World Resources Institute
Carbon Dioxide (CO_2) Inventory Report
For Calendar Years 2004 & 2005

November 2006

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Summary

This report describes WRI's CO_2 inventory for calendar years 2004 and 2005. During this period, WRI's "net" emissions of CO_2 were 1,031 metric tons and 978 metric tons respectively, a 3% and 8% decrease below our 2000 base year emissions. WRI commits to offset its remaining emissions to achieve its goal of a "net zero" emissions balance every year.

The following report details emission sources included and excluded from the inventory, describes how emissions data were collected and calculated, summarizes how emissions have changed over time and describes GHG management actions.

During the reporting timeframe, WRI implemented two key GHG accounting components: accounting for green power purchases; and accounting for indirect emissions from paper. To account for the carbon benefit of green power, WRI followed an emerging methodology that allows green power purchases (retail green power or renewable energy certificates (RECs)) to be "netted" from reported scope 2 emissions. This methodology is explained further in the report. In accordance with the GHG accounting and reporting guidelines that WRI recently published for service sector companies, WRI discontinued reporting its emissions from paper against its emissions balance goal. This is because there are uncertainties in the calculation methodology for paper. This accounting change triggered an adjustment in the reporting of WRI's historical emissions which now exclude emissions from paper. While not tracked against WRI's goal, WRI believes it is important to measure and reduce these emissions and thus they are still reported and appear in this report as a separate section.

Finally, this report highlights two new activities:

- *Hot Climate, Cool Commerce: A Service Sector Guide to Greenhouse Gas Management*, a new WRI report that provides practical, step-by-step guidance for service sector companies (office and retail) on how to develop and implement a GHG management strategy; and
- A new planned green roof project for WRI's office building.

This report is available online on WRI's website, www.wri.org. For more information about WRI's CO_2 commitment and our outreach activities, please contact Samantha Putt del Pino at 202-729-7660, sam@wri.org.

Introduction

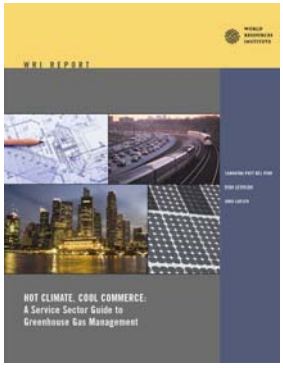
In 1999, WRI – a nonprofit environmental think tank dedicated to protecting the planet and improving people's lives – committed to "walk the talk" by reducing its carbon dioxide (CO_2) emissions balance to zero by 2005, and publicly report its progress annually. The emission sources included in this target are indirect emissions from purchased electricity, business air travel and employee commuting. WRI also tracks its emissions from paper but does not include this source in the target. Through this project WRI gains direct experience in developing a CO_2 inventory and reducing emissions. WRI uses this first-hand knowledge to help others understand climate change and actions they can take to measure and reduce their CO_2 emissions.

To track our emissions and performance, WRI conducts a CO_2 inventory each year. The inventory follows the guidance in *Hot Climate, Cool Commerce: A Service Sector Guide to Greenhouse Gas Management* (see Box 1), which is based on and consistent with the WRI/WBCSD *Greenhouse Gas Protocol Corporate Accounting and Reporting Standard* (GHG Protocol). A copy of these documents can be downloaded from the GHG Protocol website, www.ghgprotocol.org.

This report details WRI's emissions and performance for calendar years 2004 and 2005. Previously, WRI prepared a full inventory report annually. Beginning with this report, however, WRI will issue a full report every two years and a summary report in the intervening years.

Box 1. Hot Climate, Cool Commerce

In June 2006, WRI released *Hot Climate, Cool Commerce: A Service Sector Guide to Greenhouse Gas Management*, a new report that provides a practical, step-by-step guide for service sector companies and office-based organizations to address climate change. The document provides:



- An overview of the connection between climate change and the service sector (i.e., how service sector companies contribute to the problem and how climate change may directly impact the service sector);
- A section on the business case for undertaking a GHG management program;
- Detailed step-by-step guidelines on the development of a corporate GHG inventory (based on the WRI/WBCSD GHG Protocol);
- Guidance on setting targets, reducing emissions, and reporting results;
- Detailed information on GHG accounting issues of particular relevance to service sector companies. Examples include information on how to account for the GHG emissions associated with leased assets such as leased buildings or vehicles, and guidance on how to prioritize which emission-causing activities service sector companies should consider measuring; and
- Case studies that illustrate how service sector companies are taking action.

