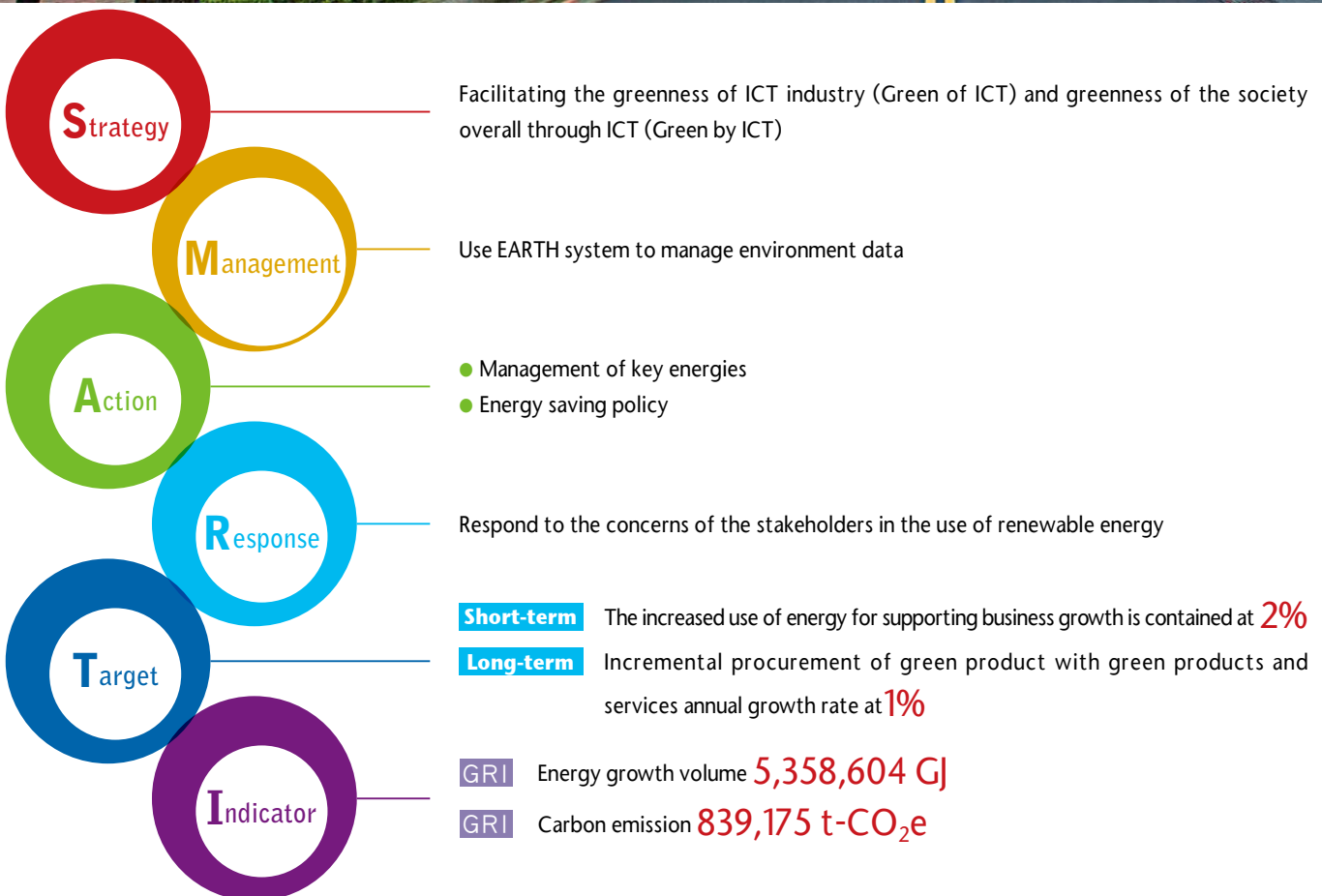


Create a Green Enterprise





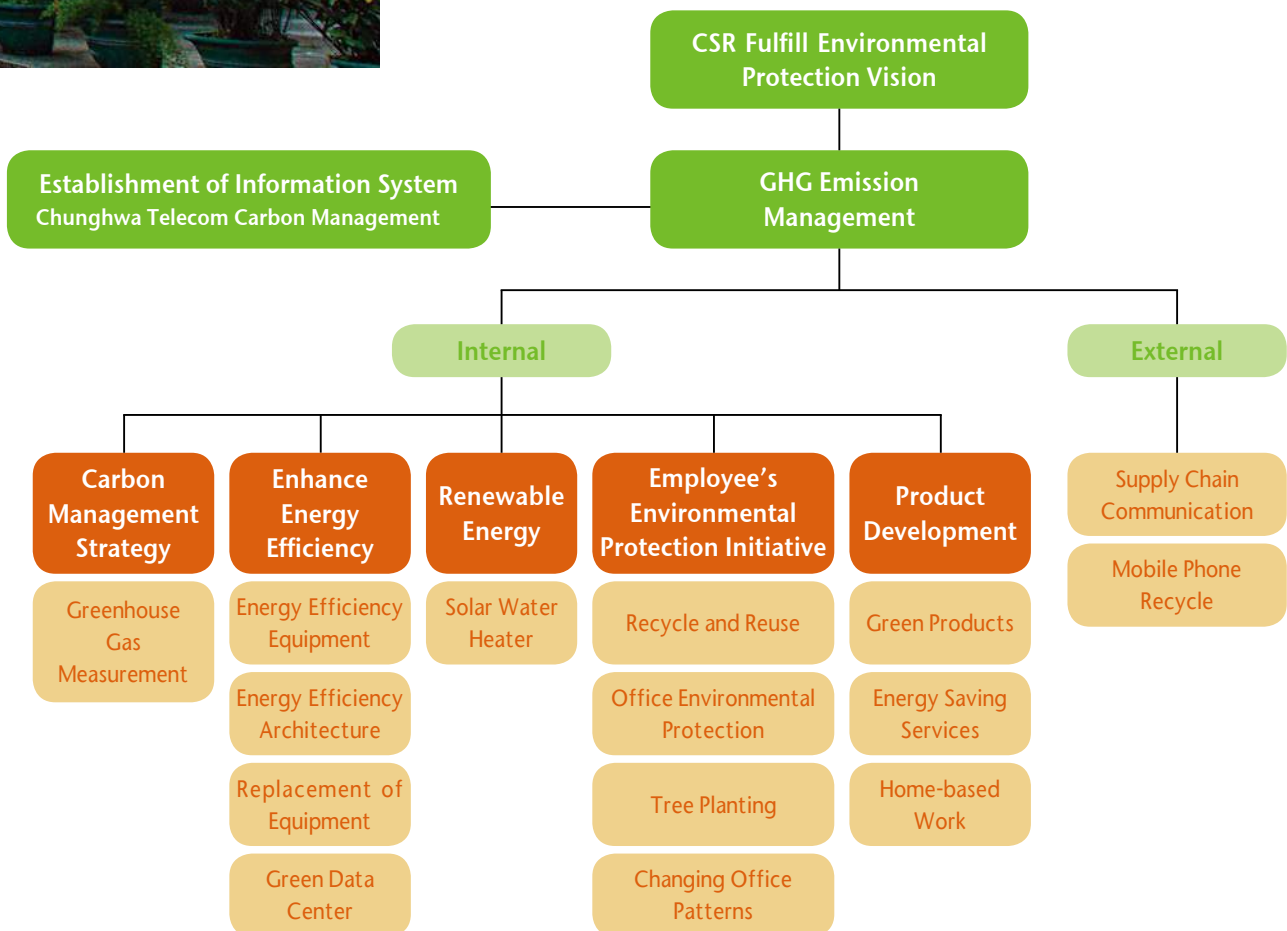
Risks and Opportunities Deriving from Climate Change

As a leading telecom carrier in Taiwan and the “big neighbor” of the society, Chunghwa Telecom aims growth and sustainable development while incorporating environmental issues into business operation and management. As a devoting member of the society, we strive to offer environmental friendly and energy efficient product and service, in hope to make positive contribution on energy and climate change issues, thereby leading the development of the next generation low carbon industry.

Floods, storms, earthquakes and droughts caused by climate change have endangered people’s wellbeing and sustainable business operation. Chunghwa Telecom is committed to alleviating global climate change issues, providing