PCCW®

2017

Environmental, Social and Governance Report

Stock Code: 0008

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GROUP MANAGING DIRECTOR'S MESSAGE

I am pleased to present PCCW's second Environmental, Social and Governance (ESG) Report.

At PCCW, doing business in an ethical, social and environmentally responsible way is a cornerstone of our corporate philosophy. We always believe that addressing the needs of society is not only the right thing to do, but can also be a valuable opportunity for innovation and business development.

Being a responsible business is also about working to minimize environmental impacts. We are committed to reducing our carbon footprint and enhancing the energy efficiency of our data centers, other facilities and equipment.

We are grateful to our 24,000 employees who have helped us develop and deliver world-class products and services. We shall continue to build a strong employer brand to attract the right talent across our global operations. We provide our staff with opportunities to give their time and service to those in need. This allows our people to connect with and give back to the communities in which they live and work. Our corporate volunteers recorded over 20,000 hours of service in 2017.

In the future, we see opportunities to further leverage our leading position in telecommunications, media and technology to create positive impacts for individuals, communities and the environment. We are committed to developing technological solutions to build a better Hong Kong. In the many areas highlighted throughout this report, PCCW is working to better the future.

BG Srinivas
Group Managing Director

ABOUT THIS REPORT

This is the second Environmental, Social and Governance ("ESG") report of PCCW Limited ("PCCW" or the "Company") and its subsidiaries (collectively referred to as the "Group" in this report). The report complies with the ESG Reporting Guide in Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (HKEX ESG Reporting Guide).

PCCW (SEHK: 0008) is a global company headquartered in Hong Kong which holds interests in telecommunications, media, IT solutions, property development and investment, and other businesses.

This report has been reviewed and approved by PCCW's Board of Directors (the "Board").

Report Scope

Unless otherwise stated, data and information in this report covers PCCW's core businesses primarily in Hong Kong – namely telecommunications, media and IT solutions. Where relevant, references are also made to the activities of subsidiaries and outsourced operations.

While this report covers the businesses of HKT Trust and HKT Limited ("HKT") (SEHK: 6823), in which the Group holds a majority interest, HKT is also issuing a separate ESG report. HKT is Hong Kong's premier provider of telecommunications and leading operator in fixed-line, broadband and mobile communication services.

This report also covers PCCW Media and PCCW Solutions, which are owned by the Group. PCCW Media is a fully integrated multimedia and entertainment group in Hong Kong. PCCW Solutions is a leading information technology outsourcing and business process outsourcing provider in Hong Kong and mainland China.

This report does not cover PCCW's joint ventures, nor Pacific Century Premium Developments Limited ("PCPD") (SEHK: 0432), in which the Group holds a majority interest. PCPD is issuing a separate ESG report.

The report describes PCCW's approach, initiatives and priorities in managing material ESG areas for the financial year ended December 31, 2017. A list of PCCW's material areas is set out in the Corporate Social Responsibility at PCCW section of this report. Disclosure on corporate governance is provided in the Corporate Governance Report of the PCCW Annual Report 2017.

HIGHLIGHTS

EMISSIONS

◆ **98%** of broadband customers, **97%** of mobile customers, **86%** of Now TV customers, and nearly **34%** of fixed-line customers receive e-billing. In 2017, around **18** million e-bills were generated saving nearly **48** million sheets of paper.

◆ Gradually upgrade **60** more vehicles in the coming four years.

RECYCLING/ USE OF RESOURCES

◆ Collected **12,806** handsets for donation or responsible disposal.

◆ Recycled **1,983** printer ink cartridges.

◆ **26.44** tonnes of copper, iron and steel were recycled.

HEALTHY AND SAFE WORKPLACE

◆ Launched Group Safety Charter to enhance safety standard and culture.

STAFF DEVELOPMENT

◆ **2,003** learning and development programs and seminars.

◆ **12.3** training hours per staff in 2017.

SUPPLY CHAIN

◆ Conducted **100** visits to assess suppliers' performance.

◆ Compliance with **ISO 9001:2008** Quality Management System.

RESPONSIBLE NETWORK MANAGEMENT

◆ **100%** mobile reliability and **99.99%** broadband network stability in 2017.

◆ Fiber-To-The-Building coverage reaches **88.3%**, with **85.6%** Fiber-To-The-Home coverage.