Emissions for Calendar Years 2004 and 2005

WRI's total and "net" emissions for calendar years 2004 and 2005 were as follows. The activity data and emission factors used are detailed in Appendix II.

Table 1: WRI's CO_2 emissions for calendar years 2004 and 2005

CATEGORY OF EMISSIONS	2004 EMISSIONS (IN METRIC TONS OF CO_2)	2005 EMISSIONS (IN METRIC TONS OF CO_2)
SCOPE 1 (DIRECT)	0	0
SCOPE 2 (CONSUMPTION OF PURCHASED ELECTRICITY)	461	423
*RENEWABLE ENERGY CERTIFICATE (RECS) PURCHASES**	*-115*	*-106*
"NET" SCOPE 2 EMISSIONS*	***346***	***317***
SCOPE 3 (OTHER INDIRECTS)	589 (from business air travel)	571 (from business air travel)
	96 (from employee commuting)	90 (from employee commuting)
TOTAL CO_2 EMISSIONS:	**1,146**	**1,084**
"NET" CO_2 EMISSIONS*:	***1031***	***978***

* For a description of WRI's RECs purchases and the methodology used to determine their emissions value, see the section "Green power purchases" on p. 8.

Performance Over Time (2000 – 2005)

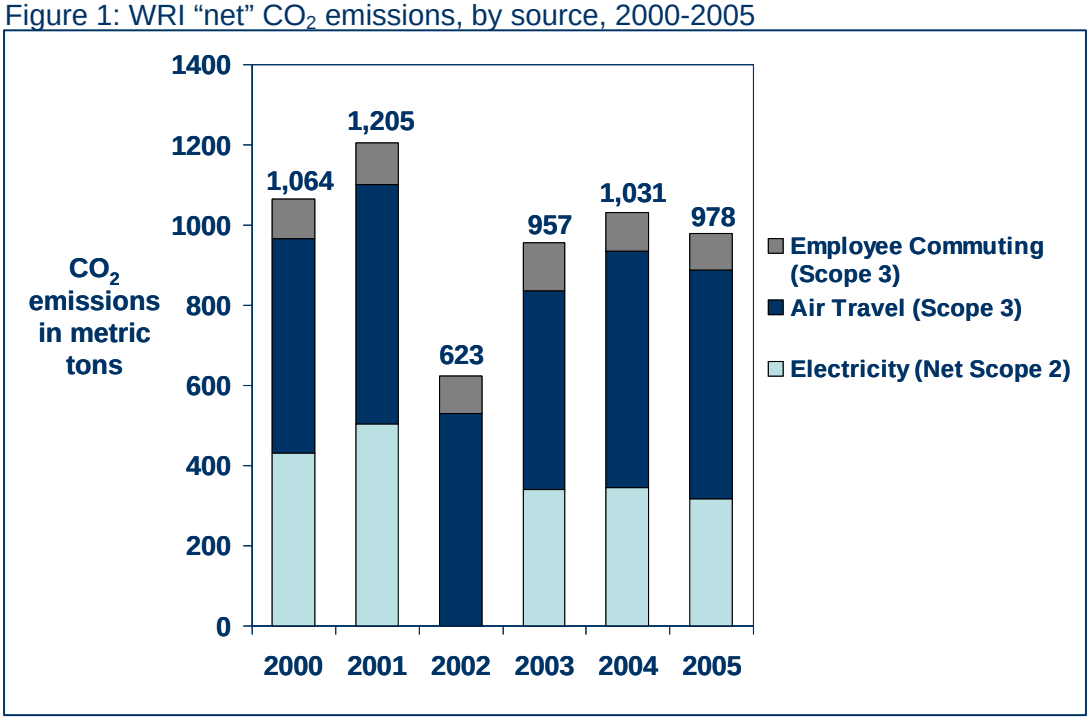
In 2005, WRI's total emissions were approximately 1.9% higher than its base year emissions, although its "net" emissions have decreased by approximately 8% since 2000. WRI has reached an emissions balance of zero each year through offsets (see "Investing in GHG Offsets" on p. 9 for more information).Table 2 and Figure 1 illustrate WRI's emissions performance from 2000 through 2005, by source.

