



# Green Enterprise



## Strategy

Facilitating the greenness of ICT industry (Green of ICT) and greenness of the society overall through ICT (Green by ICT)

## Management

Use EARTH system to manage environment data

## Action

- Management of key energies
- Energy saving policy

## Response

Vector-borne disease at manholes

## Target

Short-term

The increased use of energy for supporting business growth is contained at 2%

Mid- and Long-term

Incremental procurement of green product with green products and services

## Indicator

**GRI** Energy consumed 5,119,776 GJ

**GRI** Energy intensity 22.09 (GJ/Millions Revenue)

**GRI** GHG emission 834,745.37 t-CO<sub>2</sub>e



## Environmental Sustainability Management

Although telecommunication is regarded as polluted industry, Chungwa Telecom is well aware of the environmental impacts associated with energy, resources, waste, maintenance, purchasing and other aspects of our operation.

To realize our commitment as a green enterprise, we have devised our “Environmental Sustainability 5-year Plan (2016~2020)” in 2015 that outlines our overall strategy and roadmap for sustainable development. In addition, budgets will be provided in each year to support action plans.

Follow environmental regulations and promote self-regulated environmentalism

Develop green product and promote green economy

Improve energy efficiency to implement energy conservation and carbon reduction



Enhance ecological environment and construct green buildings

Use green energy and employ green purchase

Apply recycle and waste reduction to build a sustainable environment

# Environmental Sustainability Strategy

Chunghwa Telecom’s environmental sustainability strategies in the next five years will incorporate three main focuses: “Green enterprise,” “Green sustainability,” and “Green innovation.”



**Green Enterprise**

- Green consumption
- Green service
- Green activities

**Green Sustainability**

- Greenhouse gas inventory
- Renewable energy

**Green Innovation**

- Green supply chain
- Internet of things

**Ideals**

Incorporate the idea of reducing, recycling and reusing (the 3Rs) into green consumption, green service, and green activities to minimize the amount of waste produced while maximize environmental benefits	Support the government’s environmental protection and energy regulations/ policies; pay constant attention to issues such as climate change, renewable energy, international supervision etc., and adjust green sustainability strategy at times deemed appropriate	Apply current advantages in environmental protection and energy conservation onto existing products and services; accept business and environmental sustainability as our next competitive focus and opportunity
--	---	--

**Short-term Goals**

Reduce power usage effectiveness (PUE) of new IDC to less than <b>1.5</b>	Maintain power usage within $\pm 2\%$ despite significant increase in business activities	Save power by <b>1%</b> at the telecommunication server and IDC
---	---	---

**Medium-term Goals**

Maintain at least <b>5%</b> of green purchase	Control increases in power usage	Achieve <b>1%</b> annual revenue growth on green products/services
---	----------------------------------	--