low carbon services by lowering environmental footprint of its operations and helping society and industry to achieve energy conservation and carbon reduction.

Furthermore, facilitating the greenness of ICT industry (Green of ICT) and greenness of the society overall through ICT (Green by ICT) is regarded as an important strategy when implementing environmental sustainability initiative.

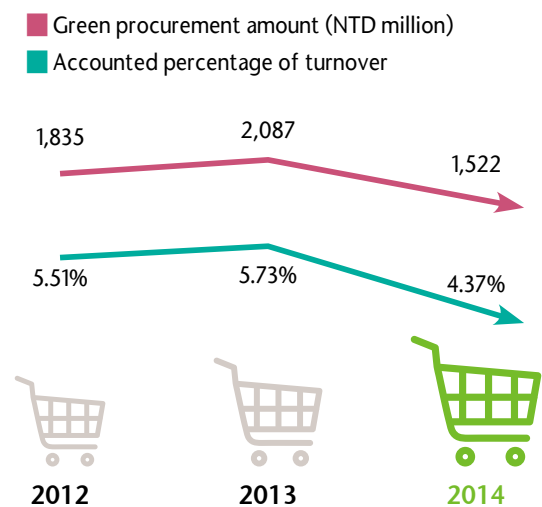
Chunghwa Telecom’s Carbon Strategy



Green Initiative in Full Swing

As an ICT service provider instead of a manufacturer, Chunghwa Telecom stresses how its product and service affect the environment, while developing and offering environmental friendly products and services. Its effort has won a number of environmental certification and awards for its products and services. Please refer to page 44-46 of this report for details of products.