Table 2: WRI's CO_2 emissions, 2000 – 2005

All emissions shown in metric tons of CO_2						
	2000 (base year)	**2001**	**2002**	**2003**	**2004**	**2005**
Scope 2						
Electricity	431	503	535	459	461	423
WRI RECs Purchases	*0*	*0*	*-860*	*-120*	*-115*	*-106*
"Net" Scope 2 Emissions	*431*	*503*	*0*	*339*	*346*	*317*
Scope 3						
Air travel	535	598	529	497	589	571
Employee commuting	98	104	94	121	96	90
Total Emissions	**1,064**	**1,205**	**1,158**	**1,077**	**1,146**	**1,084**
"Net" Emissions	***1,064***	***1,205***	***623****	***957***	***1,031***	***978***

** Note: The emissions value of WRI's 2002 RECs purchase was 860 metric tons of CO2, however WRI only "netted" 535 metric tons of CO2, an amount equal to its 2002 scope 2 emissions. This is because the emerging best practice is to net the avoided emissions value of RECs from scope 2 only. The "excess" RECs were not counted for the purposes of WRI's CO2 inventory.*

Figure 1: WRI "net" CO_2 emissions, by source, 2000-2005



Emissions from Paper

In prior years, WRI reported its scope 3 indirect emissions associated with paper against its goal. While WRI believes that it is important to continue to track and report these emissions and to leverage paper reduction opportunities, we do not believe that these emissions should be reported against our goal. This is because there are many uncertainties involved in the calculation methodology for paper. The decision to discontinue reporting emissions from paper as part of our goal triggered an adjustment in the reporting of WRI's historical emissions which have been re-reported to exclude emissions from paper. WRI will continue to account for these emissions but will report them separately from the emission sources included in our goal. Table 3 shows WRI's indirect emissions associated with paper use from 2000 to 2005.

Table 3: Estimated indirect CO_2 emissions from paper use, 2000-2005 (in metric tons of CO_2)

2000	2001	2002	2003	2004	2005
372	148	148	56	58	96

WRI GHG Management Activities

WRI's GHG management activities are in three areas: 1) internal activities in WRI's office space and building, 2) green power purchases, and 3) investment in GHG offsets.

1) Internal activities

WRI office space

WRI's office space was designed to use resources efficiently and to minimize our CO_2 footprint. WRI uses energy efficient compact fluorescent lamps (CFLs) throughout the space, and all of our office appliances, including printers, fax machines, copiers, dishwashers, and refrigerators are energy efficient models.

In addition, WRI's office helps staff minimize emissions from travel. Examples include:

- *Location:* The office is located a few short blocks from Washington DC's main mass transit hub, which connects travelers by rail to other East Coast cities and by subway to the local area.
- *Bicycle-friendly facilities:* On-site shower facilities and a secured area for storing bicycles are important benefits for employees who prefer to commute by emissions-free means.
- *Video-conferencing:* WRI's video-conferencing equipment enables staff to connect with partners around the world without leaving the office.

Paper reduction measures

As noted above, WRI has implemented efforts to decrease paper use, which cause indirect CO_2 emissions. In addition to utilizing double-sided printing, WRI has recently instituted a switch from a paper payroll system to an electronic one. WRI's employees submit timesheets electronically and all staff have paper recycling bins in their offices. Some expense reports can be submitted electronically too.

Communicating CO_2 commitment

As part of its CO_2 commitment, WRI has made efforts to communicate the initiative to staff members and other parties. In 2005, WRI hosted more than fifteen groups seeking to learn more about its green building design and office practices. These groups included a delegation from the Shanghai Ecological Economy, the District of Columbia's Department of Parks and

Recreation, the United Nations Foundation, the British and Mexican embassies, Conservation International, Chemonics, National Defense University, and Chile's National Clean Production Council. WRI also routinely holds office tours for new staff.

Coming soon to WRI – green roof!

WRI is collaborating with its landlord, the American Psychological Association, on a green roof project planned for the spring of 2007. The green roof will be approximately 3,000 square feet in size and will consist of plants that replace vegetation destroyed when the building was constructed. Ecological benefits to this project include improved storm water management, water and air purification, and a reduction in building energy consumption, resulting from improved insulation. Reductions in building energy consumption would also decrease indirect GHG emissions from electricity purchased by the building's tenants.

Unique to this project will be the incorporation of a labyrinth in the design of the green roof garden. Funding for this project has been generously provided by the TKF Foundation and the Chesapeake Bay Foundation.

2) Green power purchases

Since 2002, WRI has pursued the opportunity to "green" its electricity supply and support renewable energy projects through purchasing renewable energy certificates (RECs). One REC represents the technology and environmental attributes associated with 1,000 kilowatt-hours (kWh)[1] of electricity generated by renewable resources.