CUSTOMER SATISFACTION

◆ Received **37,894** customer compliments in 2017.

DATA PRIVACY AND SECURITY

◆ **ISO 27001** certified IT Security Management Systems.

COMMUNITY INVESTMENT

◆ **26** ongoing and **17** special programs with NGOs, charities, etc.

◆ **21,131** volunteer service hours in 2017.

1. CORPORATE SOCIAL RESPONSIBILITY AT PCCW

As Hong Kong's leading information and communications technology (ICT) and media service provider, corporate social responsibility (CSR) is an integral part of our business strategy. We seek to operate in an economically, socially and environmentally ethical way while balancing the interests of our internal and external stakeholders, and supporting and connecting the communities we serve. Meeting this commitment is not only an important management objective, but also the individual and collective responsibility of all PCCW employees.

1.1 CSR Governance Structure

PCCW's Board of Directors provides strategic oversight for CSR at PCCW. The CSR Committee, chaired by the Head of Group Communications and comprised of the Group Functional Unit Heads, is responsible for formulating and reviewing PCCW's CSR policies, and monitoring the effectiveness of our environmental and social initiatives. The CSR Committee meets regularly, and reports to the Executive Committee. The CSR Team communicates and works with Departmental CSR Representatives to promote and implement CSR initiatives across the Group.

Each of the following entities plays a significant role in managing our CSR efforts:

Board of Directors	• Monitors corporate governance practices and procedures, and maintains appropriate and effective risk management and internal control systems of the Group to ensure compliance with applicable rules and regulations • Approves CSR Policy and Corporate Responsibility (CR) Policy
Executive Committee	• Operates as a general management committee with overall delegated authority from the Board
Audit Committee	• Assists the Board with ensuring the objectivity and credibility of financial reporting, and that the directors have exercised care, diligence and skills prescribed by law when presenting results to shareholders • Assists the Board with ensuring that effective risk management and internal control systems are in place and good corporate governance standards and practices are maintained
Risk Management, Controls and Compliance Committee	• Reviews procedures for preparation of PCCW annual and interim reports and, from time to time, corporate policies of the Group to ensure compliance with the various rules and obligations of a Hong Kong-listed company, and assists directors in the review of the effectiveness of the risk management and internal control systems of the Group on an ongoing basis
CSR Committee	• Reviews the Company's CSR strategy, principles and policies to ensure the Company operates in a manner that enhances its positive contribution to society and the environment • Sets guidance and direction of and oversees CSR practices and procedures • Monitors progress on CSR and related activities
CSR Team	• Promotes CSR internally and externally • Organizes and implements CSR initiatives
Departments and Business Units	• Implement CSR practices and ensure CSR compliance in daily operations

Departmental CSR Representatives*	• Serve as a bridge between the CSR Team and the department/unit
	• Facilitate implementation of CSR initiatives proposed by the CSR Team
	• Raise CSR awareness of colleagues
	• Assist the CSR Team with preparation of ESG reports and responding to ESG-related surveys

*   In 2017, a total of 23 Departmental CSR Representatives were appointed from across various departments and units to enhance internal communication and effectiveness of CSR-related matters.

1.2 Our Policies

PCCW has a CSR Policy and a CR Policy that all members of the Group must adhere to. These policies govern our actions and decisions to consider our economic, environmental and social implications, in addition to ensuring that we fully comply with relevant laws and regulations.

Our CSR Policy states PCCW's CSR Vision and Mission, and describes how the Group interacts with its stakeholders and society at large, and how we address environmental issues to meet and exceed minimum legal requirements. It ensures that PCCW and its subsidiaries, affiliates, and associated companies, in Hong Kong and internationally consistently operate in a responsible manner.

In 2017, we reviewed and updated our CSR Policy by referencing the ISO 26000 Guidance on Social Responsibility. Our updated CSR Policy is structured based on the core subjects under ISO 26000, which outline six key areas of social responsibility:

The revised CSR Policy, which has been endorsed by the Board of Directors, also identifies certain focus areas. They are:

- Community – equipping students and youth with skills and resources to excel in the digital age, while also connecting elderly members of the community with technologies that promote active and smart aging;
- Environment – incorporating environmentally friendly considerations into sustainable business operations (such as recycling of copper and other scrap materials and proper disposal of used mobile phones) and transforming customer lifestyles; and
- People – positioning ourselves as an Employer of Choice with a view to attracting and retaining talented individuals to sustain a diverse and vibrant workforce.

