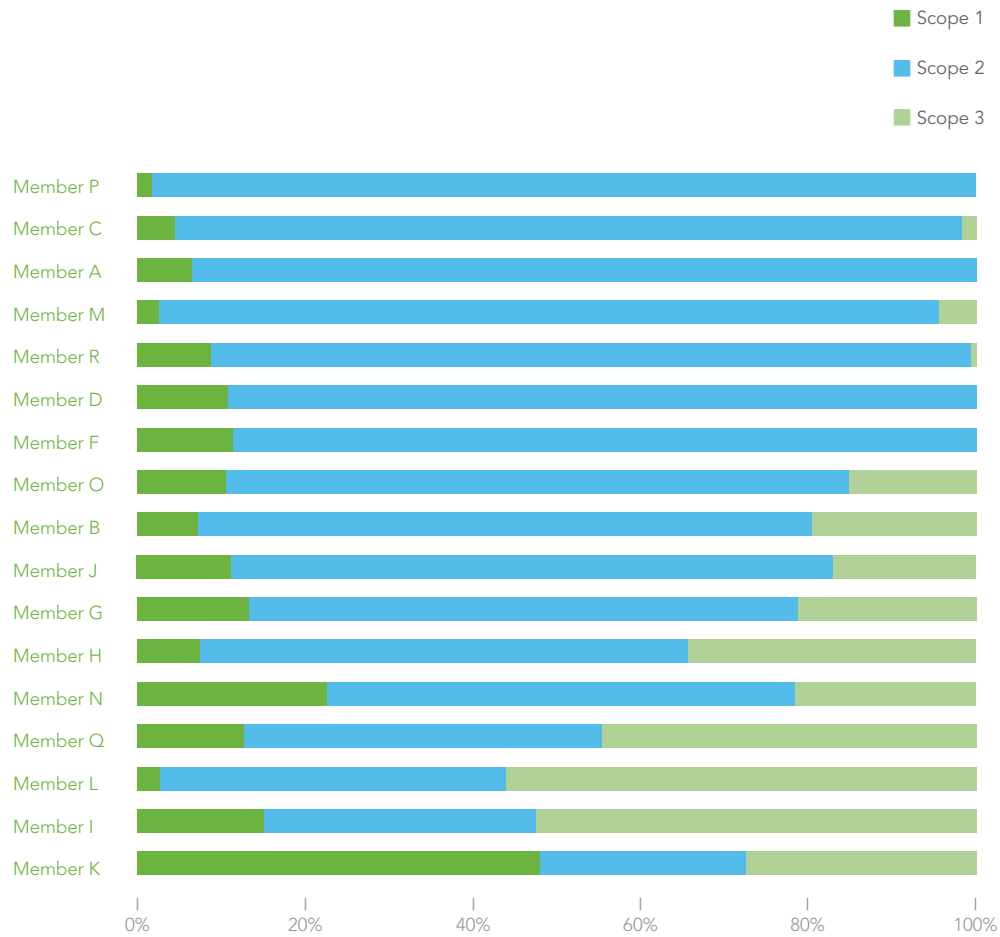


PERCENTAGE
of CO₂e
2010

Emissions of Member Portfolio by Scope

CURRENT YEAR – ABSOLUTE

The Greenprint Performance Report separates Greenhouse Gas Emissions (GHG) into three categories – Scopes 1, 2 and 3. Categorizing emissions by Scope enables separate accounting of GHG sources by different related entities, such as landlord and tenants, increases transparency of operational control, and prevents double counting of emissions between organizations.



PERCENTAGE

of CO₂e
2010

Provided by the World Resources Institute and the World Business Council for Sustainable Development, the Greenhouse Gas Protocol is an international accounting tool to quantify and manage greenhouse gas emissions. It provides the framework for global emission standards and programs.

