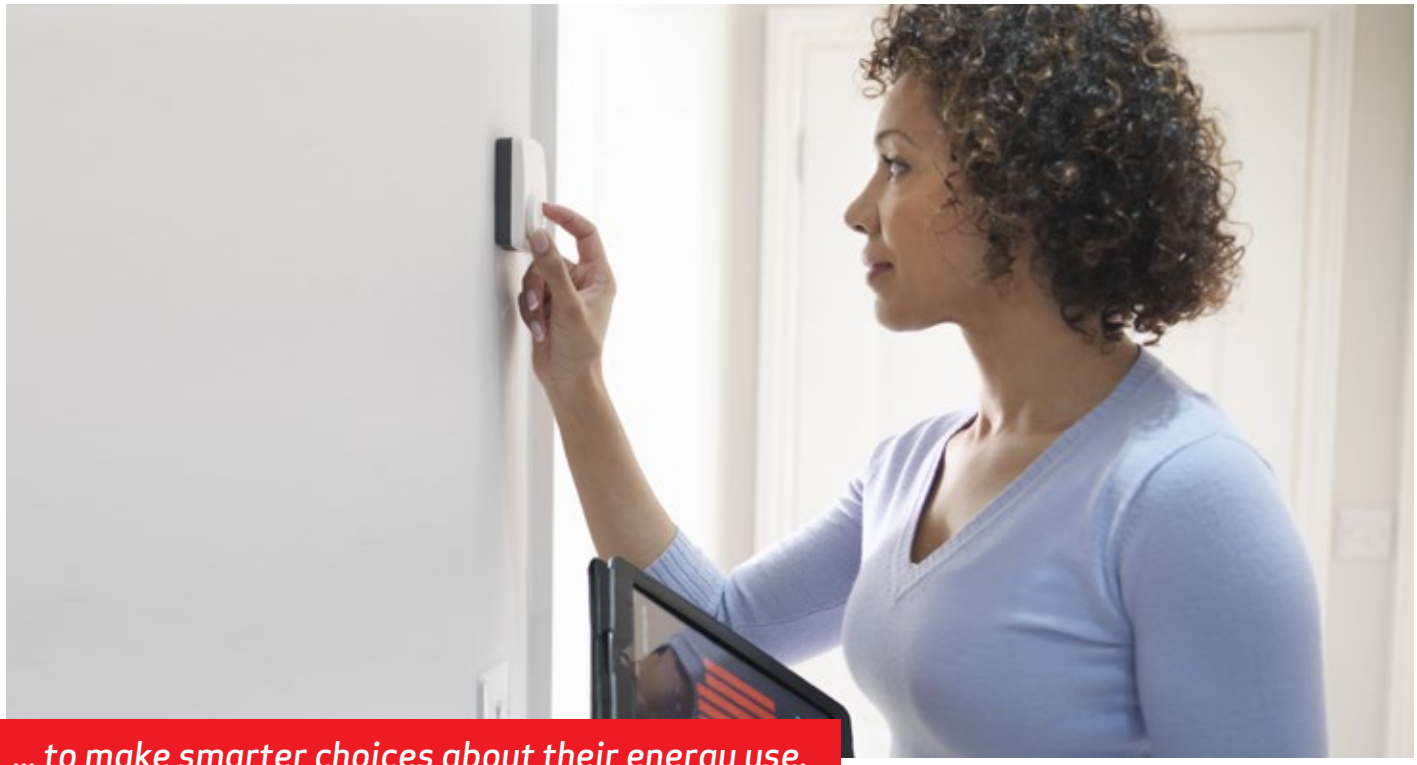
Applying innovative technology to

ENERGY MANAGEMENT

We use innovative technology solutions to empower underserved consumers ...



... to make smarter choices about their energy use.

Technology is changing our approach to creating a sustainable society. Some changes are obvious, such as digital media replacing books and video conferencing reducing the need for business travel. But the real transformation is just emerging as mobile and Internet technologies — like cloud storage, machine-to-machine telematics, and wireless — are incorporated into the energy grid.

The changeover stands to be revolutionary, as our energy grids are converted from a one-way system into a dynamic information processing ecosystem with the potential to double the nation's energy efficiency over the next 30 years.

OUR FOCUS

- **Use technology-enabled solutions** to empower underserved populations to better manage their energy consumption and save money.
- **Build awareness** of how to promote smarter energy consumption.

SOCIAL ISSUES WE'RE ADDRESSING

- **20 percent of U.S. households are low-income** (less than $20,000/year). For these households, energy costs as a percentage of income are twice that of more affluent households, 6 percent vs. 3 percent*.
- **Diverse populations and seniors are disproportionately represented** in low-income households and are thus more vulnerable to the pressures of high energy costs.