WRI worked with its building owners – the American Psychological Association (APA) – to facilitate their procurement of green power. As a result, APA purchased RECs equivalent to 75% of their two buildings electricity use in both 2004 and 2005.[2]

WRI supplemented APA's REC purchase in 2004 and 2005 by purchasing RECs equivalent to 25% of its own electricity use. Coupled with APA's RECs purchase, this supplemental purchase enabled WRI to "green-up" 100% of its electricity use through RECs. In 2004, WRI purchased RECs equivalent to 232,000 kWh of renewable generation and in 2005, WRI purchased RECs equivalent to 214,000 kWh of renewable power. Both REC purchases, supplied by Green Mountain Energy, were Green-e certified. The underlying renewable energy was sourced from 90% biomass energy and 10% wind energy.

Accounting for RECs in WRI's CO_2 inventory

In consultation with several organizations, the U.S. EPA's Climate Leaders program has drafted new guidance on a GHG accounting methodology for RECs which WRI's GHG Protocol team endorses. The new methodology prescribes that kWh of RECs are multiplied by the emission factor for the e-GRID powerpool sub-region where the RECs were generated. RECs purchasers can "net" this number from their scope 2 emissions. This is demonstrated in Tables 1 and 2. Note that carbon benefits can only be claimed by the owner of the RECs, therefore while WRI met its 100% green energy goal in 2004 and 2005, its inventory only reports the emissions benefit of the RECs it purchased, not those purchased by its building owner.

The Climate Leaders methodology also includes eligibility criteria for RECs. For example, only RECs from facilities that were bought online after January 1997 can be accounted for in GHG

[1] One thousand kilowatt hours (kWh) equals 1 megawatt hour (MWh).
[2] For more information on this purchase and WRI's involvement, please see WRI's 2003 CO_2 Inventory Report, available on the WRI website, www.wri.org.

inventories in this way. This and other eligibility criteria are consistent with the standards promoted by Green-e, the independent RECs certification program. For more information on the EPA's methodology, refer to Climate Leaders (www.epa.gov/climateleaders).

Engaging employees/family members on green power

In addition to the RECs purchases described above, during the 2005 holiday season, WRI's employees and their family and friends teamed-up for one large RECs purchase equivalent to 1,119,000 kWh of renewable electricity generation. The purchase was made through renewable energy provider 3 Phases Energy Services which sourced the RECs from 100% wind power. Dozens of WRI employees, family, and friends participated in this group RECs purchase, and the certificates served as unique holiday gifts.

3) Investing in GHG offsets

An offset is an activity or project that reduces or sequesters GHG emissions and takes place outside the inventory boundary of an organization. Companies and organizations can invest in these projects to counteract or "offset" the GHG emissions from their own operations. GHG offsets can be used to meet emission reduction targets, especially when the cost of internal reductions is high or opportunities for internal reductions are limited. WRI's annual goal is to achieve a "net zero" emissions balance, and to reach this target we must offset all emissions we have not been able to reduce through internal activities.

Offset purchases

Since 2000, WRI has invested in several types of GHG offsets to achieve its "net zero" emissions balance target. Descriptions of these purchases are recorded in previous year's inventory reports. Since joining the Chicago Climate Exchange (CCX) in 2003 as an "associate member", WRI has met its "net zero" commitment through purchases of CCX allowances or offsets.

Offsets accounting

Table 4 describes WRI's total and "net" emissions, RECs purchases, offset purchases, and emissions balance. Note all values are in metric tons of CO_2e.

Table 4: Emissions balance summary (metric tons of CO_2)

	2000	2001	2002	2003	2004	2005
Total WRI GHG Emissions	**1,064**	**1,205**	**1,158**	**1,077**	**1,146**	**1,084**
WRI RECs Purchases	*0*	*0*	*-860*	*-120*	*-115*	*-106*
"Net" WRI GHG Emissions	***1,064***	***1,205***	***623****	***957***	***1,031***	***978***
GHG Offsets						
GHG offsets purchased	2,011	1,947	0	0	0	0
CCX offsets/allowances purchased	0	0	0	1,100	1,200	1,100
GHG Offsets Applied	*-1,064*	*-1,205*	*-623***	*0*	*0*	*0*
CCX offsets/allowances applied	*0*	*0*	*0*	*-1,100*	*-1,200*	*-1,100*
WRI GHG Emissions Balance	**0**	**0**	**0**	**0**	**0**	**0**