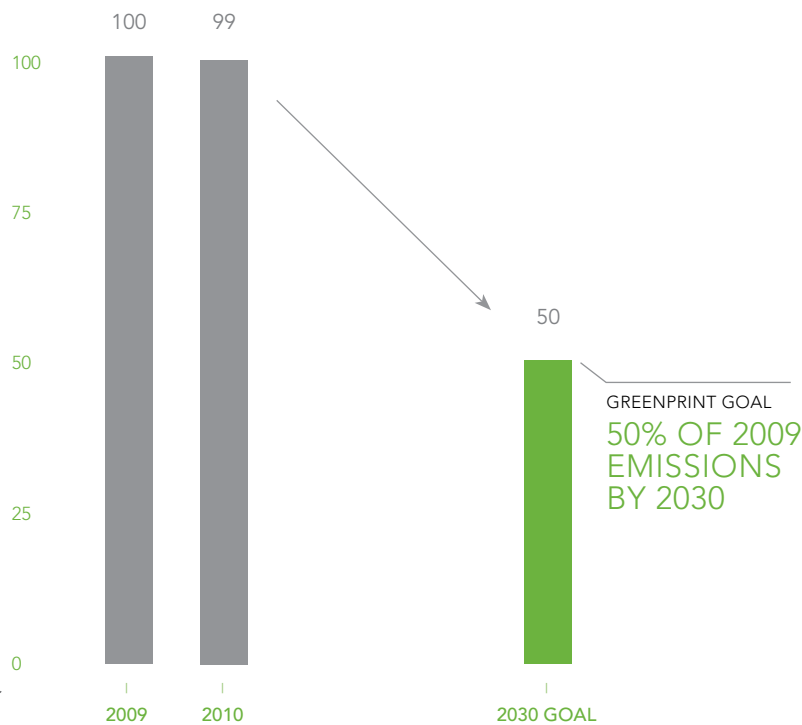
Greenprint Carbon Index™ (GCX)

YEAR OVER YEAR – MEAN AVERAGE

Greenprint Foundation’s mission is to lead the global real estate community toward value-enhancing carbon reduction strategies that support global greenhouse gas stabilization by 2030 in line with IPCC greenhouse gas stabilization. In order to measure and track this goal, the Greenprint Carbon Index™ (GCX) has been calculated as an annual time series rate of normalized emissions intensity of a very large pool of individual commercial real estate properties.

The GCX is set at 100 starting in 2009. Calculations are based on an annual intensity indicator (kg CO₂e / m²). The GCX value is based on the total greenhouse gas emissions divided by the associated total floor area in each year for properties where complete data is available.

Year	Annual Emissions Intensity (kg CO ₂ e / m ² / yr)	% Change in Emissions Intensity on 2009	Thousand Tonnes of CO ₂ e	Total Denominator Floor Area (millions of m ²)	Number of Properties
2010	104	(0.6%) ↓	1,933	19	1,094
2009	105		1,482	14	763



INDEX BASED ON
annual kg CO₂e / m²
2009 = 100

GREENPRINT GOAL
50% OF 2009
EMISSIONS
BY 2030

4 Appendices

A.
QUALITY CONTROLS & VERIFICATION

B.
EMISSIONS COEFFICIENTS

C.
GLOSSARY

D.
ENDNOTES

Quality Controls & Verifications

Greenprint Foundation employs a data collection, verification and calculation process aligned with the Greenhouse Gas Protocol and the principles of ISO 14064.

The Performance Report Committee employs a quality management procedure to ensure accurate and verifiable results adhering to the following steps:

Responsibility	Role
1. Identification of Sites	Member Approver
2. Input of Property Data	Member Respondent
3. Software Plausibility Checks	Greenprint Software
4. Review and Approval of Data	Member Approver
5. Verification of Data	Greenprint Validator / Project Coordinator
6. Calculation of GHG Emissions	Project Coordinator
7. Verification of Results	Greenprint Validator

Roles:

- **Member Approver:** A senior-level employee from each Greenprint member who selects sites for inclusion in the Report and provides oversight of the review process on behalf of the member firm.
- **Member Respondent:** A property-level employee from each Greenprint member that collects property data.
- **Project Coordinator:** An ISO 9001-certified contractor administers the web-enabled questionnaire, manages the software plausibility checks and performs GHG emissions calculations.
- **Greenprint Validator:** Greenprint's Vice President of Technology & Member Services provides oversight review of the software architecture, data collection and results, and creates workflow process with Members' Approvers.

Data sources include:

- Property data based upon the records of building landlords or their building management companies. Occupier space data is based upon tenant records and lease agreements.
- Energy data based upon utility bills, invoices, power supply company records or meter readings.
- Refrigerant data based upon property maintenance logs.

Greenprint Foundation will commission verification of its Performance Report by an independent third party. The verifier will produce materiality thresholds to assess any material discrepancies in Volume 2 of the Report. The verification report will be publicly released in January 2012.