* Source: 2010 Census data, April 2013

140
HOUSEHOLDS
HAVE BEEN OUTFITTED WITH A COMPLETE ENERGY MONITORING SYSTEM FOR THE RESEARCH TRIAL

BETTER HOME ENERGY USE

We've teamed up with ***Pecan Street Inc.***, a Texas-based smart grid/consumer energy research group, to launch a home energy trial that will empower consumers to make smarter choices about their energy use.

The trial — the Smart Solutions for Affordable Housing Program — involves 140 households in Austin, TX. Participants have been outfitted with a complete energy monitoring system, including smart thermostats, 4G LTE routers, tablets and a mobile app that provides real-time energy use data.

The research portion of the project will examine the drivers of energy use in apartments and the effectiveness of real-time feedback of energy data. It will also examine the impact of remotely controlled smart thermostats on participants' energy use. Initial results on the participants' energy usage are expected in mid-2014.

GeSI SMARTer2020

Verizon holds a seat on the board of directors for the ***Global e-Sustainability Initiative***, a leading source of information, resources and best practices for achieving sustainability through information and communications technology (ICT).

ICT provides a solution to one of the fundamental challenges of this century: reducing emissions while maintaining economic growth and improving quality of life. GeSI's ***SMARTer2020*** Report illustrates how increased use of ICT may reduce projected 2020 global greenhouse gas (GHG) emissions by 16.5 percent — amounting to $1.9 trillion in gross energy and fuel savings and a reduction of 9.1 gigatons in carbon dioxide equivalent ($GtCO_2e$).

GeSI's SMARTer 2020 Report illustrates how increased use of ICT may reduce projected 2020 global greenhouse gas (GHG) emissions.

2020 Projections with Increased Use of ICT

↓ **16.5%** REDUCTION OF GLOBAL GREENHOUSE GASES (GHG)

↑ **$1.9** TRILLION SAVINGS IN GROSS ENERGY AND FUEL

↓ **9.1** GIGATONS REDUCTION IN CARBON DIOXIDE EQUIVALENT

In 2013, GeSI partnered with the United Nations Framework Convention on Climate Change (UNFCCC) to add a new pillar to the UNFCCC's Momentum for Change program focusing on the role that ICT solutions play in addressing climate change.

GeSI is making a three-year investment focused on ***mitigating climate change via ICT initiatives***. The program will recognize ICT initiatives around the world that help promote energy efficiency and greenhouse gas emission reduction.

FINDING NEW SOLUTIONS TO OUR ENVIRONMENTAL CHALLENGES

A project we commissioned with Accenture could provide the inspiration to jumpstart a new discussion on how broadband and mobile technologies can solve environmental challenges and lead the way to a less carbon-intensive society.

The research centers on the premise that the mobile and broadband services we provide our customers enable them to significantly reduce CO_2 emissions. This premise was a key point in the GeSI SMARTer2020 report (*see page 33*), which outlined how information communications technology can reduce CO_2 emissions through smart grid, smart building, smart transportation and travel substitution services.

We asked Accenture to quantify the CO_2 reduction value that our solutions enabled our customers to achieve in 2013 by applying the GeSI SMARTer2020 approach. The chart below shows the results in comparison to the U.S. carbon footprint.

SUMMARY OF 2013 CO_2 REDUCTION ENABLED BY VERIZON SOLUTIONS

BENEFIT CATEGORY	SOLUTION	METRIC	2013 CO_2 REDUCTION *(Metric Tons)*	
			Minimum	Maximum
TRAVEL SUBSTITUTION	**Telecommuting**	# of miles reduced *(avoided gallons of gas consumed)*	8.33 M	11.67 M
			Minimum	Maximum
TRANSPORTATION	**Telematics** *(Networkfleet, Trimble, Other)*	# of miles reduced *(avoided gallons of gas consumed)*	0.72 M	.90 M
			Minimum	Maximum
BUILDINGS	**Intelligent Building Management**	# of kWh's reduced	0.003 M	0.011 M
			Minimum	Maximum
POWER GRID	**Smart Meters & Demand Response**	# of kWh's reduced *(reduced T&D losses, lower peak demand & energy efficiency)*	3.19 M	3.46 M
TOTAL GROSS 2013 CO_2 REDUCTION ENABLED BY VERIZON			**12.25 M — 16.03 M**	
% OF TOTAL U.S. ANNUAL CARBON EMISSIONS			**0.23% — 0.30%**	