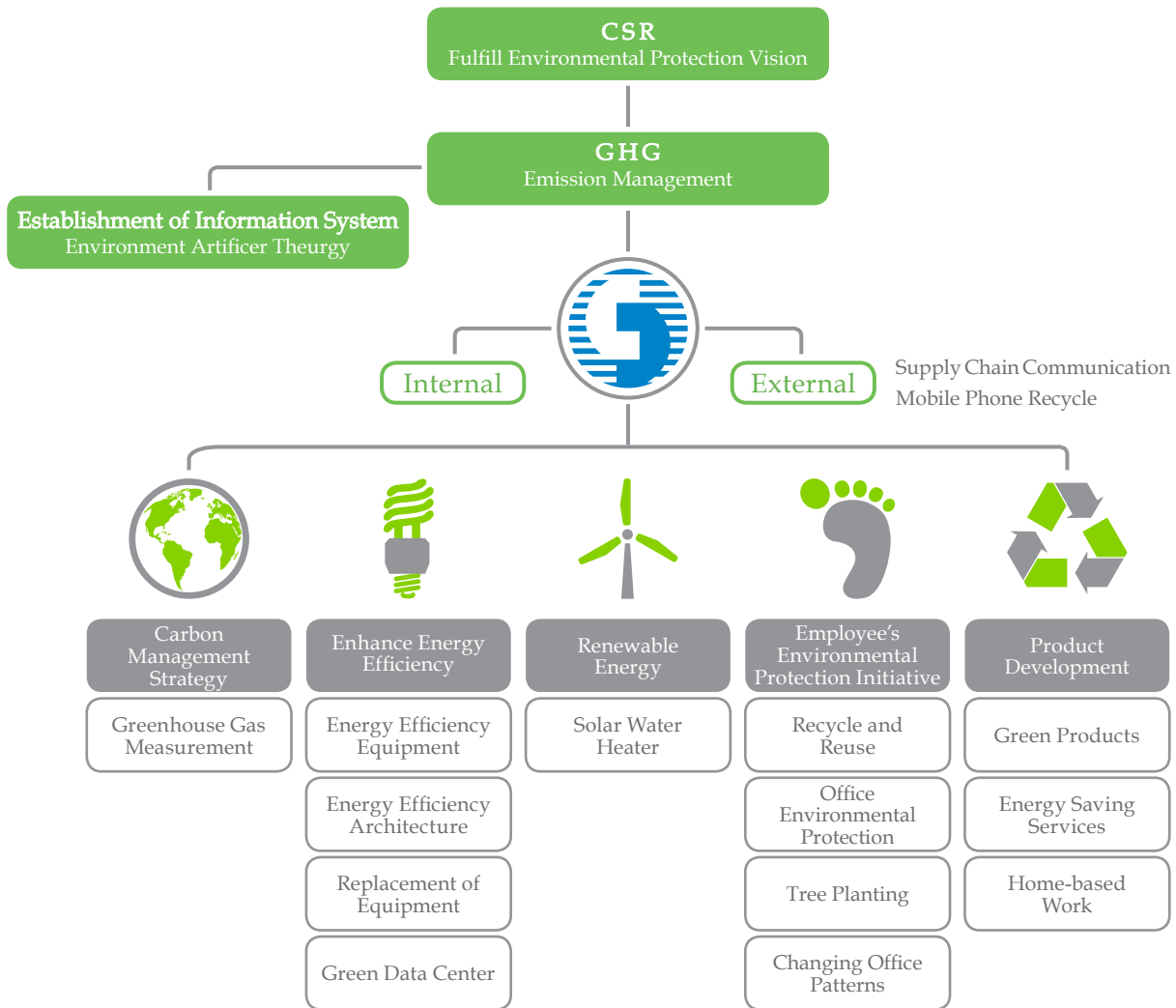
**Long-term Goals**

Make more than <b>5%</b> of purchases from green supply chain	Create a photovoltaic system and increase the percentage of renewable energy supplies to more than <b>5%</b>	Grow green products/services to account for <b>20%</b> of total revenues
---	--	--



## Environmental Sustainability Roadmap

To fulfill our commitment towards “environmental protection,” we have created an “Environmental Sustainability Team” under the “CSR Committee” that specializes in determining short, medium and long-term goals. The team exists to make sure that issues such as energy conservation, carbon reduction and environmental protection are addressed in the operational plans, and to set codes of conduct, manuals, standards and targets with respect to green energy and greenhouse gas.



### 100% ISO 14001 Certification in All Service Locations

“100% of Chunghwa Telecom’s revenue is derived from offices that have obtained environmental management system certification.” All the major branch offices including Southern Taiwan Business Group, Mobile Business Group, Northern Taiwan Business Group, Data Communications Business Group, International Business Group, Chunghwa Telecom Laboratories and Telecom Training Institute have obtained environmental management system certification.

In terms of energy management, we are is the first telecommunication company among local peers to fully implement ISO 50001 - Energy Management System. The Data Communications Business Group was the first to obtain certification in 2011, and was followed by Chunghwa Telecom Laboratories in 2012, Mobile Business Group in 2013, and International Business Group, Northern Taiwan Business Group (Taoyuan Office) and Southern Taiwan Business Group (Kaohsiung Office) in 2014.

## Green Initiative in Full Swing

Although Chunghwa Telecom is an ICT service provider and not a manufacturer, we still pay great attention to how our products and services affect the environment, and are constantly exploring new solutions that are friendly to the environment. For detailed description of green products, please refer to page 45 of the report.