Furthermore, the revised Policy provides additional details of our CSR management approach, as well as our commitments with respect to customers and marketplace and supply chain management. We have also included references to other relevant PCCW policies, guidelines, and procedures in the new Policy document.

The CSR Policy applies to all directors, officers and employees of the Group. Our vendors, contractors, subcontractors and business partners are encouraged to adopt our CSR Policy as best practice guidance for their own operations.

Our CR Policy, which has been approved by the Board, covers PCCW's expectations of all employees and business partners regarding compliance with relevant laws and regulations, integrity and ethical conduct. The CR Policy provides guidance on employee conduct in areas such as:

- Compliance with laws, regulations and PCCW Group policies
- Civic behavior and responsibility
- Maintaining a safe and respectful workplace, including equal opportunities as well as health and safety
- Fair business dealings and avoidance of conflicts of interest
- Do not misuse inside information
- Communications safeguards, including the quality of public disclosures
- Property and records management
- Privacy and information protection
- Avoidance of bribery
- Avoidance of gifts and entertainment
- Whistle-blowing

The provisions of our CR Policy include those that establish our zero-tolerance of bribery and corruption in any form. Our Bribery, Gifts and Entertainment Policy prescribes the minimum standards to be adopted throughout our Group to prevent, identify and address any instances of alleged or actual bribery or corruption.

Our whistle-blowing policy and procedures are available on our intranet and corporate website to enable employees and other parties to confidentially and anonymously report unethical activities. Employees have the right to submit anonymous complaints to the Director of Internal Audit or the corresponding Audit Committee Representative either in writing or by telephone via a confidential telephone hotline and voicemail facility that does not log or display the caller's number. All whistle-blowing reports are thoroughly investigated and reported to the Audit Committee.

Employees who have concerns about a potential conflict of interest are encouraged to seek clarification from their line manager. A Declaration of Conflict of Interest form, which is available on the Company's intranet, should be completed in all cases that present a potential conflict.

Any individual who violates our Company policies and/or applicable laws and regulations may be subject to disciplinary and/or administrative action as well as civil and/or criminal liability. Where an instance of non-compliance by an employee is confirmed, their employment may be terminated and/or further actions may be taken. In 2017, no legal cases concerned with corrupt practices were brought against PCCW or any of our subsidiaries or employees.

All employees have a duty to uphold the standards established in our CR Policy. Upon recruitment and during annual performance reviews, employees of PCCW and its subsidiary companies are required to agree to comply with our CR Policy by signing a compliance declaration.

In light of the changing business and regulatory environments, we regularly review our CSR and CR policies to ensure they remain applicable to our operations and in compliance with current laws and regulations. Our Risk Management, Controls and Compliance Committee regularly reviews the design, implementation and monitoring of the risk management and internal control systems for the Group. For more details, please refer to PCCW Annual Report 2017.

1.3 Stakeholder Engagement and Materiality

We value the opinions of our internal and external stakeholders on ESG-related matters. In 2016, we conducted a comprehensive materiality assessment exercise that included focus groups, interviews and surveys. This exercise identified 23 material areas for PCCW to manage and report on.

In 2017, we engaged with external stakeholders – including representatives from suppliers, business partners, academic institutions and non-governmental organizations (NGOs) – through two focus groups to gather feedback on our ESG Report 2016 and help review and validate our material areas.

PCCW's material areas remain unchanged from those identified in 2016. This report has been structured around the material areas, which are discussed in greater detail in Sections 2 to 6.

Material areas

- **Corporate governance**[1]

- **Anti-corruption**[1]

- **Community investment**
- **Employee engagement in community**
- **Technology and education initiatives**

- **Talent attraction and retention**
- **Employee well-being and working conditions**
- **Learning and development**
- **Occupational health and safety**
- **Human rights**

- **Customer data privacy and security**
- **Responsible advertising**
- **Reliable services and products**
- **Responsible network management**
- **Customer service and satisfaction**
- **Content dissemination to different audiences**

- **Supply chain and procurement**

- **Energy**
- **Carbon emissions**
- **Waste management**
- **Computers and commodities (e-waste)**
- **Green ICT solutions**
- **Employee environmental awareness**

1.4 External Recognition

PCCW is a constituent member of the Hang Seng Corporate Sustainability Benchmark Index Series and FTSE4Good Index Series.