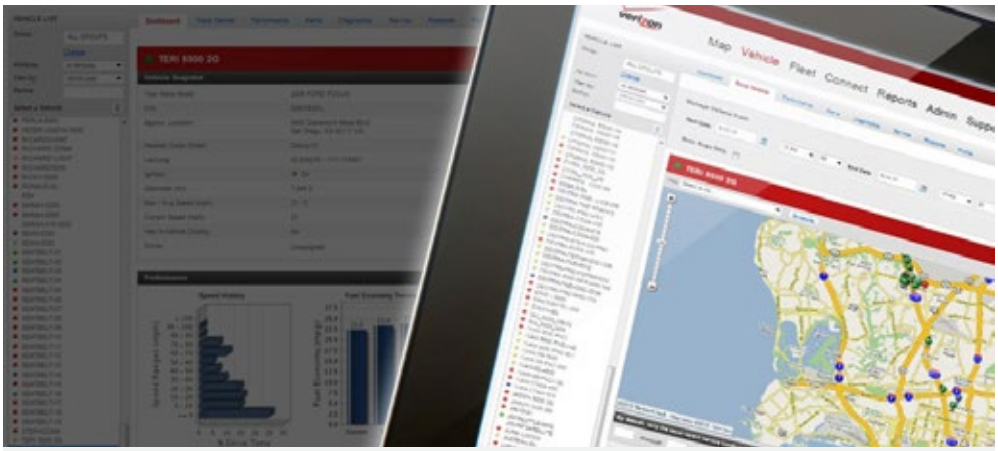
THE CO_2 REDUCED IS EQUIVALENT TO THE ANNUAL GREENHOUSE GAS EMISSIONS FROM **APPROXIMATELY 3 MILLION CARS**

We consider this a conservative estimate. Our hypothesis is that our services enable a significantly higher level of CO_2 reduction. We are encouraged by the results of this initial assessment and we intend to refine our data gathering process and improve our reporting in the future.

As a practical example of how our services are reducing CO_2 emissions and solving environmental challenges, our telematics product — ***Networkfleet*** — has proven to significantly improve operating efficiency for fleet operations. (See examples below.)

Information gathered from vehicles via Networkfleet includes idle time, speeds, stops and starts, stop count and duration, fuel usage, carbon emissions and fault codes. The data is then transmitted wirelessly to desktops, notebooks or smartphones.

Armed with such data, fleet managers can streamline routing, promote fuel-efficient — and safe — driving practices, improve vehicle maintenance, avoid breakdowns and track metrics.



Networkfleet Success Stories

- ***The City of Ventura***, CA, achieved the city's goal of reducing overall fuel use by 10 percent.
- ***Campbell Oil*** was able to increase its on-time deliveries, improve driver safety and save significantly on fuel costs.
- ***Roto-Rooter*** franchisee Hoffman Southwest recovered stolen vehicles, increased revenue through saved labor, reduced vehicle emissions and increased service calls.

>300
COMPANIES NOW PARTICIPATING IN THE VERIZON INNOVATION PROGRAM

VERIZON INNOVATION PROGRAM

The Verizon Innovation Program — based at our Innovation Centers in Boston and San Francisco — serves as an incubator for new, nontraditional connected solutions that leverage our 4G LTE network.

The roster of companies participating in the program continues to grow, with 65 products now commercially available in the marketplace. Several of the participating firms have commercialized products that directly align with our larger mission to positively impact the environment.

- ***BigBelly Solar*** delivers a line of smart trash and recycling receptacles that leverage Verizon connectivity to improve the often inefficient process of waste collection. The smart bins, which use renewable solar energy and machine-to-machine interfaces, reduced operating costs by as much as 80 percent, enabling the firm to establish the first, widespread public space recycling programs in Philadelphia, New York and Boston.

› BigBelly Solar trash compactors help municipalities reduce costs and track waste and recycling through wireless technology.

- ***ThinkEco*** worked with Verizon to advance development of its cloud-based, smart AC platform, which uses a combination of connected hardware and machine-to-machine software to manage central air conditioners and dehumidifiers. The platform enables electricity conservation on a massive scale. A rollout of ThinkEco last summer in New York City achieved a 22 percent reduction in energy usage from air conditioning units.

SUSTAINABILITY & THE ENVIRONMENT

Energy reduction and waste management represent our two largest environmental impacts and are the principal focus areas for our environmental management program. We have set goals in each area to help drive our performance.