Emissions Coefficients

Electricity Emissions Factors (2006) [except USA eGRID factors (2007)]:
kg CO₂ per kWh electricity generated

Americas		EMEA		Asia Pacific	
Argentina	0.3034	Austria	0.2140	Australia (NGER determination)	0.9210
Brazil	0.0810	Belgium	0.2600	New South Wales and Australian Capital Territory	0.9000
Canada	0.1840	Czech Republic	0.5270	Victoria	1.2300
Chile	0.2942	Finland	0.2420	Queensland	0.8900
Mexico	0.5410	France	0.0850	South Australia	0.7200
United States (by eGRID subregion)	0.5895	Germany	0.4040	South West Intercon- nected System in Western Australia	0.8200
ASCC Alaska Grid	0.5828	Greece	0.7250	Tasmania	0.3200
ASCC Miscellaneous	0.2430	Hungary	0.3440	Northern Territory	0.6800
ERCOT All	0.5682	Ireland	0.5350	China	0.7880
FRCC All	0.5535	Italy	0.4040	Hong Kong	0.8550
HICC Miscellaneous	0.6096	Luxembourg	0.3260	India	0.9440
HICC Oahu	0.7352	Netherlands	0.3940	Indonesia	0.6770
MRO East	0.7677	Poland	0.6590	Japan	0.4180
MRO West	0.7814	Portugal	0.4160	Korea, Republic Of	0.5330
NPCC Long Island	0.6436	Romania	0.4290	Malaysia	0.6550
NPCC New England	0.3756	Russian Federation	0.3290	New Zealand	0.3090
NPCC NYC/Westchester	0.3197	Slovakia	0.2230	Philippines	0.4350
NPCC Upstate NY	0.3099	Spain	0.3500	Singapore	0.5360
RFC East	0.4805	Sweden	0.0440	Taiwan, Province Of China	0.6590
RFC Michigan	0.7490	Turkey	0.4380	Thailand	0.5110
RFC West	0.7038	Ukraine	0.3440	Vietnam	0.3963
SERC Midwest	0.8071	United Arab Emirates	0.8200		
SERC Mississippi Valley	0.4555	United Kingdom	0.4980		
SERC South	0.6784				
SERC Tennessee Valley	0.6989				
SERC Virginia/Carolina	0.5073				
SPP North	0.8159				
SPP South	0.7367				
WECC California	0.3089				
WECC Northwest	0.3896				
WECC Rockies	0.8646				
WECC Southwest	0.5682				

Source

Emission factor data is from International Energy Agency Data Services, 2006 and 2008 for "CO₂ Emissions per kWh Electricity and Heat Generated" and mainly sourced from the GHG Protocol website <http://www.ghgprotocol.org/calculation-tools> (as cited in table 10a of 2010 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting, Version 1.2.1 FINAL, Updated 6/Oct/2010; <http://archive.defra.gov.uk/environment/business/reporting/pdf/101006-guidelines-ghg-conversion-factors.xls>)

Where government sponsored sub-country emissions factors are publicly available, these are used (for the USA and Australia).

For the USA: US EPA eGRID2010 (2007 data) Version 1.1; http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2010V1_1_year07_SummaryTables.pdf

For Australia: National Greenhouse and Energy Reporting (Measurement) Determination 2008, Chapter 6; <http://www.comlaw.gov.au/Details/F2010C00563/Html/Text#param538>

Emissions Coefficients (continued)

Fuel Emissions Factors	kg CO ₂ e per kWh
Diesel	0.26916
Fuel Oil	0.28289
LPG	0.23027
Natural Gas	0.20558
Petrol Gasoline	0.25449

Source

Table 10d of 2010 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting, Version 1.2.1 FINAL, Updated 6/Oct/2010; <http://archive.defra.gov.uk/environment/business/reporting/pdf/101006-guidelines-ghg-conversion-factors.xls>

Notes

Within this report, the same fuel emissions factors have been used across countries. This is in keeping with the following:

"... companies reporting on their emissions may need to include emissions resulting from overseas activities. Whilst many of the standard fuel emissions factors are likely to be similar for fuels used in other countries, grid electricity emission factors vary very considerably. It was therefore deemed useful to provide a set of overseas electricity emission factors to aid in reporting where such information is hard to source locally."

Paragraph 190, page 54: <http://www.defra.gov.uk/environment/business/reporting/pdf/091013-guidelines-ghg-conversion-factors-method-paper.pdf>

Thermal Energies Emissions Factors	kg CO ₂ e / MBtu	kg CO ₂ e / kWh
District Steam	78.95	0.269488544
District Hot Water	78.95	0.269388544
District Chilled Water – Absorption Chiller using Natural Gas	66.50	0.226907387
District Chilled Water – Engine-Driven Chiller using Natural Gas	44.33	0.151260217

Source

Greenhouse Gas Inventory and Tracking in Portfolio Manager August 31, 2009; Table 2 Indirect Greenhouse Gas Emission Factors (District Energy) (page 3); http://www.energystar.gov/ia/business/evaluate_performance/Emissions_Supporting_Doc.pdf

In turn: Form EIA-1605, Voluntary Reporting of Greenhouse Gases, Revised Pursuant to 10 CFR Part 300; Guidelines for Voluntary Greenhouse Gas Reporting; Energy Information Administration, U.S. Department of Energy, October 15, 2007; http://www.eia.doe.gov/oiaf/1605/pdf/EIA1605_Instructions_10-23-07.pdf

Glossary of Terms

CO₂e averted as onsite renewable electricity

the amount of GHGs averted from the use of onsite renewable energy, e.g. wind, water, solar, geothermal energy, and biofuels.