HKT received the Certificate of Excellence of Hong Kong Sustainability Award 2016/17 from the Hong Kong Management Association.

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[1] For details on corporate governance and anti-corruption, please refer to the earlier section and PCCW Annual Report 2017.

2. OUR COMMUNITY

In this digital age, improved access to communication technologies can create enormous value for the underprivileged. Our commitment to community investment is embedded in the Group's CSR Policy. We focus on leveraging our resources and core competencies to drive positive change for people and the communities in which we operate.

OBJECTIVES

- **Support vulnerable and underprivileged groups**
- **Enhance ICT and digital literacy**
- **Use technology to serve society**

MEASURES

- **Corporate Volunteer Team participates in community service projects**
- **Develop and support technology literacy initiatives and campaigns**
- **Develop technological solutions to enhance quality of life**

In 2017, we continued to support a diverse range of initiatives through our corporate volunteer services, education and community services, and financial and in-kind contributions. Collaboration is key to effective programs. Over the years, the Group and our corporate Volunteer Team have built strong partnerships with the Government, NGOs, academic institutions and other businesses to support those in need. We strive to serve a range of beneficiaries, including the elderly, students and youth, children, people with disabilities and other groups. We focus our efforts on providing ICT solutions that promote active and smart aging, and enabling students and youth to engage in the digital world.

Our work in the community:

Cumulative number of volunteers since 1995	Active volunteers in 2017	Volunteer hours in 2017	Ongoing programs in 2017	Special programs in 2017
4,872	582	21,131	26	17

2.1 Engaging with the Community

Our corporate Volunteer Team, which consists of employees, their family members and Company retirees, has been active for over 20 years. Volunteer numbers have continued to grow and the scope of the volunteer projects that we support has also expanded.

To recognize and acknowledge the dedication of our staff volunteers, the Group organizes the annual Volunteer Award Ceremony and operates a Volunteer Appreciation Scheme. Our Volunteer Appreciation Scheme grants up to two days of volunteer leave every year to eligible employees participating in community service initiatives.

Nearly **500** days of volunteer leave were granted to our volunteers in 2017

In 2017, our corporate Volunteer Team once again received the Award of 10,000 Hours for Volunteer Service and the Merit of Highest Service Hour Award 2016 (Private Organizations – Category 1) from the Steering Committee on Promotion of Volunteer Service of the Social Welfare Department, for contributing more than 10,000 hours of volunteer service to the community in 2016. The team also won the Silver Award in the volunteer team category of the Hong Kong Corporate Citizenship Programme organized by the Hong Kong Productivity Council and the Committee on the Promotion of Civic Education in 2017. PCCW has been a Caring Company of Hong Kong Council of Social Service's Caring Company Scheme for over 15 years.

Community service highlights in 2017

The Elderly

- A VR (virtual reality) world tour was organized at an elderly center for the elderly residents to experience world travel.
- Organized smartphone workshops to teach elderly people how to use smartphones and apps.
- Sponsored the "Care for the Elderly Line", in partnership with the Hong Kong Council of Social Service, to provide free telephone installation and related service to senior citizens.
- Volunteers visited the elderly during festivals to spread festive joy.

Students and Youth

- Supported the Commission on Poverty's "Life Buddies Mentoring Scheme". A visit to the 2017 FIA Formula E HKT Hong Kong E-Prix was arranged for the secondary school mentees.
- HKT education and NETVIGATOR supported the "Inter-School IT Elite Challenge 2017" organized by the Hong Kong Association for Computer Education and the Hong Kong Software Industry Association. The activity aimed to encourage interest in information technology among primary and secondary school students.
- HKT eye held a fundraising painting contest for visually impaired children in partnership with TREATS, a charity that works to improve social integration for children in Hong Kong. This activity promoted social inclusion of children with special needs.

Children

- Volunteers organized a charity balloon sale at the Company's Annual Dinner 2017 to raise funds for the Playright Children's Play Association to support its therapeutic play services.
- Volunteers promoted good financial management concepts to kindergarten children via drama and role play in cooperation with the Mandatory Provident Fund Schemes Authority and Po Leung Kuk.