LONG-TERM SUSTAINABILITY GOALS

GOAL	STATUS
Reduce carbon intensity by 50% by 2020 (2009 baseline).	We are currently finalizing our 2013 carbon intensity metric and we will post our results soon.
Expand the Verizon Green Team to 15,000 members by the end of 2014.	13,602 members at year-end 2013.
Collect more than 2 million pounds of e-waste by the end of 2015 (2010 baseline).	Nearly 1.5 million pounds of e-waste collected since 2010.
Recycle 90 million pounds of Verizon assets between 2014-2016.	New for 2013.
Gain EPA's ENERGY STAR certification for all eligible retail stores by 2013.	Certification awarded to 141 retail stores at year-end 2013.
Earn LEED* status for 225 retail stores by the end of 2015.	172 retail stores had earned LEED status at year-end 2013.
Increase our device recycling rate to 33% by 2015.**	Achieved a 31% device recycling rate by year-end 2013. New goal: 35% by the end of 2015.
Modify all Verizon-branded accessory packaging to only use content that is recycled or comes from responsible sources.^	Complete.
Devote 40% of our supplier spending to firms that measure and set targets to reduce GHG emissions by 2015.	Complete. New goal: 55% by the end of 2015.
Implement 10MW of green energy by 2014.	Complete. Implemented 12.4MW at year-end 2013. New target: 20MW online by year-end 2014.

* The Leadership in Energy and Environmental Design (LEED) program of the U.S. Green Building Council. LEED certification indicates a building was designed, constructed and operated to ensure energy savings, water efficiency, and diversion of construction waste among other qualitative and quantitative measures.

**The 33 percent includes handsets collected via trade-in, HopeLine as well as Extended Warranty, Non-Extended Warranty (CLNR devices) and Total Equipment Coverage / Wireless Phone Protection plans.

^Paper that has post-consumer content of at least 30 percent recycled material or certified virgin fiber that comes from responsible sources such as the Forest Stewardship Council or Sustainable Forestry Initiative.

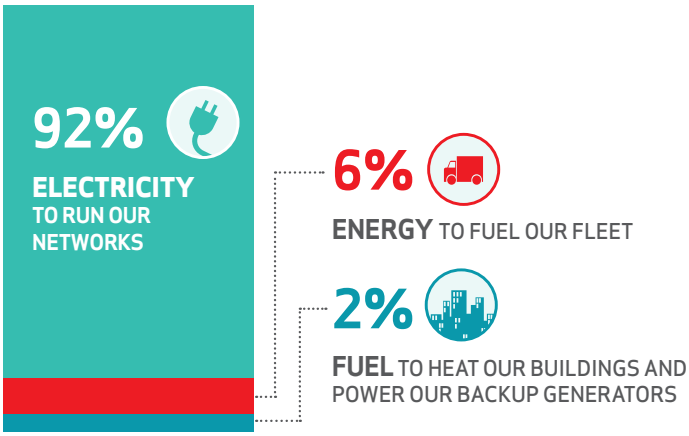
For more than a decade, we have focused on improving our overall energy efficiency.

PROCESSES: FOCUSING ON ENERGY REDUCTION

It takes a lot of energy to power our wireline and wireless communications networks around the globe — more than 10 billion kWh of electricity annually. In fact, with over 46,000 cell sites, 120 million square feet of real estate and 200 data centers, carbon emissions associated with our energy use represent our principal environmental impact. That's why for more than a decade, we have focused on improving our overall energy efficiency to reduce both our costs and our environmental footprint.

The electricity to run our networks represents our largest energy category, accounting for more than 92 percent of our carbon emissions in 2013. The carbon associated with the energy to fuel our fleet represents the second-largest category at approximately 6 percent in 2013. The fuel to heat our buildings and run our backup generators accounted for approximately 2 percent of our emissions in 2013.

Carbon Emissions 2013



>89 MILLION kWh
OF ELECTRICITY WILL BE GENERATED IN YEAR ONE BY OUR SOLAR AND FUEL CELL ENERGY PROJECT

Green Energy Initiatives

We have long been focused on network energy efficiency. In 2009, we set energy efficiency standards for network equipment that continue to enable our suppliers to deliver equipment that is consistently more energy efficient than the equipment it replaces.

In 2013, we announced an investment of more than $100 million in a solar and fuel cell energy project that will help power Verizon facilities across the country. By year-end, we implemented 12.4MW of solar and fuel cells, with another 2.6MW near completion, surpassing our goal to implement 10MW. In total, the systems are expected to produce more than 89 million kWh of electricity in year one to power our critical data centers, central offices, and office buildings across six states. This effort will also eliminate more than 10,000 metric tons of carbon dioxide — enough to offset the annual CO_2 emissions from more than 1 million gallons of gas.