### Environment Artificer Theurgy

To manage resources and environmental protection in a more efficient manner, we developed Environment Artificer Theurgy (EARTH) system in 2008 to save the spending on energy consumption and enhance environment management efficiency. EARTH system features:

	<b>Energy Saving and Innovation</b> Departmental uploading of energy saving and innovation initiative to encourage employees to learn from each other.
	<b>Performance Evaluation</b> Performance evaluation is conducted systematically to encourage employees to contribute to environmental sustainability actions.
	<b>Power Management</b> Request centralized payment of electricity bill; currently there are more than 56,709 electricity number and 2.28 million electricity payment data under management.
	<b>Water Management</b> Request centralized payment of electricity bill; currently there are more than 1,265 electricity number and 78,863 electricity payment data under management.
	<b>Carbon Emission Management</b> Provide carbon verification form, the results showed that largely enhanced as 300 men-day operations.
	<b>Fuel Management</b> Analyzed the fuel data of hybrid vehicles and ordinary vehicles, to reach energy efficiency and carbon reduction
	<b>Corporate Tree Planting</b> Document type, number, management department and location of trees. Currently there are over 66,591 trees data saved in EARTH database.
	<b>Recycling Management</b> Document type, number and management department of recycling objects. We have recorded 22 recycling types and 14,607,614 entries

	2013	2014	2015
<b>Green procurement amount</b> (NT\$ million)	2,087	1,522	1,525
Accounted percentage of turnover	5.73 %	4.37 %	6.55 %
-----			
<b>Environmental management expense</b> (NT\$ thousand)	269,881	181,365	275,975
Accounted percentage of turnover	0.12 %	0.08 %	0.13 %

### Participation in GreenTouch

We have joined formal membership in GreenTouch Consortium, and we continued supporting technology document formulation and case study; besides, to contribute toward ICT field and CSR, we continued sharing our energy saving findings in GreenTouch conference, IEEE ICC12 conference, etc.



## Risk and Opportunity for Climate Change

Chunghwa Telecom has set our goals to becoming a sustainable “Green enterprise,” and thus incorporates environmental issues as part of business operation and management. We hope to play a more proactive role in issues such as energy and climate change. By improving energy efficiency and exploring environmental friendly products and services, we are confident of our potential to inspire a new generation of low-carbon industries.

### Effective Control of Greenhouse Gas Emission

The responding strategy of climate change issues and a company’s long term business positioning is closely related. In order to reduce climate related cost and risk in value chain and evaluate the result of voluntary carbon reduction measures, Chunghwa Telecom initiated “Greenhouse Gas Inventory” in 2008.

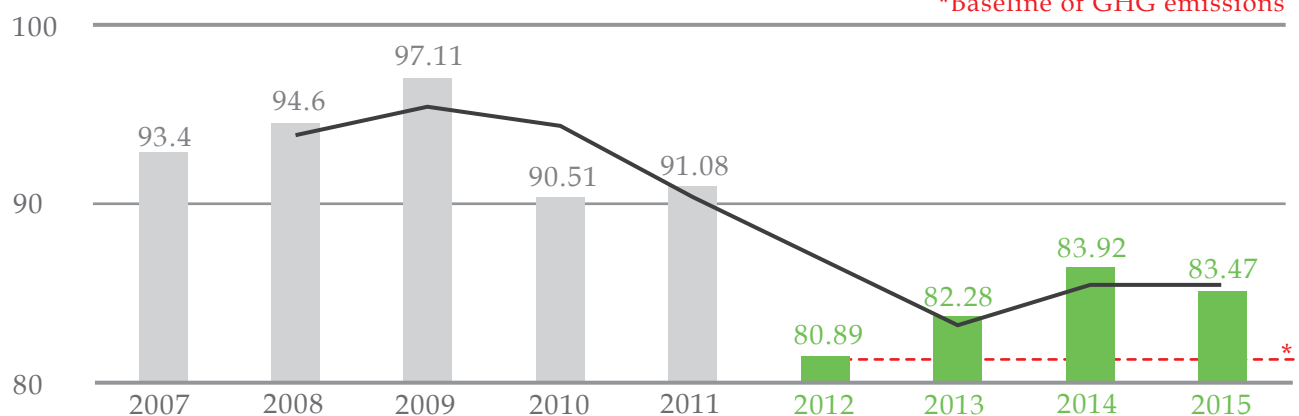
Chunghwa Telecom’s initial carbon management goals were to “reduce greenhouse gas emission to 2007 levels by 2012,” which it had achieved ahead of schedule in 2011 due to proper control.

Assuming an annual growth of 2% for 4G and mobile communication services, the Company will inevitably be required to install additional communication equipment, which consume more power and emit more greenhouse gases. In view of this development, we have revised and set a new greenhouse gas target in 2013, which is to:

Benchmarking 2012 GHG emission standard, control the annual growth of GHG emission to no more than 2%.