People with Disabilities

- Volunteers worked with the visually impaired crew from the Dialogue in the Dark (Hong Kong) Foundation to organize the 1O1O-sponsored "Concert in the Dark 2017" voice performance events that took place in complete darkness.
- We provided IT support for long-term disabled patients at Cheshire Home in Shatin.

Others

- The Company joined the "Dress Pink Day" organized by Hong Kong Cancer Fund to increase awareness of breast cancer and raise funds for cancer care service.
- Our media business produced television programs to raise public awareness and reduce the social stigma associated with Alzheimer's disease and visual impairment.

20 Years of Volunteering

PCCW actively participates in the Volunteer Movement scheme of the Social Welfare Department (SWD). Every year, SWD recognizes long-serving corporate volunteers with the Long Service Award. In 2017, Thames received the award for contributing 20 years of service to the community. Thames actively participated in medical volunteer services, such as assisting in pathology talks at Queen Elizabeth Hospital to advise and support patients as well as their family members. He also played a leading role in the Children's Play Therapy at Kwong Wah Hospital.

"In the beginning, medical volunteering was completely new to me. I gradually learnt how to communicate with patients by working with the more experienced volunteers. I have learned a great deal over the past two decades, but the best reward for volunteers is to see the smiling faces of the beneficiaries!"

Thames Leung
Manager, Engineering, HKT

2.2 Using ICT to Support the Community

We use our expertise and core competencies to address community challenges, such as facilitating access to ICT knowledge for younger generations.

Girls Go Tech

Digital literacy is an increasingly important skill. We work with various partners to develop and support technology literacy initiatives and campaigns, and to provide easier and more affordable access to ICT knowledge.

We partnered with The Women's Foundation to provide free computer coding and digital skill workshops for girls from underprivileged backgrounds. The year-long, school-based "Girls Go Tech" Program aims to encourage junior secondary school girls to pursue traditionally male-dominated science, technology, engineering and mathematics-related subjects (commonly referred to as STEM subjects) and fulfill their academic and personal potential in an increasingly technology-driven world. Around 400 female students from 10 schools have benefited from the program, with HKT providing support as a technology partner and steering committee member, and by providing seminar speakers.

Creating Quality eLearning

Financial and locational barriers to education can be overcome through eLearning, which can create an educational experience that is both engaging and cost-effective. Through the STEM education scheme, HKT education offers advanced one-stop eLearning solutions that are supported by the reliable provision of high-speed broadband to schools, as well as cloud storage and Wi-Fi technologies.

In partnership with Google and Apple, the HKT education Professional Development Academy organizes numerous seminars and courses to train teachers on integrating technology into their teaching and optimize the efficiency of e-classrooms. To date, teachers from more than 300 primary and secondary schools have benefited from the Academy's training courses and professional development programs.

Smart Mobility

The Transport Department has selected PCCW Solutions to design, implement and maintain the existing Transport Information System (TIS), synchronizing with the smart city initiative of the HKSAR Government. The revamped system applies the latest information technology that more efficiently processes a vast amount of traffic and transport data to facilitate better traffic flow management. Road users will be able to access real-time traffic and transport information through government portals, enabling them to make more informed decisions on route choices.

Run The Connected Business with Internet of Things

PCCW Solutions has also developed Smart Parking and Charging Solutions. The platform enables drivers to locate and reserve parking and electic vehicle charging facilities in real-time by mobile app, and provides them with online payment options. The platform is widely used in shopping malls, commercial and residential buildings, as well as telecommunications and public utility companies. The project received Global Telecoms Awards for its involvement in advancing and transforming today's telecoms industry.

GLOTEL GLOBAL TELECOMS **AWARDS** 2017

2.3 Academia and Research

We support research projects developed by local universities and institutes, and capitalize on research-business partnerships to foster the development of the ICT industry in Hong Kong.

Research Partners	Project Topics	Potential Benefits	
The Hong Kong Polytechnic University	Video quality assessment	Develop the first benchmarking tool on network quality enhancement for video access	
City University of Hong Kong	Network security system and cyber-attacks	Facilitate early detection of potential hackers and mitigation of cyberattacks	
Hong Kong University of Science and Technology	Smart Wi-Fi	Utilize a combination of advanced sensors/ tools and analytics to improve the accuracy and reliability of Smart Wi-Fi under different scenarios	

To help cultivate talented future IT professionals, we have been offering annual scholarships and bursaries to students of computer science, IT and related disciplines for over 20 years. We currently provide scholarships and bursaries to four local universities and have extended our coverage to another two universities for the 2018 academic year.