** Although the avoided emissions value of WRI's 2002 RECs purchase was 860 metric tons, WRI only "netted out" 535 metric tons – an amount equal to its 2002 Scope 2 emissions. This is consistent with emerging best practices that RECs only be applied to Scope 2 emissions. If WRI netted out the entire carbon value of its 2002 RECs purchase, the effect would be that the RECs would "offset" non-Scope 2 emissions.*

*** The 623 metric tons of offsets applied in 2002 were "banked" or left over offsets from WRI's 2000 and 2001 offset purchases. WRI keeps an internal account of GHG offsets banked from year to year.*

Engaging Businesses and other Organizations on Climate Change

In addition to WRI's own CO_2 commitment, WRI also engages businesses and other organizations on GHG management, GHG reduction strategies, green power purchasing, and other activities related to climate change. WRI initiatives and efforts related to this include:

- *GHG Protocol Initiative:* The GHG Protocol Initiative (GHG Protocol) is a multi-stakeholder partnership of businesses, NGOs, governments, and others convened by WRI and the World Business Council for Sustainable Development (WBCSD). The Initiative's mission is to develop internationally accepted accounting and reporting protocols for corporate GHG emissions inventories and GHG mitigation projects, and to promote their use by businesses, policy makers, NGO's and other organizations. The GHG Protocol Corporate Accounting and Reporting Standard, which has emerged as the pre-eminent international standard for corporate GHG inventory development, is being used by several hundred companies worldwide and serves as a GHG accounting and reporting foundation for several voluntary and mandatory GHG programs. www.ghgprotocol.org.

- *Climate Northeast:* Launched in 2003, WRI convenes Climate Northeast, a multi-sectoral partnership to build strategies for companies to thrive in a carbon-constrained economy. Partners develop greenhouse gas (GHG) management systems, share energy management practices and invest in clean energy. Climate Northeast currently has twelve corporate members – Bristol-Myers Squibb, Citigroup, Con Edison, General Electric, Johnson & Johnson, JPMorgan Chase, Kodak, Northeast Utilities, Pfizer, Staples, Time Inc. and United Technologies. www.climatenortheast.org

- *Northeast Business Climate Collaborative (NEBCC):* A WRI business partnership in 2004 and 2005, NEBCC convened a new set of service and retail sector companies. NEBCC participants included: Baker & McKenzie, Citizens Funds, Coastal Enterprises Inc., Cone PR, the Connecticut Climate Coalition, JP Morgan Chase, OfficeMax, PricewaterhouseCoopers, Time Inc. and Vanasse, Hangen & Brustlin.

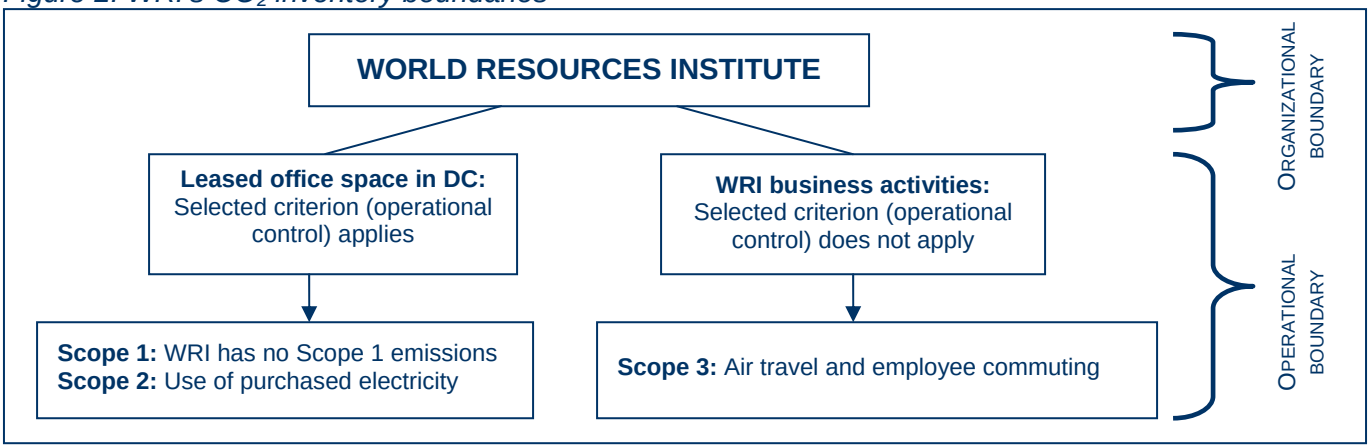
- *Green Power Market Development Group:* Convened by WRI in 2000, the Green Power Market Development Group is a unique commercial and industrial partnership dedicated to building corporate markets for renewable energy. The Group seeks to develop 1,000 megawatts (MW) of new, cost-competitive green power by 2010 in the United States. Group partners include Alcoa Inc., The Dow Chemical Company, DuPont, FedEx Kinko's, General Motors, Georgia-Pacific, IBM, Interface, Johnson & Johnson, NatureWorks LLC, Pitney Bowes, Staples, and Starbucks. www.thegreenpowergroup.org.