Additionally, Verizon expanded our partnership with the National Renewable Energy

Laboratory to test whether combinations of solar, wind, battery and generator systems can be efficiently deployed at remote cell sites.

Six cell sites were identified for review, bringing our total to 12 (six were selected in 2012). All of the sites are far away from the utility power grid and currently use propane generators as the source of power. Initial findings are impressive, promising significant savings in fuel, operating costs and CO_2 emissions. At one location a hybrid power system configuration could power the cell site with up to 89 percent renewable energy.

"Verizon is a source of inspiration for other retailers who are looking to improve building performance, reduce cost, improve comfort, and optimize operations."

—Rick Fedrizzi, President, CEO, Founding Chair U.S. Green Building Council

Building Operations

In our building operations, pursuit of ENERGY STAR and LEED certification has helped us to significantly reduce energy usage. As of year-end 2013, Verizon had 141 certified ENERGY STAR retail stores and 172 LEED certified retail stores.

We are also incorporating green strategies into our data center operations. In 2013, the savings in six of our domestic data centers totaled 10.8 million kWh and 21.6 million gallons of water. The electricity savings were achieved by installing solar panels, improving air handling and fan operations, upgrading chiller units and installing lighting controls and LED lighting. The water savings were achieved through various water treatment and condenser upgrades.

Our Network Operations group completed "smart building technology" projects at 35 central offices in 2013 (34 domestic and one international) using Vigilent energy management systems. The projects accounted for 35 million kWh of annualized energy savings.

In 2013, we modified our generators at more than 26,000 cell sites to be ready to start when needed at a lower temperature, reducing the amount of electricity required and reducing CO_2 emissions by more than 42 million metric tons. The installation of HVAC economizers on select cell sites increased the use of outside air to cool the buildings, which reduced CO_2 emissions by approximately 8.9 million metric tons.

› Solar panels installed at Verizon facilities in Billerica, MA.

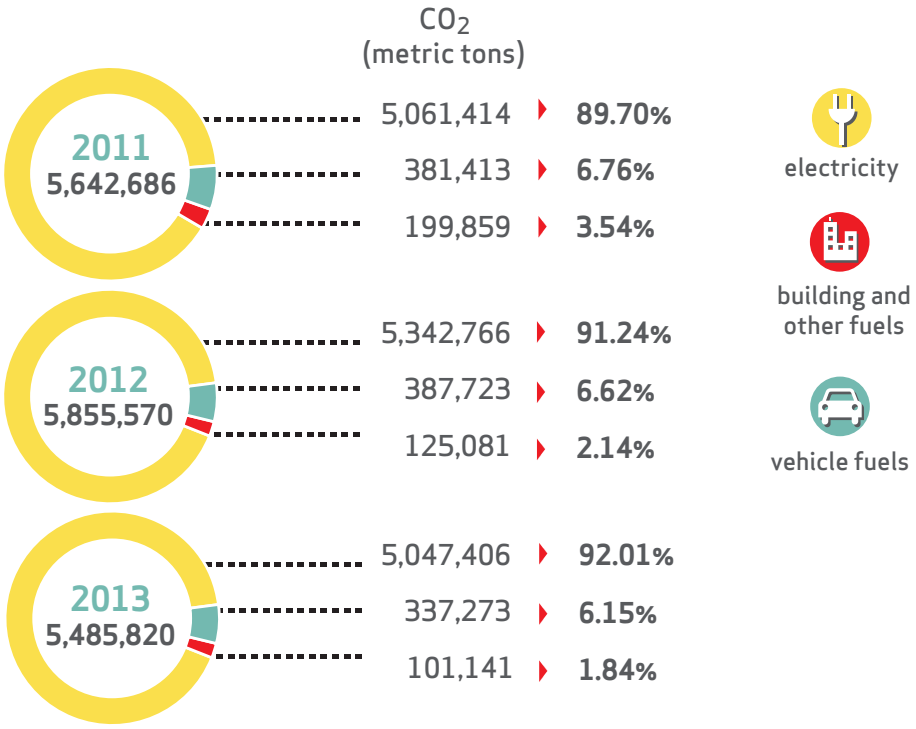
Making Our Buildings Greener

- Since Verizon started certifying retail stores in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program in 2009, 172 of our stores have earned LEED certification.
- LEED Certification indicates a building was designed, constructed, and is operated to ensure energy savings, emissions reduction, improved indoor environmental quality and effective stewardship of resources.
- Verizon was also named as an *ENERGY STAR Partner of the Year in 2013* — the first and only wireless company to win this award.