#### Greenhouse gas emission

unit on the vertical axis: 10,000t-CO<sub>2</sub>e  
\*Baseline of GHG emissions



The total greenhouse gas emission is 834,745.37 t-CO<sub>2</sub>e in 2015, including CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>. As a comprehensive telecom carrier, the major energy source consumed by Chunghwa Telecom is electricity, which is classified as Scope II (purchased electricity) gas emission and accounted for 96.9% of total gas emission. Scope 1 gas emission is normally sourced from general greenhouse gas emission such as offices and accounted for 3.1% of total gas emission.

unit: t-CO <sub>2</sub> e	2013	2014	2015
Direct GHG Emission (Scope 1)	24,519.2	24,036.0	26,994.3
Indirect GHG Emission (Scope 2)	798,272.3	815,138.8	807,750.98
Total GHG Emission (Scope1+Scope2)	822,791.5	839,174.8	834,745.37
Emission Intensity (t-CO <sub>2</sub> e/NT\$ million)	3.6	3.7	3.6
Coverage of Revenue	100%	100%	100%

Note: GHG inventories and certification accords with ISO 14064-1 standard, and the value of Global warming potential is referred to IPCC Fourth Assessment Report (2007). All the data are certified by SGS-Taiwan.

## Green Transportation for Green Living

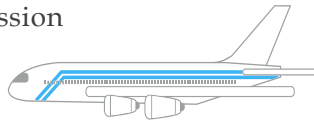
Chunghwa Telecom supports green transportation as part of green living. For public interests, we sponsored NT\$1.85 million to the creation of YouBike station at the corner of Xinyi Road and Hangzhou South Road. Our sponsorship to the 50 YouBike parking lots not only provides citizens with greater convenience, but also conveys the importance of protecting the environment and encourages employees to support green and low-carbon transports.

Chunghwa Telecom has also discussion in 2013 about carbon footprints associated with employees' business travels, given the issue's increasing popularity around the world. Boundaries have been set at "Scope 3," as specified by World Business Council for Sustainable Development (WBCSD), while emission was calculated based on mileage.

The Company's scope 3 emission in 2015 was 263,495 kg-CO<sub>2</sub>e. Emission from employees' business travels was calculated based on the two main forms of transportation: high speed rail and airplane. On a long-term perspective, the Company is planning to include consumers' impacts into scope 3 calculation so that the greenhouse gas inventory system may produce a more complete picture.

Air transport (aircraft) GHG Emission

98,842.7 kg-CO<sub>2</sub>e



Land transport (high Speed rail) GHG Emission

164,652 kg-CO<sub>2</sub>e



Total GHG Emission

263,495 kg-CO<sub>2</sub>e





# Power Management

Benchmarking 2012 electricity usage standard, control the annual growth of electricity usage to no more than 2%.

Growing demand for telecom services has forced us to install additional equipment, which makes it rather difficult to control increases in the use of power. Nevertheless, we pursue different measures from the energy saving in our own buildings as the starting point. Owing to a series of effective controls, we were able to reduce power consumption by 282 million kWh (27.87%) by the end of 2015, reducing greenhouse gas emission by 14,172 t-CO<sub>2</sub>e compared to 2007. This effective control of power usage was achieved through a combination of enhanced environmental sustainability management system and closer monitoring of telecommunication equipment power usage.

Driven by our care towards environmental sustainability and support for the government's renewable energy initiatives, Chunghwa Telecom purchased 2 million kWh of green power in 2015, making us the nation's fifth largest procurer. We will continue our support in 2016, and help realize a cleaner future through action.



本區域使用綠電  
100萬度以上  
104年  
經濟部能源局

## Electricity Consumption Analysis

unit: 10,000 kWh

	2007	2012	2013	2014	2015
Total Electricity Consumption(A)	135,180	139,272	142,580	142,216	142,092
General Consumption(B)	9,420	8,912	8,835	8,873	8,571
Business Consumption-Meter Rate Lighting Service(C)	125,151	124,166	127,023	126,128	125,740
Business Consumption-Flat Rate Lighting Service(D)	609	6,194	6,722	7,215	7,781
Business Consumption Increment(E)	NA	1,977	3,385	-402	178
Business Consumption Increment Rate(F)	NA	1.42%	2.37%	-0.28%	0.13%

- Note1: General consumption includes office buildings and employee dormitories.
- Note2: Business consumption includes base stations, depot, electric welding, and public telephone, which are not CHT-owned property.
- Note3: A=B+C+D, General consumption mainly includes the power consumption from office building. Business consumption increment includes flat and meter rate lighting service.
- Note4: E=Business consumption this year - Business consumption last year, F=E/A

This table presents electricity consumption with customer ID, other consumption without customer ID is covered by Greenhouse Gas Inventory.