Building Intelligent Transport Systems

As the mobile network technology leader in Hong Kong, HKT is committed to supporting the Government's Smart City vision and strategy. In March 2017, we partnered with Hong Kong Applied Science and Technology Research Institute (ASTRI) and technology companies Huawei and Qualcomm Technologies to form a Smart Mobility Consortium (SMC) to build a smart mobility system using cellular vehicle-to-everything (C-V2X) technologies. This system can help enhance safe transportation in Hong Kong and supports the Government's Intelligent Transportation System (ITS) strategy.

A vehicle fitted with C-V2X can exchange information with other vehicles, pedestrians and network infrastructure to strengthen driving assistance, traffic management and road safety.

As a member of the SMC, we continue to work alongside the Government and industry stakeholders to drive the commercial potential of C-V2X. We plan to expand the application of the C-V2X technology to sectors such as shipment, ridesharing, home-delivery, insurance, infotainment, and mobile healthcare.

An alert will be issued when two vehicles are approaching the same intersection point.

2.4 Philanthropic Sponsorship

We provided support for many events and initiatives in 2017, including:

- Provided communication systems for Oxfam Trailwalker
- Sponsored the telephone hotlines for fundraising shows for Tung Wah Group of Hospitals, Po Leung Kuk, Yan Oi Tong and Yan Chai Hospital
- Sponsored consultation services hotlines for The Samaritans, Hok Yau Club, Hong Kong Children and Youth Services, and Tai Hang Youth Centre
- Provided telecommunications support for NGOs, including Cheshire Home (a residential home for the disabled) and a pediatric ward at Princess Margaret Hospital
- Supported the "Stargaze Camp for All and the Blind" that promotes social inclusion

Nurturing IT Talent

The Group has been sponsoring the "Shanghai-Hong Kong-Taiwan Youth IT Summer Camp" for over 15 years. The camp aims to nurture young people who are interested in enhancing their IT knowledge and considering a future career in the technology sector. In 2017, 60 students from Shanghai, Hong Kong and Taiwan joined the five-day camp in Taipei. The students visited government departments and leading IT corporations to understand the development of a "Smart City". They also learnt the skills required to create an e-book.

3. OUR PEOPLE

PCCW employs 24,000 employees, who are all key to maintaining our competitiveness and delivering the best services. We are committed to providing a rewarding work environment that encourages collaboration and offers our employees opportunities to learn, grow and succeed at work and in life.

OBJECTIVES

- **To attract, develop, motivate and retain suitable people**
- **To create a vibrant and diverse workforce**

MEASURES

- **Engage with our employees**
- **Provide career development and promotion opportunities**
- **Provide a healthy and safe workplace, and well-being initiatives**

As a customer-facing business, our people are our ambassadors in the community. If our employees are happy, work well together and take pride in their contributions, they will provide an excellent service to customers. We are committed to building an inclusive workplace, investing in staff well-being, and ensuring that every PCCW employee can reach their full potential.

The dynamic ICT sector is an attractive career choice for young people. 41.7% of our employees based in Hong Kong are aged 35 years old or below. Our efforts to encourage and empower our young talent to develop innovative ideas that will enhance our products and services have led to new business opportunities such as Tap & Go and Smart Charge.

41.7%

of our employees are under the age of 35

3.1 Maintaining a Diverse and Inclusive Workplace

As the Group expands its global presence, an inclusive corporate culture is critical to our business success. Our workforce now comprises employees from over 50 nationalities, with a diverse range of expertise and backgrounds.

PCCW respects and upholds fundamental human rights. We prohibit forced labor and child labor across our operations, and do not tolerate discrimination of any kind.

We encourage and support more women to take on leadership roles at the Company – one-third of our leadership roles are assumed by female colleagues.

We are committed to providing employment opportunities for people with disabilities. We have been a partner of the Dialogue Experience Empower (DEE) "Career Empowerment Platform for People of Differences" program since September 2016. This social inclusion initiative offers job immersion opportunities to people with disabilities with the goal of improving their mainstream employment prospects.

In 2017, we provided practical work experience through a business training curriculum and hands-on project experience for post-secondary graduate students with visual, hearing and other physical disabilities. This partnership has helped to promote greater awareness among our employees of how people with disabilities can be included as valuable members of our team. We will continue to support and collaborate with DEE with an aim to serve more beneficiaries.