Carbon Intensity

All of our energy efficiency strategies support our ultimate goal of cutting our carbon intensity — carbon emissions produced per terabyte of data flowing through our networks — in half by 2020 over the 2009 baseline. We are currently finalizing our 2013 carbon intensity metric and we will post our results soon.

VERIZON'S CO_2 EMISSIONS PROFILE:



EMISSIONS BY SCOPE				
	2011	2012	2013	YOY Change
Scope 1	581,272	512,804	438,414	(14.5%)
Scope 2	5,061,414	5,342,766	5,047,406	(5.5%)
Total Scope 1 & 2	**5,642,686**	**5,855,570**	**5,485,820**	**(6.3%)**
Scope 3	n/a	54,172	57,213	5.6%

See page 57 for an explanation of our carbon emissions accounting methodology.

Independent Assurance Report from Ernst & Young

We believe that independent assurance enhances credibility and therefore contributes to building trust with our stakeholders.

We engaged Ernst & Young to perform an independent review of our 2013 greenhouse gas emissions reporting (Scope 1, 2 and business travel). Ernst & Young completed a limited assurance engagement, in accordance with industry standards, and nothing came to their attention that would lead them to believe that our data presentation is not accurate or complete, in all material respects.
Read Ernst & Young's assurance report.

COMPANY VEHICLES HAVE BEEN EQUIPPED WITH NETWORKFLEET TELEMATICS

Fleet Operations

Verizon has implemented our Networkfleet telematics product in approximately 18,000 company vehicles. Networkfleet allows us to optimize fuel consumption, monitor for mechanical issues, and provide customized, just-in-time maintenance. Improved fleet performance not only reduces costly mechanical issues, but it also decreases fuel consumption and associated carbon emissions. Monitoring also allows us to configure the fleet so that the right number of vehicles are in the right place at the right time, reducing idling and therefore, emissions. Additionally, in 2013, we replaced approximately 1,000 full-size service vehicles with smaller mini-vans that achieve greater fuel economy than the vehicles they replaced.

ALTERNATIVE VEHICLE PROFILE

	2011	2012	2013
Biofuel	730	435	**0***
CNG	514	514	**516**
Electric	10	10	**10**
Hybrid	1,303	1,267	**1,270**
SmartWay Logistics	12	12	**12**
Total Green Vehicles	2,569	2,238	**1,808**

* Verizon's fleet still includes large numbers of E85 and Biodiesel capable vehicles, but biofuel is not part of our strategy going forward.

MANAGING WASTE

We also understand that our products represent a significant component of our environmental footprint. While we do not manufacture the devices we sell, we work with our suppliers to encourage greener designs and to offer responsible reuse and recycling options for customers when they look to switch out devices.

Device Recycling

Our ***device recycling program*** allows retail customers to trade-in phones, tablets and other wireless devices — regardless of carrier, or when or where they were purchased — at our stores or online for a Verizon gift card that they can use toward a purchase or to pay their bill. Business customers can recycle their devices for an account credit by contacting their Verizon ***business sales representative***.

35%
OUR DEVICE RECYCLING GOAL BY THE END OF 2015

800 TONS
E-WASTE WE'VE KEPT OUT OF THE LANDFILL SINCE 2010

Changes in Verizon-Branded Accessory Packaging

We have placed a significant focus on reducing the packaging associated with cell phone accessories — chargers, batteries, ear phones, etc. In 2013, Verizon switched our packaging for Verizon-branded accessories to materials sourced from post-consumer waste sources.

Network Equipment Recycling

Our internal recycling programs focus on the proper disposition of old network equipment, lead acid batteries and office paper and cardboard, all to reduce the landfilling of material and to turn our waste into raw materials for other processes.

Curbing eWaste

Our goal is to recycle 2 million pounds of e-waste by 2015 via our public Recycling Rallies, which expand the impact of our recycling beyond our operations into communities. Since 2010, nearly 1.5 million pounds of e-waste have been collected.

HopeLine Recycling

Our ***HopeLine*** program, which turns no-longer-used cell phones into lifelines of support for domestic violence victims and survivors, has also delivered significant recycling benefits.

Since 2011:

2.9 MILLION PHONES HAVE BEEN COLLECTED THROUGH OUR STORES AND OTHER POINTS NATIONWIDE

>2 MILLION PHONES HAVE BEEN DISPOSED OF IN AN ENVIRONMENTALLY SOUND WAY

$11.3 MILLION HAS BEEN COLLECTED IN CASH GRANTS FOR DOMESTIC VIOLENCE ORGANIZATIONS ACROSS THE COUNTRY

Recycled Paper Program

Verizon has long used post-consumer recycled papers in our direct mailings to consumers. In 2013, the use of these products resulted in annual savings of more than 115 metric tons of greenhouse gases and more than 455 tons of wood.