- *Capital Markets Research:* The Capital Markets Research Project provides detailed research, methods and tools to financial institutions, investors and companies that embed environmental risks and opportunities into financial analysis and investment decisions. One recent outcome of this work, a report released by Citigroup Investment Research titled *Investing in Solution to Climate Change*, was produced in collaboration with WRI. This report can be downloaded from WRI's website (www.wri.org).

Appendix I: Overview of Accounting Methodology

Accounting and reporting boundaries
Figure 2 depicts WRI's organizational and operational boundaries[3].

Figure 2: WRI's CO_2 inventory boundaries



1) *Organizational boundary*: This defines the businesses and operations that constitute an organization and the criteria for how the emissions will be reported. WRI's organizational structure is simple, consisting of one legally incorporated organization with no units or branches beyond the Washington DC headquarters' office which WRI leases.[4] It is considered part of WRI's organizational boundary based on the GHG Protocol's control criteria. For the purposes of reporting our inventory, WRI applies the GHG Protocol's control approach based on the operational control criterion.

2) *Operational boundary*: This identifies and categorizes emissions sources associated with an organization as defined in the organizational boundary. WRI's inventory includes emissions from electricity consumption, business air travel, and employee commuting. These emissions are further categorized into the following "scopes" as defined by the GHG Protocol:

- Scope 1 (direct emissions from sources that are controlled by WRI)
  - WRI has no Scope 1 emissions

- Scope 2 (indirect emissions from WRI's use of purchased electricity)
  - Use of electricity (purchased electricity is the only source of energy in the building WRI occupies)

- Scope 3 (all other indirect emissions)
  - Business air travel by staff if booked through WRI (via travel agency or other sources)
  - Business air travel by partners/consultants (booked through WRI's travel agency)
  - Employee commuting

[3] For more information on setting inventory boundaries, refer to *Hot Climate, Cool Commerce: A Service Sector Guide to Greenhouse Gas Management*, available on the GHG Protocol website, www.ghgprotocol.org.
[4] For more information on accounting for emissions from leased assets, refer to *Hot Climate, Cool Commerce.*

Inventory omissions

The following emissions sources are not currently included in WRI's inventory:

- Transmission and distribution losses associated with the consumption of purchased electricity
- Business car or train travel
- Business air travel when the travel is not booked by WRI (for example if the travel is arranged by a partner)
- Business travel organized by WRI for its partners and consultants but WRI's travel agency is not used
- Shipping/courier services

Base year

A base year is a reference year against which emissions performance can be measured over time. Initially WRI selected 1990 for its base year to mirror what the U.S. requirements would have been had it ratified the Kyoto Protocol. The major challenge with this has been that data from 1990 is largely incomplete making comparisons against this base year less meaningful.

Following the guiding principles of the GHG Protocol to use a base year for which accurate and complete data is available, WRI changed its base year from 1990 to 2000, the first year for which WRI had reliable and complete data.

As a result of WRI's decision to not track indirect emissions from paper against our reduction target (see p.7), WRI adjusted its base year and subsequent year emissions (by removing paper emissions from its scope 3 reporting) so that changes in emission levels are accurately reflected over time. These emissions are instead reported separately (see tables 12 and 13).

Emissions adjustments

As our knowledge and experience in inventory development grows, we may develop improved calculation methodologies and tools. When this happens, previous years reported emissions are adjusted according to the new methodology. Adjustments are also made when new emission factors are published that more closely reflect actual emissions than those available at the time the original calculations were made. These adjustments allow our emissions accounting to be as accurate and consistent from year to year as possible. However, in the case where adjustments are relatively insignificant or do not reflect a change in calculation methodology, recalculations are not performed for previous years' emissions.