## Annually Report to Carbon Disclosure Project

Carbon Disclosure Project (CDP) was raised by international corporation investors, and they started to invite companies to reply CDP questionnaire since 2003, in order to understand how enterprises face and deal with carbon issue.




In response to the concerns of the international institutional investors over the information on carbon and reduction of Chunghwa Telecom, Chunghwa Telecom adopted the world café mode, which is the only telecommunication service provider of Taiwan that has participated in CPD for several years consecutively. Personnel in different functions were invited to a cross-function/level study for positive response to CDP questionnaire. Further to the positive feedback from the questionnaire that show the areas dictated for corrective action, this also helps us to set up an objective for carbon reduction. Indeed, this is the vital function beyond the answers of carbon reduction in the questionnaire.



## Energy Saving for Data Center

Chunghwa Telecom places great emphasis on the energy efficiency of our data centers, and is currently implementing energy conservation measures on telecommunication data centers (including IDCs). The Ankang Data Center, for example, obtained its green certification in 2013, while the new IDC located in Banqiao is also expected to attain its green building certification in 2016. All future data centers will be featuring our proprietary iEN smart energy management system, which is our scientific approach towards reducing energy, carbon and thereby protecting the environment.

### Energy Saving Measures for the Data Center

 <p>Air-conditioning Improvement</p>	<ul style="list-style-type: none"> <li>• Change air speed, remove vent pipe, or disable small air-conditioner to be compatible with new equipment.</li> <li>• Use high sensible heat engine when replacing air-conditioner in annual replacement plan.</li> <li>• Isolate air-conditioning area of air-conditioner placement to avoid unnecessary air-conditioning usage.</li> <li>• Install temperature controllers on cooling water towers and water pumps.</li> <li>• Promote applications of outdoor air systems for the data center, which largely reduce electricity usage in spring, autumn and winter.</li> </ul>
 <p>Energy Management</p>	<ul style="list-style-type: none"> <li>• Monitor air-conditioning temperature, designate personnel to maintain adequate temperature in different areas.</li> <li>• Increase data center's temperature by 1°C after one year monitoring.</li> <li>• Unload cooling water tower in accordance with water outlet temperature.</li> <li>• Use ventilation for low loading mobile base station, telecom office and power distribution equipment.</li> <li>• Introduce renewable energy system such as solar power generation system.</li> </ul>
 <p>Equipment Consolidation</p>	<ul style="list-style-type: none"> <li>• Cut off disabled equipment and replace bad energy-consumption equipment after the consolidation of mobile base station, digital switching equipment, transmission equipment, broadband equipment and power supply equipment.</li> <li>• Consolidate equipment and isolate unused space to reduce energy consumption.</li> </ul>

### Electricity Consumption of IDCs

Year	2011	2012	2013	2014	2015
Power usage (10,000 kWh)	13,040	13,794	14,620	14,700	14,539

With regards to renewable energy sources, the Company currently has 213.8kWp of photovoltaic capacity, and plans to develop wind power with a capacity of 26.6kWp for use in multiple data centers.

The Banqiao IDC uses small amounts of solar energy, given its space layout and construction cost. Apart from that, solar energy is used mostly in remote areas, small IDCs, and telecom data centers in combination with ordinary power supply. Solar power and wind power are currently unsuitable for telecommunication applications due to concerns with system design and space layout. However, the Company will consider using renewable energy source for large IDC projects in the future.