- The "EARTH system" won the "EPIF" International Green Classics Award.
- Won the 23rd Environmental Protection Enterprise Bronze Award.
- Chunghwa Telecom Hostels were accredited as environmental friendly hotel and in green living.
- Chunghwa Telecom's "LED light bulb" received BSMI certification from Bureau of Standards, Metrology & Inspection.
- 9 divisions and 1 green store of Chunghwa Telecom awarded "Outstanding Performance in Green Procurement and Promotion of green consumption" by the Environmental Protection Administration. Chunghwa Telecom has also participated in the "Private Enterprises and Group Green Procurement" scheme with 6 divisions awarded. The Northern Business Division of CHT won the championship of "Outstanding Performance in Green Procurement" with outstanding performance.



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.



Environmental Sustainability Management

To achieve green enterprise commitment, respond to energy and climate change and stay on top of green opportunities through product and service development, Chunghwa Telecom planned “Sustainable Environment Development Strategy and Objective, a five-year plan (2011-2015)” and “five-year energy conservation and carbon reduction plan for telecom data center (2012~2016)” in accordance with issues of “environmental protection, energy conservation and carbon reduction, green product service and green procurement”, and budgeted annually to promote the initiatives.

Environmental Sustainability Policy

- Follow environmental regulations and promote self-regulated environmentalism
- Improve energy efficiency to implement energy conservation and carbon reduction
- Use green energy and employ green purchase
- Develop green product and promote green economy
- Enhance ecological environment and green buildings
- Apply recycle and waste reduction to build a sustainable environment



Telecommunication is an industry of low pollution. Yet, Chunghwa Telecom realizes that the energy and resources, management of dumps, power supply to air-conditioning in the process, base station installation, and the monitoring of electromagnetic waves, water and sound pollution in the operation process, and related procurements may affect the environment. Positive action for the protection of the environment could be taken only by understanding the impact on the ecological environment possibly derived from the operation process of telecommunication service so as to develop a viable management procedure and the idea of environmental protection.

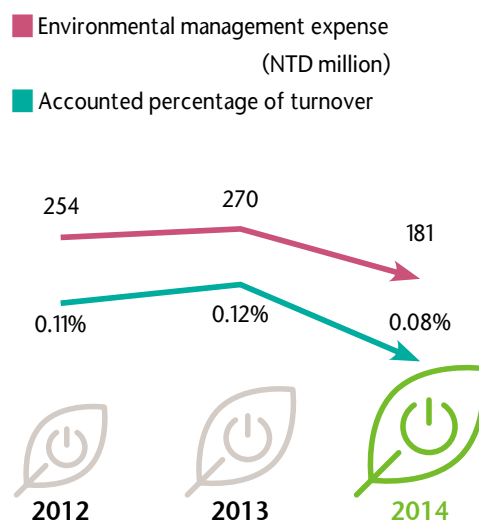
All Branch Offices Have Completed Certification of ISO14001

All the major branch offices including Southern branch, mobile communication branch, northern branch, digital communication branch, international branch, Chunghwa Telecom Laboratories and Telecommunication Training Institute have obtained environmental management system certification. In other words, 100% of Chunghwa Telecom’s revenue is derived from offices that have obtained environmental management system certification.

ISO50001 Energy Management System Certification

ISO50001 energy management system certification provides corporations with process and structure to enhance energy efficiency without affecting current operation, while supplementing PDCA (Plan-Do-Check-Action) mechanism to improve energy efficiency and achieve corporate sustainability management.

Digital branch and the research institute have obtained certification in 2011 and 2012 respectively, offices governed by mobile communication branch including operation offices of Taipei, Taichung and Kaohsiung, data center and base station also obtained certification in 2013. In 2014, CHT Global, CHT Northern Business Group Taoyuan Business Office, and CHT Southern Business Group Kaohsiung Business Office were accredited as well.



Organization for Sustainable Environment Management

For the performance of the “Fulfillment of Environmental Protection in concrete terms, the “CSR Committee” of Chunghwa Telecom has established a designated team for managing sustainability of environmental protection, the “Sustainable Environmental Development Team”. This team is responsible for the design of the development objective from short to long run with substantive action plans in energy saving and carbon reduction, and the inclusion of environmental protection issues into the operation plan.

We also strengthen communications throughout the organization and with suppliers at the upper and lower stream for joint action in the pursuit of the energy saving related policy. It is echoed with the voluntary actions of the employees in environmental protection. The Company has built up a network of low carbon life within the scope of operation with the best of its effort.

Environment Artificer Theurgy

To manage resources and environmental protection in a more efficient manner, we developed Environment Artificer Theurgy (EARTH) system in 2008 to manage in-house electricity, water management, water resources, lighting equipment, recycling and tree planting.