In 2005, emission factors for air travel and employee commuting were adjusted to reflect updates in the published emission factors for these sources. Below is a description of the changes from 2004 to 2005. Since these updates are very minor and do not reflect a change in calculation methodology, previous years' emissions were not recalculated.

Table 5: 2005 Emission Factor Adjustments

	2000 - 2004 EMISSION FACTORS		2005 EMISSION FACTORS*	
	KG CO_2 PER PASSENGER MILE		KG CO_2 PER PASSENGER MILE	
US TRANSIT RAIL (METRO)	0.16		0.17	
	KG CO_2 PER PASSENGER KM	FLIGHT LENGTH (KM)	KG CO_2 PER PASSENGER KM	FLIGHT LENGTH (KM)
SHORT FLIGHT	0.18	< 452	0.15	< 500
MEDIUM FLIGHT	0.13	< 1600	0.12	< 1600
LONG FLIGHT	0.11	> 1600	0.11	> 1600

**See Appendix II for emission factor sources.*

Calculation methodology

The formula used to calculate all CO_2 emissions in WRI's inventory is:

Activity data X **Emissions factor** = **CO_2 emissions**

Activity data = quantification of an activity of emissions source e.g. air miles traveled, kWh of electricity used, etc.

Emissions factor = A factor relating activity data and absolute emissions. The source-specific or published emissions factor is used to convert activity data to an emissions value.

Inventory quality

To ensure inventory quality, a WRI staff person external to the inventory team, reviews all calculation spreadsheets for accuracy. WRI's inventory is also subject to audit by the Chicago Climate Exchange.

Appendix II: 2004 and 2005 Activity Data, Emission Factors, and Sources

Scope 2 Information

- *Electricity*. WRI occupies one complete floor and a small portion of another floor in an eight story building. This space is not separately metered therefore annual electricity use by WRI must be estimated. The formula used is:

(area of WRI's space ÷ total building area)	X	Total building usage of electricity	=	WRI's estimated electricity use

Table 6: WRI's 2004 Scope 2 emissions (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor	Metric tons of CO_2
Scope 2 *(electricity)*		*Purchased electricity*	*926,663 kWh*	*1.1 lbs of CO2/kWh*	*461*
				Total	**461 tCO_2**

Emission factor source: U.S. EPA E-Grid database, MAAC (owner), 2000 data

Table 7: WRI's 2005 Scope 2 emissions (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor	Metric tons of CO_2
Scope 2 *(electricity)*		*Purchased electricity*	*849,437kWh*	*1.1 lbs of CO2/kWh*	*423*
				Total	**423 tCO_2**

Emission factor source: U.S. EPA E-Grid database, MAAC (owner), 2000 data

Scope 3 Information

Business Air Travel
Two methods are used to obtain activity data for air miles traveled:

- Air miles for travel booked through WRI's travel agency are automatically compiled and are available for download through the travel agency's website.
- Staff are required to complete a travel authorization form for each trip taken. A section has been added to this form for staff to complete with information about miles traveled if the trip is not booked through WRI's travel agency.

Since emissions per mile are higher for short flights than for long flights, data on air miles traveled is further broken down in to short, medium and long flights as defined in the GHG Protocol mobile combustion tool and a unique emission factor is applied to each.

Table 8: WRI's 2004 Scope 3 emissions from air travel (Appropriate unit conversions are applied to achieve data in metric tons of CO_2.

		Source of emissions	Activity data	Emission factor	Metric tons of CO_2
Scope 3 *(air travel)*		*Air travel, short flights*	*42,026 km*	*0.18 kg of CO_2/km*	*8*
		*Air travel, medium flights*	*397,498 km*	*0.13 kg of CO_2/km*	*50*
		*Air travel, long flights*	*4,832,185 km*	*0.11 kg of CO_2/km*	*531*
				Total	**589 tCO_2**

Emission factor source: Short and long flights, UK DEFRA. Medium flights, derived from UK DEFRA.

Table 9: WRI's 2005 Scope 3 emissions from air travel (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor*	Metric tons of CO_2
Scope 3 *(air travel)*		*Air travel, short flights*	*67,690 km*	*0.15 kg of CO_2/km*	*10*
		*Air travel, medium flights*	*431,187 km*	*0.12 kg of CO_2/km*	*51*
		*Air travel, long flights*	*4,632,304 km*	*0.11 kg of CO_2/km*	*510*
				Total	**571 tCO_2**

*Emission factors were updated in 2005.
Emission factor source: Short and long flights, UK DEFRA. Medium flights, derived from UK DEFRA.