OUR LONG-STANDING SMART PRINT INITIATIVE HAD ANOTHER BANNER YEAR — SAVING VERIZON ALMOST $9 MILLION AND REDUCING PAPER USAGE EQUIVALENT TO NEARLY

28,500 TREES

Greener Cafeterias

In 2013, we began an internal certification process to Green Certify our cafeterias based on four criteria: reusable mug programs, waste tracking, recycling programs and fryer oil recycling.

VERIZON RECYCLING, 2013	
	WEIGHT (LBS.)
Lead acid batteries	8.35 million
Other batteries*	.34 million
Telecom equipment	32.46 million
Paper and cardboard	55.46 million
Total	**96.61 million**

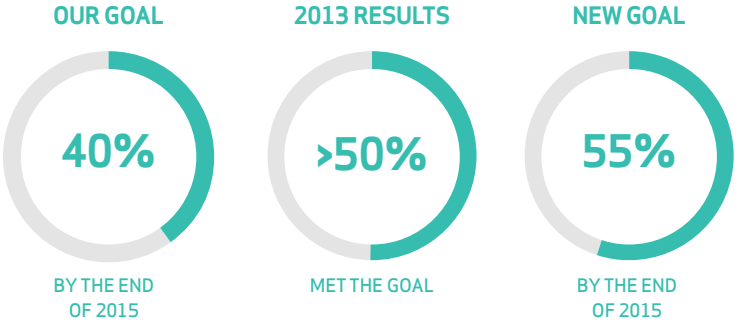
* Alkaline, nickel cadmium, nickel iron, nickel metal hydride, carbon zinc, zinc air, lithium ion, lithium metal and magnesium.

ENGAGING OUR SUPPLIERS

Our commitment to sustainability extends throughout our supply chain.

Since 2011, we have conducted an annual Supplier Sustainability Assessment to evaluate our suppliers' sustainability strategy, greenhouse gas (CO_2) emissions, solid waste management, water use and management, packaging practices, and sustainability in subcontracting.

We established a goal that, by the end of 2015, 40 percent of our supplier spending would be with firms that measure and set public targets to reduce CO_2 emissions.



PEOPLE: ENGAGING EMPLOYEES AND THE COMMUNITY

- Verizon held 43 recycling events across the country in 2013, encouraging employees and their neighbors to bring in no-longer-used electronics gear, phones, and supplies. More than 360,000 pounds of material (equivalent to 522 metric tons of CO_2 offset) was collected from more than 4,800 participants. Approximately 1,000 phones were collected for HopeLine and more than 200 boxes of supplies were donated to local charities.

ALMOST
13,500
EMPLOYEES ARE NOW MEMBERS OF THE VERIZON GREEN TEAM — REPRESENTING 26 COUNTRIES

- Almost 13,500 employees representing 26 countries are now members of the Verizon Green Team. Team members implemented numerous energy efficiency programs at their work locations, including leading community recycling events at 18 locations across the U.S. on America Recycles Day.
- Employee team-building exercises now have a green angle. Several of our employee groups have taken up "Go Green Racing", a team-building project that involves building and racing a solar-powered car from a kit. The cars that have been built to date — along with new car kits — have been donated to local schools to incorporate into their science curriculum. Those schools are Patrick Healy Middle School in East Orange, NJ; the Bronx Academy of Promise in New York; and Long Branch Middle School in Long Branch, NJ.
- Verizon was the first Super Bowl sponsor focused on sustainability. As part of our commitment, we worked with the Super Bowl XLVIII Host Committee and the NFL to plant more than 27,000 trees and shrubs across all New York City boroughs and nine counties in New Jersey. We also hosted two Super Bowl e-waste recycling rallies collecting more than 8,000 pounds of equipment.

Environmental Notices

In 2013, Verizon received 74 notices regarding compliance issues with state and local environmental regulations. Most were for recordkeeping or other minor issues and did not affect the environment. All notices have been or are in the process of being resolved.

Shop with the Environment in Mind

We're committed to responsible business practices including identifying key environmental information for our devices.

Our ***ECO Specs*** label went into effect last year on a selection of our cell phones. Customers can spot key environmental information at a glance — energy efficiency, percentage of recycled content in the Verizon-branded accessory packaging, percentage of recycled content in the device, compliance with our standards on hazardous toxins in the plastics and batteries, and compliance on our standards for the recyclability of the device and its components.