Environment Artificer Theurgy has been officially launched to commercial running in 2012 as the corporate management system for carbon reduction so as to provide energy saving evaluation and professional diagnosis and analysis. Enterprises can directly introduce this service without installing or changing any equipment for energy and environmental resources management. This can effectively help the enterprises to save the spending on energy consumption, enhance environment management efficiency, and show the result of the enterprises in the pursuit of various environmental protection policies. EARTH system features:

Energy Saving and Innovation	Departmental uploading of energy saving and innovation initiative to encourage employees to learn from each other.
Performance Evaluation	Performance evaluation is conducted systematically to encourage employees to contribute to environmental sustainability actions.
Power Management	<ul style="list-style-type: none"> ● Request centralized payment of electricity bill; currently there are more than 55,829 electricity number and 2 million electricity payment data under management. ● Replace TaiPower’s paper bill with electronic bill notification to reduce administrative effort. ● Provide electricity summary and analysis to enhance power management efficiency.
Water Management	<ul style="list-style-type: none"> ● Request centralized payment of electricity bill; currently there are more than 1,258 electricity number and 72,304 electricity payment data under management. ● Document type, method, management department and location of recycling of water resources. ● Provide electricity summary and analysis to enhance power management efficiency.
Carbon Emission Management	In response to the material and regulatory risk of carbon emission, EARTH provides carbon verification form to facilitate our carbon measurement and promote carbon reduction measures, thereby reduce operational risk and enhance corporate benchmark image. The results showed that ISO14064-1 carbon verification efficiency is largely enhanced as 300 men-day operations, traveling expense and carbon emission from transportation is saved.
Fuel Management	To reach energy efficiency and carbon reduction, we also increased fuel management in 2013, in which we incorporated the information of daily gasoline and diesel and analyzed the fuel data of hybrid vehicles and ordinary vehicles.
Corporate Tree Planting	Document type, number, management department and location of trees. Manage 250 types of trees planted in Chunghwa Telecom Park, including over 67,982 trees data saved in EARTH database.
Recycling Management	Document type, number and management department of recycling objects. We have recorded 22 recycling types and 14,171,396 entries

Water Resources Management

Chunghwa Telecom’s water use is sourced from ordinary tap water. In addition to daily use of water, water is utilized to cool air conditioner. Water reduction has become an even harder task with the growth of business and increase of manpower. In this regard, our water control relies heavily on recycling of rainwater and cooling water. For water resources management plan, we have scheduled specific management objective such as promotion of relevant water saving measures supplemented by centralized water management and introduction of water resources, in the hopes of enhancing the efficiency of water usage.

Water Usage Management Performance

Unit: ton

Item	2012	2013	2014
Tap Water	657,779	691,907	736,276
Air-conditioner Water	1,849,328	1,891,636	1,830,395
Recycled Water	5,636	4,300	17,158

* From 2014 onwards, Chunghwa Telecom started to reinforce ERATH system, and thereby adjusted the classification of water consumption to make the ratio more precise. This helps to control water resources more effectively.

In addition to incorporating leaking detection function into products, we also include water use into EARTH to manage and analyze using information, while continuously promoting water saving measures such as recycle and reuse of rainwater and wastewater.

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 1% 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 8:00AM to 18:00PM.
- Insist water conservation principle to prevent water waste.
- 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.

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.

The total of 10,842 square meters of ecological pond were established by each governed institution respectively. By beautifying 10,000 square meters of abandoned agricultural reservoir and conducting upstream wastewater treatment, Chunghwa Telecom Laboratories has maintained water resources in an effective manner, and created a natural ecological lake.

GHG Emission Management

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 to carry out on-site verification on major emission sources such as telecom equipment, vehicle fuel and motorcycle fuel. A total of 500 manpower efforts were contributed and 2 months were spent to complete the project.

Comprehensive Greenhouse Gas Measurement

With the Company overall covered in the scope of measurement control, we are proud to have the most comprehensive Greenhouse Gas Inventory in the industry. Under the guidance of "Greenhouse Gas Inventory Promotion Team, we will conduct group-wide "Greenhouse Gas Inventory" annually. The Executive Vice President convened "Greenhouse Gas Inventory Promotion Team" which covering northern branch, southern branch, mobile communication branch, corporate consumer branch, international telecom branch, digital communication branch, Chunghwa Telecom Laboratories and Telecommunication Training Institute to conduct Greenhouse Gas Inventory operation.

Initially, our carbon management objective was "reducing greenhouse gas emission to the standard that was acceptable in 2007 by 2012", our effort has largely reduced the greenhouse gas emission and the target was met in 2011. Owing to the requirement of increasing mobile communication facilities to respond to the expected 2% annual growth of 4G and mobile communication business volume, greenhouse gas emission is expected to rise. We proposed a new greenhouse gas management objective in 2013. It is:



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

The total greenhouse gas emission is 839,174.8 t-CO₂e in 2014, including CO₂, CH₄, N₂O, HFCs, PFCs and SF₆. 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 97.14% of total gas emission. Scope 1 gas emission is normally sourced from general greenhouse gas emission such offices and accounted for 2.86% of total gas emission.