Employee commuting

WRI surveys its staff once each year to obtain information about average commuting habits. The information gathered is used to extrapolate average annual commuter miles traveled by all staff via various modes of transport.

Table 10: WRI's 2004 Scope 3 emissions from employee commuting (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor	Metric tons of CO_2
Scope 3 ***(employee commuting)***		*Bus*	*18,321miles*	*0.30 kg of CO_2/mile*	*6*
		*Metro*	*239,501 miles*	*0.16 kg of CO_2/mile*	*38*
		*Commuter rail*	*176,831 miles*	*0.16 kg of CO_2/mile*	*28*
		*Car*	*2,591 gallons of gas*	*8.87kg of CO_2/gallon*	*23*
		*Walk/bike*	*40,158 miles*	*0*	*0*
				Total	**96 tCO_2**

Emission factor sources:

- Car travel: Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2000*, Appendix B, Table B1.
- Metro travel: Transportation Energy Data Book, Edition 24, 2004, Tables 2.11, A16
- Commuter rail: Transportation Energy Data Book, Edition 22, 2002, Tables 2.11, A14.
- Bus travel: Bureau of Transportation, National Transportation Statistics, 2000.

Table 11: WRI's 2005 Scope 3 emissions from employee commuting (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor*	Metric tons of CO_2
Scope 3 *(employee commuting)*		*Bus*	*10,618 miles*	*0.30 kg of CO_2/mile*	*3*
		*Metro*	*207,064 miles*	*0.17 kg of CO_2/mile*	*35*
		*Commuter rail*	*158,489 miles*	*0.16 kg of CO_2/mile*	*25*
		*Car*	*2,923 gallons of gas*	*8.87 kg of CO_2/gallon*	*26*
		*Walk/bike*	*39,392 miles*	*0*	*0*
				Total	**90 tCO_2**

* Emission factors were updated in 2005.

Emission factor sources:

- Car travel: Energy Information Administration (EIA): Voluntary Reporting of Greenhouse Gases Program, Emission Coefficients, http://www.eia.doe.gov/oiaf/1605/factors.html.
- Metro travel: Transportation Energy Data Book (TEDB): Edition 24, 2004, Table 2.11 and Table A.15. http://www-cta.ornl.gov/data.
- Commuter rail: Transportation Energy Data Book (TEDB): Edition 24, 2004. Table 2.11 and A.16. http://www-cta.ornl.gov/data.
- Bus travel: Bureau of Transportation, National Transportation Statistics, 2000.

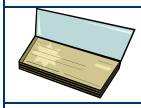
Paper Use

Emissions from paper result from the manufacturing and disposal processes, not the use of the paper itself. WRI reports these emissions separately. Activity data is collected in the following way:

- Office paper: WRI's facilities director supplies information, obtained from vendor invoices, about annual use of office paper.
- Checks: WRI's staff accountant provides information about the number of checks written each year.
- Publications paper: WRI staff responsible for tracking CO_2 emissions collect information on each publication (includes reports, brochures, invitations, postcards, etc.) produced by WRI each year along with the quantity included in the print run and the number of partners

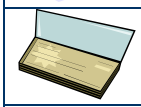
associated with the publication. This information is used to calculate the amount of paper used.

Table 12: WRI's 2004 emissions from paper (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor	Metric tons of CO_2
Scope 3 *(paper use)*		*Office paper*	*9,295 lbs*	*9,863 lbs of CO_2/ton*	*19*
		*Checks*	*113 lbs*	*10,500 lbs of CO_2/ton*	*0*
		*Publications*	*18,400 lbs*	*10,249 lbs of CO_2/ton*	*39*
				Total	**58 tCO_2**

Emission factor source: Environmental Defense's Paper Task Force, 1995, 2002.

Table 13: WRI's 2005 emissions from paper use (Appropriate unit conversions are applied to achieve data in metric tons of CO_2).

		Source of emissions	Activity data	Emission factor	Metric tons of CO_2
Scope 3 *(paper use)*		*Office paper*	*9,983 lbs*	*9,863 lbs of CO_2/ton*	*20*
		*Checks*	*122 lbs*	*10,500 lbs of CO_2/ton*	*0*
		*Publications*	*35,644 lbs*	*10,249 lbs of CO_2/ton*	*75*
				Total*	**96 tCO_2**

Emission factor source: Environmental Defense's Paper Task Force, 1995, 2002.