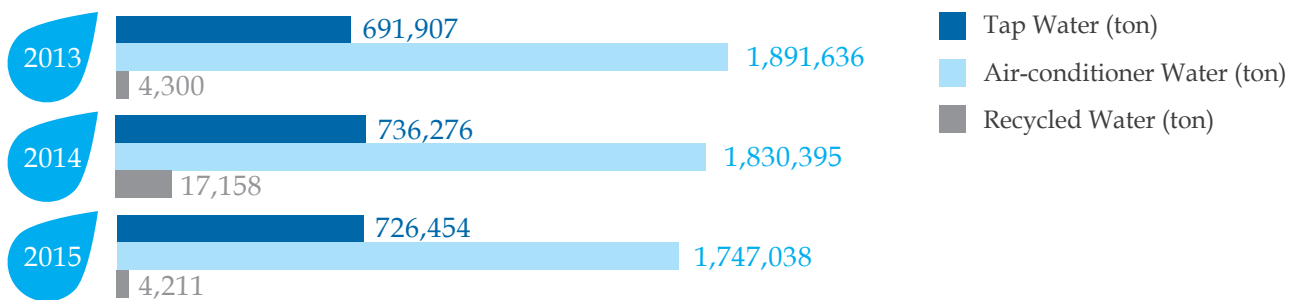


## Water Resources Management

G4-22

Water usage at Chunghwa Telecom is mostly for domestic purpose. Apart from bathroom use, air conditioner cooling accounts for another major water use. Given the ongoing increase in business activities and manpower, there is limited room for water reduction besides recovery of rainwater and cooling water.

We have identified water resources as part of our management focus, and introduced a number of initiatives to improve water efficiency, such as: water conservation measures, centralized water bill management, and water-saving goals. Apart from adding a new water leakage detection feature, we have also incorporated water usage monitoring into our environmental sustainability system. Data collected from these two functions is analyzed and managed. Other conservation measures such as recycling and reuse of rainwater and domestic effluents are also being implemented on an on-going basis.



Note: We reclassified and recalculated domestic water and air conditioning water in 2014 for more accurate presentation and more effective control of water resources. The amount of water recycled in 2015 had reduced significantly due to severe drought, which was believed to have been caused by climate change.

### The Plan and Objective of Water Resources Management

Currently, Chunghwa Telecom's annual business growth is 2%, we therefore benchmarking 2012 water usage standard, control the annual growth of water usage to no more than 2% and promote water saving measures accordingly, including:

- Install sink faucet sprayer to reduce water waste.
- Replace toilet with dual-flush toilet to reduce flushing water.
- Limited use of office water supply from 8am to 6pm.
- Recycle rainwater for office plants watering.
- Contact maintenance personnel immediately once water supply equipment is damaged to prevent water waste.
- Encourage the installation of water reclamation equipment in new buildings, so that the treated sewage water can be reused for non-potable and physical separated use after reaching certain water quality standard.

### Recycling of Water Resources

Started from 2007, Chunghwa Telecom initiated water conservation measures by including water resources management into EARTH system, while registering centralized water bill payment through EARTH's "water bill management" function to reduce printing of water bills. Through the information interface, managers can search, generate trend charts and report forms, provide exception reports to avoid mistakes in billing and meter reading. Managers can also review the situation of water use, reduce expenses in water, and improve efficiency of management.

We have scheduled a five-year plan to enhance the effectiveness of water recycling and reusing. In the plan, we are expected to establish underground raft foundation water collection system to collect clean rainwater from rooftop and ground. Meanwhile, we also initiated recycle of cool-condensed water project for office air-conditioner.

# Waste Management G4-22

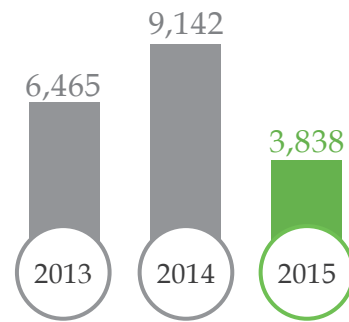
Understanding the importance of resources reduction, recycle and reuse, Chunghwa Telecom combined our five-year environmental sustainability development plan and EARTH system to manage the use of resources and control energy efficiency, while conducting systematic management on recycled and waste treatment as well as encouraging cell phone recycling in all branch offices, a total of 6,170 cell phones were recycled in 2015.

## Daily Waste Treatment

Chunghwa Telecom designated professional waste treatment company to transport our daily waste to landfills or incinerator for necessary treatment. For recyclable waste, the contracting cleaning company is designated for the classification and disposal treatment.

Note: The amount of domestic waste had reduced significantly because of reclassification following a system upgrade, and because of intensive enforcement of substance recycling and reuse in 2015.