Unit: t-CO₂e

Item	2012	2013	2014
Direct GHG Emission(Scope 1)	22,489.1	24,519.2	24,036.0
Energy Indirect GHG Emission (Scope 2)	786,472.2	798,272.3	815,138.8
Total GHG Emission (Scope 1+Scope 2)	808,961.3	822,791.5	839,174.8
Emission Intensity- Emission/Revenue (t-CO ₂ e/NTD million)	3.7	3.6	3.7
Coverage of Revenue	100%	100%	100%

* GHG inventories and certification are followed 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.

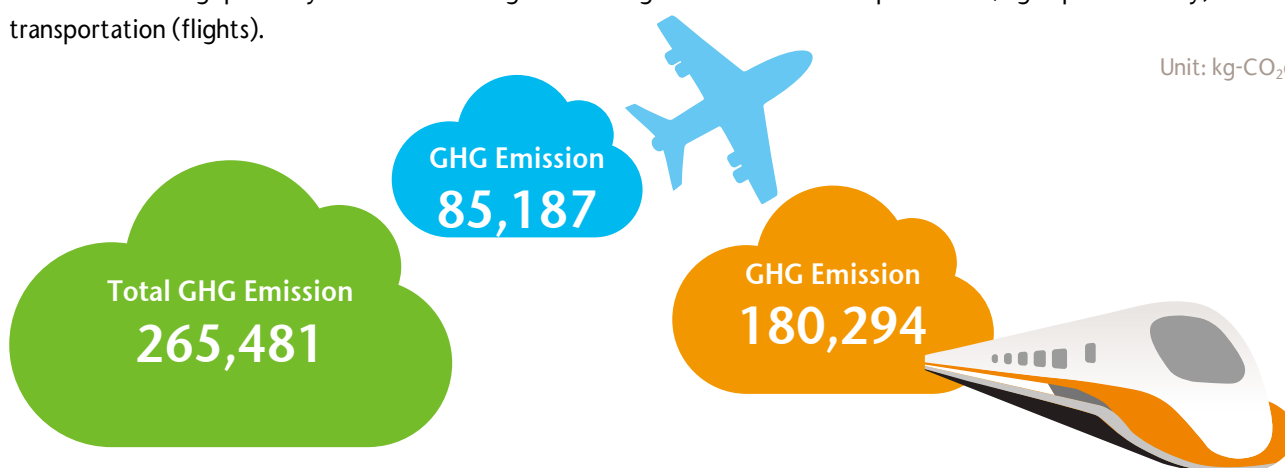
Analysis of Growth of Greenhouse Gas Emission

The rising of greenhouse gas emission in 2014 was due to the introduction of next-generation communication facilities to meet the growth of telecom demand and resulted higher electricity usage.

Debut of the Scope 3 Inventory in 2014

Chunghwa Telecom spares no effort in creating a green living environment and encourages all employees to take public means of transportation with the aim of incremental expansion of energy saving and carbon reduction into the daily lives of the employees. In supporting the international inspection of the trend of GHG emission from commuting, Chunghwa Telecom started to discuss the issue of GHG emission volume from employee business traveling. According to the standard of "Scope 3" established by WBCSD, the limit for inventory of the mileage has set. In 2014, the total emission volume in Scope 3 was 265,481 kgCO₂e in the calculation of the means of transportations for employee business travelling: primarily the emission of greenhouse gases from land transportation (high speed railway) and air transportation (flights).

Unit: kg-CO₂e



In addition to learning more about Scope 3 GHG emission, we hope to promote the concept of low carbon commute along with environmental education to facilitate employees " understanding of how business travel may affect environment"convey the message of "Low carbon business travelling for a green living environment" to all employees "In the long term, we hope to include consumer impact into Scope 3 to complete the perspective of greenhouse gas emission measurement.

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.

Power Management

Chunghwa Telecom has incorporated energy conservation and carbon reduction, environmental protection, ecological concern and green construction into “five-year energy conservation and carbon reduction plan” to ensure development strategy and initiative. In addition, we evaluate and revise energy saving projects on the annual basis within budget range, and incorporate the energy outcome into the assessment of “Assessment of administrative management” and “Evaluation of maintenance of power and air-conditioning equipment”.

After meeting previous power management goal, we revise our power management target to “Benchmarking 2012 electricity usage standard, control the annual growth of electricity usage to no more than 2%, in hope to accumulate 22% energy saving up to 297 million kWh by the end of 2015. Although it is difficult to control the increase in the consumption of electric power due to the increase of telecommunication equipment for meeting business growth, we pursue different measures from the monitoring of energy saving in the buildings as the starting point, which include:

- Differentiate scope of responsibilities, monitor temperature adjustment in office, conference room and classroom.
- Monitor air-conditioner temperature on 26~28°C, and install automatic temperature control equipment.
- Turn off compressor (replace air-conditioning to air supply) 30 minutes before office is vacated to reduce energy consumption.
- Install inverter to control the air conditioning volume of ice water and air conditioning system to save electricity.
- Install heat sensor switch in the conference room, meeting room, walkways, stairs and washroom...etc., so that the lights switches on automatically when someone enters.
- Replace energy saving tube (bulb) to save 6% energy compare to traditional incandescent lamps.
- Set power saving mode for business machines, so that the machine enters power saving mode automatically when idled for 15 minutes.
- Encourage planting or renting plants to afforest office environment.
- Install energy saving elevator-interconnecting inverter when installing or replacing elevator.
- Promote electronic operation (electronic billing, electronic documents, e-procurement and electronic meeting) to reduce resource consumption.