In recognition of our support for people with disabilities, we were named a Dialogue Experience Corporate Champion for advocating for inclusion and diversity in corporate workplaces.

Growing a dynamic workforce

As the ICT industry is a 24/7 business, the flexibility of our workforce is important to ensure the delivery of high-quality customer service. Working alongside our shift duty staff, part-time, temporary and contract-staff comprised 7% of our workforce in 2017. This empowers our workforce to deliver superior service to customers around the clock and in multiple geographies.

3.2 Connecting with Our People

In line with the rest of our business, our Human Resources (HR) function has undergone a digital transformation that has enhanced our ability to engage with our staff. A new HR portal, conferencing facilities and intranet have increased the scope of communication for employees in various locations and across numerous job functions. The online portal enables employees to be self-sufficient when undertaking routine HR tasks such as personal record updates, leave applications, medical enrolments and preparing for performance reviews. A staff newsletter and management blog are published regularly on our intranet to keep all staff up to date with events and Group-wide business developments.

The views and expectations of our people are crucial for ensuring the smooth running of our business operations and for sustaining positive energy amongst employees. We have established channels for employees to share feedback and suggestions with senior management, including face-to-face meetings, "Let's Chat" sessions with senior management and town-hall-style gatherings. The Joint Staff Council (JSC) provides staff and management with a forum to meet regularly to discuss and exchange ideas on operational efficiency, career development and training, working conditions and the provision of social activities and recreational facilities.

3.3 Talent Progression and Succession Plan

We have established a robust succession pipeline for our staff. We work tirelessly to attract and retain the best talent. We nurture the capabilities of our employees with comprehensive training, leadership programs, and continuous development initiatives to ensure their knowledge and skills keep pace with advances in technology and best business practices all the way through to retirement.

Recruiting graduate trainees

As the leading ICT service provider in Hong Kong, PCCW offers fresh graduates opportunities to build a career in the technology sector by partnering with local and international universities through our Graduate Trainee Program. This program provides fast track pathways to graduates seeking careers in fields ranging from engineering and IT to customer service, marketing and sales.

145 graduate trainees were hired in 2017. The proportion of female graduates hired is at 39%, even though the ICT industry was traditionally male-dominated.

Building a strong leadership bench

To support the progression of our young workforce into leadership roles, we offer skills development programs to transition our employees into more senior roles. In 2017, we organized 2,003 learning and development programs and seminars, with each staff receiving on average 12.3 training hours.

The Managerial Development Program enables participants to gain essential leadership skills such as effective coaching, effective delegation and creating an environment of respect and trust. Nearly 430 staff members have taken part in this program since its creation in May 2016.

The Supervisory Development Program aims to facilitate an easy transition for new hires and recently promoted staff at the supervisory level. Each course module focuses on a different set of supervisor skills, including how to motivate staff, promoting team diversity, and how to provide constructive feedback. With a class size of 30 individuals, this program has been run 16 times since May 2016.

To develop leaders who are entrepreneurial, agile and can communicate effectively in a dynamic business environment, we have introduced a Future Leaders Development Program at the middle management level in various business units. The objective of the program is not only to strengthen participants' staff management and customer service skills, but also to enhance business acumen and help them develop the type of innovative and entrepreneurial thinking that leads to cutting-edge product and service ideas and pioneering business strategies.

Cultivating our knowledge base

We are very fortunate to have staff members who have contributed many years of dedication, commitment and loyalty to the Company's growth and accomplishments. In 2017, we presented Long Service Awards to 256 colleagues for their 25 years of service.

In 2017, we had 136 staff retiring with an average of 33.5 years of service with the Company. We have measures in place to facilitate the transfer of knowledge from the highly experienced retiring generation to younger potential future leaders.

3.4 Healthy and Safe Workplace

Employee safety is of paramount importance and we make every effort to provide a safe working environment. Accident prevention and business productivity go hand in hand and deserve equal consideration when selecting new designs, procedures and equipment.

Our Occupational Safety & Health (OSH) Safety Management System has been in operation since 2005. The System is regularly audited and certified as Level Three on the Occupational Safety & Health Council's Continual Improvement Safety Program Recognition of System (CISPROS).