Weight of Daily Waste  
(unit: ton)



## Industrial Waste

The scrapped lead-acid battery is a recyclable industrial waste regulated by the EPA. To reduce pollution the recycling and disposal operations are outsourced by joint contract based public auction. The contractor must be a qualified service provider listed on the website of the Recycling Fund Management Board of the EPA to ensure legitimate management and disposal.

All the lead-acid batteries scrapped by each business unit are auctioned on site and proper documents for their disposal are filed for audit tracking. There were 32,311 scrapped lead-acid batteries, sold about NT\$25,678 thousand with a total weight of 1,592,945 kg disposed in 2015. The public and private waste clearance and disposal organizations recognized by environmental institution is designated to handle the treatment of other industrial waste such as cable and hardware miscellaneous.

Type of Waste	Unit	2013	2014	2015
Plastic-filled Cable	Ton	803	427	256
Ordinary Cable	Ton	3,917	1,851	1,534
Hardware Miscellaneous	Ton	3,250	1,781	699
Battery	PC	26,436	24,868	18,151
Treatment Cost	NT\$ thousand	263,129	191,617	265,455



## Targeting on Green Enterprise

As a localized telecom carrier, facilitator of community development and important partner of international telecom carrier, we strive to become green enterprise. Following the development of technology, telecom carrier is no longer as traditional as it used to be, while incorporating Corporate Social Responsibility (CSR) into the development and application of product and service, business management strategy is integrated with CSR.

### Green Environmental Hostel

Chunghwa Telecom Hostels provide accommodation for employees business or leisure travel. In response to environmental protection and personal hygiene, the hostels do not provide disposal consumption goods and towel, and implement energy saving measures such as solar water heater, air conditioning heat pump and LED lightings. Environmental friendly and tidiness has become the employees' favorite travel accommodation. 7 hostels had been certified as Environmental Friendly Accommodation in 2015.

In response to Hotel Carbon Measurement Initiative (HCMI 1.0) formulated by World Travel & Tourism Council (WTTC) and International Tourism Partnership (ITP), we introduced "carbon footprint calculator of hotel rooms" in Siziwan hostel, along with the combination of iEN system to manage the use of facilities and electricity in the hostel and construct comprehensive power monitor and room management model, so as to reach maximum energy and water saving efficiency.

### Greenhouse Gas Emission of Siziwan Hostel

	2013	2014	2015
Revenue (NT\$ million)	9.1	9.5	9.4
Carbon Emission (ton)	61,300	64,527	57,443
Electricity Usage (kWh)	117,433	123,853	110,256
Energy Intensity (t-CO <sub>2</sub> /NT\$ thousand)	0.01	0.01	0.01

### Merger of Electronic Bills

Since 2001, we have been combining customers' bills and mailing multiple bills of the same address in one envelope, which not only makes filing easier for customers but also helps protect the environment.

The Company introduced electronic bills in 2005, saving 410 million sheets of paper each year and was estimated to have saved 37,847 trees, as 7,494 tons of carbon by the end of 2015. It was a good example of how the Company had satisfied customers' needs while at the same time contribute to the mitigation of global warming.

### The Energy Saving Effect of Using Electronic Bills and Combined Bills

	2013	2014	2015
Ratio of Customers Applying for Combined Bills	88%	88%	88%
Ratio of Customers Applying for e-Bills	17%	18%	18%
Quantity of Paper Saved (1,000 sheets)	412,755	415,765	416,318
Reduction of Carbon Emission Volume (ton)	7,429	7,484	7,494

Note 1: The basis of calculation in 2014 is different from 2013. From that year onward, the calculation is based on the quantity of paper saved and reduction of carbon emission after using e-Bills and combined bills.

Note 2: Each electronic or combined bills saves 2.5 sheets of A4 paper on printing and envelope. Total amount of paper saved: 13,877,270 records \* 12 months \* 2.5 = 416,318.

Note 3: One sheet of A4 paper generates 18 grams of CO<sub>2</sub>; the amount of carbon emission reduced: 416,318 sheets \* 18 grams CO<sub>2</sub> = 7,493,724,000 grams CO<sub>2</sub>.

## The Most Environmental Friendly IDC in Greater China Region

The Banqiao IDC (Internet Data Center) scheduled to be completed in 2016 will be the first world-class IDC in Taiwan and in the entire Greater China Region to conform with “Rated 4.” It will undoubtedly provide consumers with improved user experience and speed up the development of Taiwan’s cloud computing industry.