With the pursuit of different energy saving measures and the effective performance control, from the period of 2007~2014, we have saved up to 257.72 million kWh or 25.43% and reducing carbon by 134,530 t-CO₂.

From 2014 onwards, Chunghwa Telecom has reinforced its internal sustainable environment management system through precise classification of power consumption management. General power consumption includes: office area and employee residence. Power consumption for business includes: base stations, depot, electric welding, and public telephone, which are not CHT-owned property.

Power Management Performance

Unit:10,000 kWh

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

* General consumption mainly includes the power consumption from office building.

* A=B+C+D, E = Business consumption (C+D) this year - Business consumption last year, F=E/A

Energy Saving for Data Center

In terms of energy saving for data center, it is expected that green building accreditation could be accomplished in 2016, self-developed iEN (Intelligent Energy Network) is installed in the Banqiao IDC data center to meet energy saving, carbon reduction and environmental protection. The measures for ICT data center including:

Air-conditioning Improvement

- Change air speed, remove vent pipe, or disable small air-conditioner to be compatible with new equipment.
- Use high sensible heat engine when replacing air-conditioner in annual replacement plan.
- Isolate air-conditioning area of air-conditioner placement to avoid unnecessary air-conditioning usage.

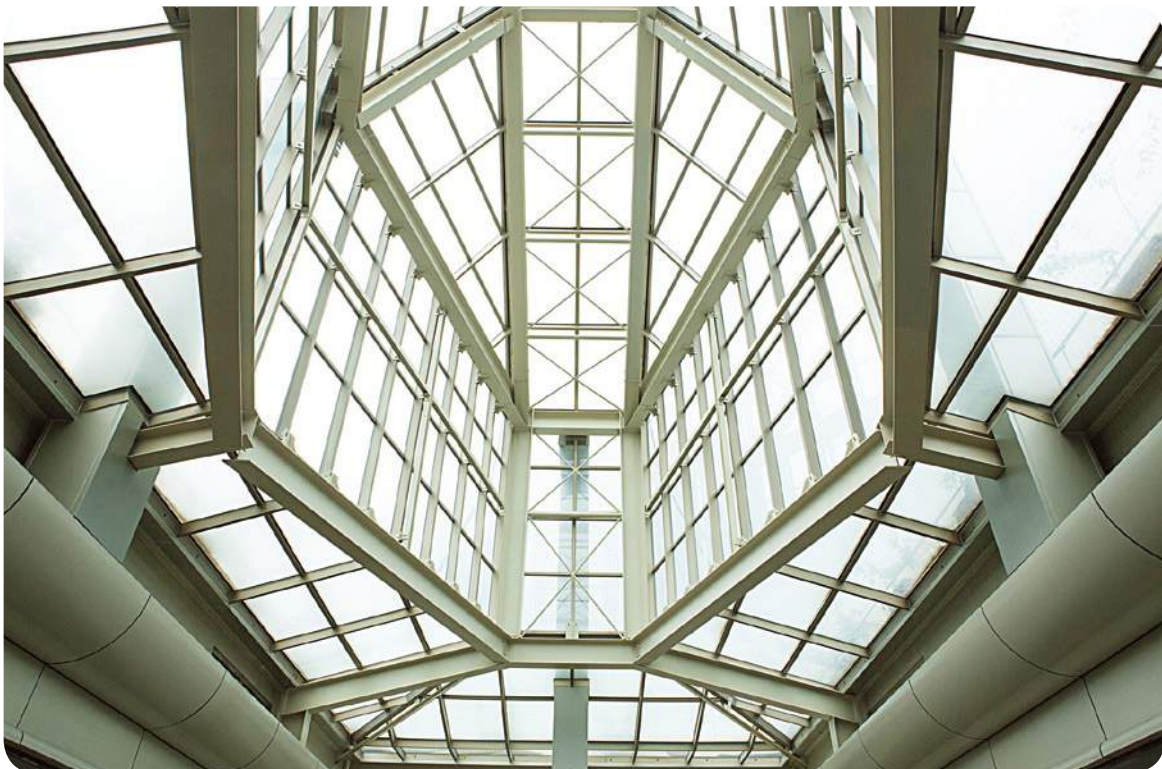
Energy Management

- Monitor air-conditioning temperature, designate personnel to maintain adequate temperature in different areas.
- Increase data center's temperature by 1°C after one year monitoring.
- Unload cooling water tower in accordance with water outlet temperature.
- Use ventilation for low loading mobile base station, telecom office and power distribution equipment.
- Introduce renewable energy system such as solar power generation system.

Equipment Consolidation

- 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.
- Consolidate equipment and isolate unused space to reduce energy consumption.