CO₂e averted as certified renewable

the amount of GHGs averted through the purchase of certified renewable electricity from power supply companies.

CO₂e emitted from onsite thermal energies

the GHGs emitted from the onsite generation of thermal heating and, or cooling.

CO₂e emitted running onsite CHP the GHGs emitted from the operation of onsite combined heat and power (CHP) producing thermal energy and electricity (for consumption both onsite and exported).

CO₂e emitted from all imported fossil fuels the GHGs emitted from the consumption of fossil fuels purchased by the landlord or tenant(s) from power supply companies.

CO₂e emitted from non-certified grid electricity GHGs emitted from the consumption of standard grid electricity purchased by the landlord or tenant(s).

CO₂e emitted from fugitive emissions are the GHGs emitted through the intentional or unintentional loss of refrigerants.

Current Year is the complete sample set of properties submitted in the current year Greenprint Performance Report that have corresponding energy and floor area.

ISO 14064 is a globally recognized standard for quantification, monitoring and reporting of sources of greenhouse gas emissions, as well as the validation of emissions data and assertions.

Like for Like is a specific Year over Year analysis of the current year's properties that also have data from the previous year.

Mean Average is obtained by dividing the sum of observed values in a dataset by the number of observations. In the context of the Greenprint Carbon Index™ (GCX) the emissions intensity is the aggregated emissions of the current year divided by the aggregated floor area of the same set of properties.

Median is the value lying at the midpoint of a distribution of observed values.

Normalized refers to an energy use metric that is independent of the size of the building by dividing energy use by corresponding floor area.

Occupancy is calculated on rentable floor area.

Year over Year is an analysis that compares the current year's data against historical data in the Greenprint dataset.

Endnotes

- 1 The 2010 Greenprint Performance Report primarily consists of member data from calendar year 2010, however, some member data was provided from their fiscal year 2010, ending March 2011.
- 2 Contribution of Working Group III to the Fourth Assessment Report of IPCC (2007), Chapter 3: Issues Related to Mitigation in the Long-Term Context, p. 173: "Using the 'best estimate' assumption of climate sensitivity, the most stringent scenarios (stabilizing at 445–490 ppmv CO₂-equivalent) could limit global mean temperature increases to 2–2.4 degrees Celsius above the pre-industrial level, at equilibrium, requiring emissions to peak before 2015. Global CO₂ emissions would return to 2000 levels no later than 2030."
- 3 Members have submitted properties for which they have a full 12-month period of energy consumption (and fugitive emissions) data.
- 4 <http://www.energy.ca.gov/ab1103/>
- 5 <http://www.nyc.gov/html/planyc2030/html/about/ggbp.shtml>
- 6 http://www.decc.gov.uk/en/content/cms/emissions/crc_efficiency/user_guidance/user_guidance.aspx
- 7 http://www.epbd-ca.org/Medias/Pdf/country_reports_14-04-2011/Germany.pdf
- 8 http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1226422021646/Tokyo_ETS_Padeco.pdf
- 9 World Bank: Tokyo's Emission Trading System: A Case Study: <http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1226422021646/Directions5.pdf?resourceurlname=Directions5.pdf>
- 10 CBECS (2003) Sum of Major Fuel Consumption for non-mall commercial buildings (CBEC definition): http://www.eia.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls
- 11 <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

Disclaimer

All calculations presented in this report are based on data submitted to Greenprint Foundation. While every effort has been made to ensure these data's accuracy, the possibility for errors exists. This report is not intended to be a flawless accounting of carbon emissions by the Foundation's membership. Greenprint Foundation does not accept responsibility for the completeness or accuracy of this report, and it shall not be held liable for any damage or loss that may result, either directly or indirectly, as a result of its use.

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Copies of this report may be downloaded from Greenprint Foundation's web site:
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2010 Greenprint Performance Report

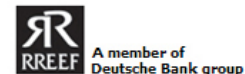
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