### Environmental Features of the Banqiao IDC

- Incorporates Chunghwa Telecom’s proprietary iEN smart energy management system for automatic environmental monitoring
- Energy efficiency is measured using “The Green Grid” standards, and is targeted to achieve high energy efficiency of PUE 1.5 and below
- Rated LEED Gold and obtained Green Building and Smart Building certification in Taiwan.

We have also been actively assisting real estate developers in their construction of green buildings such as the residential complex name “Guangdian” in Banqiao. In the future, we hope to apply more of our energy-saving services and products onto old buildings, and make them smart and green in conformity with the new trend.



## Environmental Information Disclosure

- Implement annual greenhouse gas inventory. Obtain ISO14064 verification and certification.
- Respond to the annual Carbon Disclosure Project (CDP) questionnaire.
- Respond to environmentally related issues in the annual Dow Jones Sustainability Index (DJSI) questionnaire.
- Respond to the Common Wealth Magazine and Global View Magazine questionnaires.
- Publish the CSR report: Provide environmentally related data.

## Improve Energy Use Efficiency

- Integrate datacenters : Merge and exploit datacenter space.
- Add iEN to buildings : Incorporate iEN Intelligent Energy Saving System into new datacenter construction. In 2015, we have saved the consumption of electric power by approximately 26.6 million kWh or NT\$113 million in cost, which is equivalent to the reduction of carbon dioxide reduction of about 13.9 thousand tons.
- Save cooling energy : Had completed energy saving inverter module of 5,791 HP, high sensible heat air conditioner of 30,023 RT, 7,029 high efficiency air conditioners, 2,278 RT ventilation air conditioner and 476 natural ventilation air conditioners in the end of 2015.
- Green building and hostels : Use green materials for newly constructed datacenters or buildings.
- Solar water heaters : Install solar water heaters in Telecommunications hostels.
- Water resource recycling : Set up rainwater, underground, and condensed cooling water recycling systems.
- Environmentally friendly LED bulbs: Internal office building trial plan.



## Environmental Education Mingled with Operation Activities

Chunghwa Telecom hopes to deliver the concept of “Everyone bears his/her share of responsibility of environmental issues, corporation bears responsibility for the sustainable operation.” to our employees, who then shall understand the close correlation between extreme weather and personal environmental gestures, and incorporating product life cycle into product design; in the hopes of marking environmental sustainability as the Company’s green culture on the basis of energy saving, resources reduction and waste reduction.

We offer each employee with 4 hours of environmental education training each year, host ecological tours and participate in the Taiwan Energy Conservation Patrol initiated by Epson Technology and other corporations. This focuses on increasing energy efficiency within corporate operations and production processes to achieve the objectives of carbon reduction and to mitigate global warming.

	2013		2014		2015	
	Session	Participant	Session	Participant	Session	Participant
Environmental Education	3	254	9	399	6	336
Ecological Tour	69	16,093	79	14,984	140	14,853
Corporate Volunteer Exchange	15	27	8	17	21	24



### Implement Green Energy

- Photovoltaic system: a total capacity of 213.8kWp in the end of 2015.
- Wind power: a total capacity of 26.6kW in 2015.
- Voluntarily supported MOEA’s green energy trial program by purchasing 2 million kWh of green power in 2015, making us the nation’s fifth largest procurer.

### Autonomous Environmental Protection

- Vehicle energy conservation and carbon reduction: Replace old vehicles with environmentally friendly, and use electric vehicles for trial.
- Green transportation: sponsored NT\$1.85 million for the construction of Youbike station at the corner of Xinyi Road and Hangzhou South Road.
- Clean homes, energy saving office, health management system, car-free days, and paperless ODAS.
- Taiwan Energy Conservation Patrol: Focus on increasing energy efficiency within small and medium enterprises and social vulnerable institutions.
- Industrial waste recycling: Set waste reduction and recycling goals.

### Value-added Products and Services

- Electronic billing: Features environmental protection, promote with marketing section.
- Electronic invoice: Invoice data were treated for cloud storage permanently for saving of materials, human resources, and the preferential taxation treatment as incentive and exemption from fines by the government.
- Promote iEN and other energy-saving categories.
- Mobile device recycling: Recycle bins are available at service centers in line with the promotion of waste recycling.
- Assist suppliers in applying for product eco-labels.