In addition to using energy saving equipment, automatic power off equipment and introduce energy monitoring system, we continue to implement "five-year energy conservation and carbon reduction plan (2012-2016)", including adjust data center temperature, use high efficiency equipment and consolidation of DC load. All the energy data is analyzed and managed through EARTH system.



Waste Management

Understanding the importance of resources reduction, recycle and reuse, Chunghwa Telecom combined its 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.

Daily Waste Treatment

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

Item	2012	2013	2014
Weight of Daily Waste (unit: ton)	5,018	6,465	9,142

* There is a reclassification after system upgrade, with an increase of household solid waste in current year.

Industrial Waste

The scrapped lead-acid battery is a recyclable industrial waste regulated by the EPA as. 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 21,790 scrapped lead-acid batteries, sold about NT\$ 27,358 thousand with a total weight of 1,339,909 kg disposed in 2014.

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	Total Quantity			Treatment Cost (unit: NT\$ thousand)		
		2012	2013	2014	2012	2013	2014
Plastic-filled Cable	KG	462	803	427	368,081	263,129	191,617
Ordinary Cable	KG	2,711	3,917	1,851			
Hardware Miscellaneous	KG	1,454	3,250	1,781			
Battery	PC	88,395	26,436	24,868			

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 – Received HCMI Certification

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 made 30 hostels island-wide become the employees ‘favorite travel accommodation.

In response to Hotel Carbon Measurement Initiative (HCMI 1.0) formulated by World Travel & Tourism Council (WTTC) and International Tourism Partnership (ITP) in 2013, 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

Item	2012	2013	2014
Revenue (NT\$ million)	8.4	9.1	9.5
Carbon Emission (ton)	78,405.2	71,869.0	75,798.0
Electricity Usage (kWh)	128,113	117,433	123,853
Energy Intensity (t-CO ₂ /NTD thousand)	9.3	7.9	7.9



Merger of Electronic Bills

Chunghwa Telecom has monthly electronic bills available to replace traditional paper bills, consumer may simply use Chunghwa Telecom's business counter, service hotline and web counter to make such request. In addition, combination and centralization of bill service is also available. That is, bills of different telecom number can be issued on the same bill, or different bills can be sent in one envelope.

Chunghwa Telecom started to combine customer bills in 2001 for facilitating the customers in the management of bills and support environmental protection, and launched e-Bill in 2005. After years of effort and massive investment in equipment and cost, Chunghwa Telecom saved approximately 415 million sheets of paper in two measures for energy saving and carbon reduction by the end of 2014, which is equivalence to the saving of 37,800 trees and reduction of 7,484 tons of carbon dioxide emissions. The result not only meets customer needs but also mitigates the effects of global warming. In the future, Chunghwa Telecom will continue to advocate the reduction of paper bills, the prevailing use of combined and e-Bills to sustain the effort in energy saving and carbon reduction to protect our living environment.

The Energy Saving Effect of Using e-Bills and Combined Bills

Item	2012	2013	2014
Ratio of Customers Applying for Combined Bills	87%	88%	88%
Ratio of Customers Applying for E-Bills	17%	17%	18%
Quantity of Paper Saved (1,000 sheets)	406,702	412,755	415,765
Reduction of Carbon Emission Volume (ton)	7,321	7,429	7,484

* 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.

Importation of Renewable Energy

To reduce the impact of operation on the environment, we imported frequency energy saving, high sensible heat energy saving, ventilation energy saving measures for data center. Starting from 2007 to end of 2014, we had completed energy saving inverter module of 5,670 HP, high sensible heat air conditioner of 27,779 RT, 6,028 high efficiency air conditioners, 2,198 RT ventilation air conditioner and 420 natural ventilation air conditioners. In addition, to enhance the efficiency of renewable energy, we have established capacity of 26.6kW for wind power generator, 5kW for fuel cell, and 196.8kWp for solar photovoltaic power generation system to reduce power use and impact on the environment.

Adopt Electric Vehicle

On October of 2012, we signed a 2-year lease for 20-business use Luxgen Electric Vehicles. For every kilowatt-hour the electric vehicle can travel 6 kilometers and releases 0.536 kg of CO₂e; therefore, 0.089 kg of CO₂e per kilowatt-hour is released every kilometer. Compared to similar vehicles, the average gasoline use is 8 km per liter and releases 2.361 kg of CO₂e per liter; therefore, 0.295 kg of CO₂e per kilowatt-hour is released every kilometer. After switching over to electric vehicles, we are saving 0.206 kg of CO₂e per kilometer. Estimating that we travel 2,000 km per month, every vehicle is reducing CO₂e emissions by 4,944 kg and a total of 98,880 kg less CO₂e emissions for 20 vehicles. It's a small step but a big change to the earth if every company adopts electric vehicles.

In 2014, total of 20 electric vehicles have travelled 81,518 km with carbon emission of 7255.1 kg- CO₂e, which generated carbon reduction of 16792.7 kg- CO₂e comparing to same type of fuel vehicle and same distance of travel.