Our ECO Specs label will eventually be included on all cell phones, tablets and accessories.

GHG EMISSIONS REPORTING STANDARDS

The purpose of this section is to provide additional information regarding our carbon emissions accounting methodology. Verizon uses generally accepted accounting standards for tracking and reporting our greenhouse gas inventory. We report our emissions based on a calendar year for all sources of emissions.

We define our Scope 1 and Scope 2 emissions reporting in accordance with *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.*

- Scope 1 – all direct sources of emissions owned or controlled by Verizon, with the main categories being fuel to power our fleet, to heat our buildings and to power our backup generators
- Scope 2 – indirect emissions sources generated off-site, but purchased by Verizon. The main category is electricity to power our networks and data centers, plus a small amount of steam and heat purchased to heat our buildings.

In addition we reference the following standards:

- U.S. Environmental Protection Agency (EPA) 2008 Climate Leaders Greenhouse Gas Reporting Protocol: Direct Emissions from Stationary Combustion Sources, Direct Emissions from Mobile Combustion Sources and Indirect Emissions from Purchases/Sales of Electricity and Steam
- The Climate Registry 2008 General Reporting Protocol Version 1.1: Section 13.2 Calculating CH4 and N2O Emissions from Mobile Combustion

For Scope 3 emissions we utilize *The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.*

- Scope 3 – Verizon reports employee business travel by air and rail

SOURCES OF EMISSIONS FACTORS

We utilize the following emissions factors:

U.S. ELECTRICITY

- U.S. EPA 2009 Emissions and Generation Resource Integrated Database (eGRID) (released May 10, 2012)

INTERNATIONAL ELECTRICITY

- U.K. – U.K. Department for Environment, Food & Rural Affairs (DEFRA) 2012 greenhouse gas conversion factors for company reporting (released 2013)
- Base Carbone Greenhouse Gas Emissions Factors (France), 2013
- For all other international sites – International Energy Agency (IEA) 2013 CO_2 Emissions from Fuel Combustion Highlights Report, "CO_2 emissions per kWh from electricity generation" Table (released 2013)

NATURAL GAS

- U.S. CO_2, N2O and CH4 Emission Factors U.S. EPA 2013 Revisions to the Greenhouse Gas Reporting Rule: 40 CFR Part 98 Subpart C, Tables C-1 and C-2 (released November 29, 2013)
- Australia CO_2, N2O and CH4 Emission Factors – Australian National Greenhouse Gas Accounts Factors (released July 2013)
- France CO_2, N2O and CH4 Emission Factors – Base Carbone Greenhouse Gas Emissions Factors (France), 2013

FUELS

- Diesel, Gasoline, Gas, Kerosene, Propane, CNG - CO_2 Emission Factors, U.S. EPA 2013 Revisions to the Greenhouse Gas Reporting Rule: 40 CFR Part 98 Subpart C, Tables C-1 and C-2 (released November 29, 2013)
- B05, B20, E85 and Jet Fuel A CO_2 Emission Factors, U.S. Energy Information Agency (EIA) Voluntary Reporting of Greenhouse Gases Form EIA-1605, Appendix H: Fuel Emissions Factors (released April 2011)
- Mobile Fuels CH4 and N2O Emission Factors – The Climate Registry: General Reporting Protocol : Tips for Estimating a Mobile Fleet's CH4 and N20 Emissions (August 2009)

STEAM

- U.S. Energy Information Agency (EIA) Voluntary Reporting of Greenhouse Gases Form EIA-1605, Appendix N: Emission Factors for Steam and Chilled/Hot Water (released November 18, 2010)

BUSINESS AIR AND RAIL TRAVEL

- U.K. Department for Environment, Food & Rural Affairs (DEFRA) 2012 greenhouse gas conversion factors for company reporting (released 2013)

DATA COLLECTION AND ESTIMATIONS

100 percent of our energy usage data is not available for us to meet our March reporting deadline. Actual usage data is available to calculate 94 percent of our emissions profile. For the remaining 6 percent, we employ two estimation processes:

1. Electricity usage for facilities without actual metered reading or utility bills we estimate based on the U.S. EPA 2008 Climate Leaders Greenhouse Gas Reporting Protocol: Indirect Emissions from Purchases/Sales of Electricity and Steam.

2. For electricity and natural gas usage where full December data is not available, we utilize a five-year rolling average for the percent of annual emissions data that December represents. We estimate only the additional emissions not directly accounted for based on our reporting deadline.