Promotion of Green Building

Our investment of NT\$ 50 million to establish new building and data center is expected to receive Green Building Label, Our data center located in An-Keng, Hsin-Tian also received Green Building Label in 2013. In addition, to provide quality data center service and accelerate the internationalization of Taiwan's cloud service, we have established IDC and cloud data center in Banqiao to cope with the needs and is expected to complete in 2015. IDC is expected to receive LEED gold certification rating from U.S. Green Building Council (USGBC) as well as Green Building Label and Intelligent Building Label in Taiwan. For energy efficiency, we combine Cold-Hot Aisle design with iEN to conduct environmental surveillance, thereby achieving high energy efficiency of below PUE 1.5 based on "The Green Grid" Association's data center measurement standard.

Besides, Chunghwa Telecom works with construction companies on construction projects in an aggressive manner such as green building "Spotlight", in hope, in the future, to apply the energy efficiency service or product to the existing old building, making intelligent life available to everyone, and contributing to green building.

The First IDC Depot in Greater China Accredited by Rated 4 Standard

Chunghwa Telecom is oriented towards an international financial information and Asia-Pacific data transmission center thereby installed an IDC (Internet Data Center) depot at BanQiao of New Taipei in conformity to the highest standard of accreditation by TIA 942 of USA. This depot is the first IDC international standard Rated 4 accredited center in Greater China. The building is designed with resistance to a level-7 earthquake, flood resistance, and fire resistance. The equipment of the center can satisfy the N+N architecture to ensure no interruption of service to enterprises. In addition, Chunghwa Telecom also exercises strict entrance code with the combination of RFID and biological identification level-5 control and the ISO 27001 accreditation for information security management system so as to fortify information security and protection.

In the design of energy saving, the BanQiao IDC is built with warm and cool passages. Through the iEN (the smart energy management cloud platform) developed by Chunghwa Telecom, automated environmental monitor and control is in place with the overall energy efficiency objective aiming at "The Green Grid" measurement standard, and achieved the efficiency of less than PUE1.5. In addition, this center is also Gold Level LEED accredited, and the Taiwan Green Building, Smart Building Labels. These demonstrate the spirit of the quest for green buildings. In 2014, the business revenue for IDC of Chunghwa Telecom amounted to NTD 1.65 billion.



Safeguard Our Beautiful Homeland

With frequency of storm and strength of typhoon increasing, and summer temperature hitting record high, it is obvious that Global climate has significantly changed in recent years. The goal of global initiative on energy saving and carbon reduction is reducing the depletion of earth resources, while allowing the environment to renew and regain strength. Confronted by the deterioration of the ecological environment and energy crisis, all the methods are pointing to one purpose, that is, to create a better homeland for us all.

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 its 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, covering topics such as promotion of environmental conservation, trend of international environmental act and making of handmade soap; In addition, by hosting ecological tour, we combine teaching with pleasure to bring environmental education into life.

Environmental Education

Item	2012	2013	2014
Session	5	3	9
Participant	1,555	254	399

Ecological Tour

Item	2012	2013	2014
Session	56	69	79
Participant	12,818	16,093	14,984

Corporate Volunteer Exchange

The Chunghwa Telecom corporate volunteers also participated 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. It is hoped that on-site inspections and the provision of energy conservation advice, given to the units inspected, will help us achieve maximum benefit for both environmental protection and corporate profit. 35 sessions of training courses were offered and 78 energy saving volunteers participated in the last three years.

Corporate Volunteer Exchange

Item	2012	2013	2014
Session	12	15	8
Counts of patrol	21	27	17

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 Indexes (DJSI) questionnaire.
- Respond to the Common Wealth Magazine and Global View Magazine questionnaires.
- Publish the CSR report (environmental protection): Provide data on greenhouse gas inventory, power, water, and fuel consumption, as well as waste recyclables generation.

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 2014, we have saved the consumption of electric power by approximately 9.3 million kWh or NTD 222.6 million in cost, which is equivalent to the reduction of carbon dioxide reduction of about 4,900 tons.
- Save cooling energy: Use high-efficient and air- conditioners, and cold/hot channel air-conditioning systems in the datacenters.
- Green building and accommodation: Use green materials for newly constructed datacenters or buildings.
- Solar water heaters: Install solar water heaters in Telecommunications clubs.
- Recycling: Set up rainwater, underground, and condensed cooling water recycling systems.
- Environmentally-friendly LED bulbs: Internal office building trial plan.

Green Energy

- Photovoltaic system: 196.84kWp capacity System constructed in 2014.
- Wind power: 26.6kW capacity built in 2014.
- Fuel cell: Pilot program with the Industrial Technology Research Institute, 5kWp capacity system

Autonomous Environmental Protection

- Vehicle energy conservation and carbon reduction: Replace old vehicles with environmentally friendly, and use electric vehicles for trial.
- Clean homes, energy saving office, health management system, car-free days, and paperless ODAS.
- Taiwan Energy Conservation Patrol: Focus on increasing energy efficiency within corporate operations and production processes to achieve the objectives of carbon reduction.
- Industrial waste recycling: Set-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 to apply for product eco-labels.