The OSH Unit provides advice, information and training on OSH Issues. In 2017, the Unit launched the Group Safety Charter to uplift our safety standard and strengthen the safety culture.

To ensure employee awareness of safe and healthy workplace behaviors, we provide different trainings for staff members at all levels, including:

- Training of OSH ambassadors and fire safety ambassadors
- Certification in first aid, workplace noise assessment and confined space training
- Internal safety auditor training and accident investigation skills
- Training for staff on site, including ladder assessor training

To further embed a safety culture throughout the Group, we have appointed members of staff to act as Designated Office Coordinators, Designated Fire Officers and First Aiders. These individuals are responsible for carrying out safety inspections to eliminate hazards and providing first-aid assistance in the event of an accident.

Smart Antenna Loader

We encourage staff participation in contributing ideas on OSH improvement.

HKT was presented the Safety Enhancement Program Silver Award for its "Smart Antenna Loader 1.0" project at the 16th Hong Kong Occupational Safety and Health Award ceremony organized by the Occupational Safety and Health Council in 2017.

The loader helps to reduce the safety risks of at-height work by assisting workers to lower antenna poles safely when carrying out maintenance work at cellular sites with rooftop antennas.

Riding on this success, the team is now working on "Smart Antenna Loader 2.0", with the aim of making the device lighter and more portable for widespread use.

3.5 Caring for Staff Well-being

We recognize the importance of supporting our people's personal wellness. We have a set number of weekly working hours for each category of employee and a staff roster system to maintain a level of manpower that strikes an appropriate balance between employee well-being and the need to ensure customer satisfaction. All working hours and rest periods are in compliance with the Employment Ordinance and other relevant employment laws and regulations.

To encourage our employees to maintain a healthy lifestyle, we offer two sports recreation sites for staff. Our Sports and Interest Group (SIG) coordinates a number of staff sports teams which competed and won numerous awards in group matches organized by the Inter-Hong Games Association in 2017. This year, the SIG oversaw the running of 16 sports teams, ranging from dragon boating to badminton, and five interest groups such as chess and photography. These activities also help to foster team spirit.

We implement family-friendly measures to make it possible for our people to fulfill both their family and work obligations. We support new mothers by providing special facilities such as designated feeding rooms in offices.

We run regular "Lunch and Learn" sessions on a variety of topics to boost staff well-being and we organized 20 health talks in 2017. These informal training and information sessions help to reinforce our corporate culture and boost employee morale. Maintaining good personal financial health also improves the well-being of our staff members. This year, we organized six sessions of Workplace Financial Wellness workshops for pre-retirees to prepare for their retirement life. Furthermore, we have in place an Employee Assistance Program that provides access to external psychological counselling services.

4. OUR CUSTOMERS

We are committed to serving our customers to the best of our ability by continually elevating our level of service excellence. It is our objective to gain customer confidence in our products and services, and to provide sufficient information to enable customers to make informed choices.

OBJECTIVES

- **Provide reliable and quality services and products**
- **Meet and anticipate customer needs**
- **Maintain high quality customer service**
- **Safeguard personal data and information**

MEASURES

- **Meet and exceed performance targets**
- **Continuous innovation**
- **Promote customer service excellence**
- **Privacy and personal data policies**

We adhere to applicable laws governing individual privacy and commercially sensitive information, including those that relate to materials used in our products, advertising and labelling. We have implemented a comprehensive range of measures and procedures to protect, safeguard and control access to inappropriate content by young users. We meet government and statutory body requirements under relevant legislation and laws, including but not limited to the Telecommunications Ordinance, license conditions and codes of practice issued by the Office of the Communications Authority (OFCA).

As a responsible company, we are cautious about disseminating appropriate content to different audiences via our licensed pay and free TV platforms. We strictly comply with the Broadcasting Ordinance along with other relevant rules and legislation. Should a program contain content unsuitable for underaged viewers, such as violence, strong language, or nudity, we use parental lock, on-screen classification symbol, and advisory messages to inform of such content, thereby protecting children and underaged audience's viewing interests. Our media business also provides age-appropriate content for children, this includes kid-centric channels such as Junior Pack.

4.1 Reliable Services and Products, Responsible Network Management

Our stringent procurement procedures ensure that we partner with companies that can provide safe, well-tested and reliable products. We have designated teams looking after the development and management of various customer services and products in the Group. To ensure the safety and reliability of our services and products, and those of third party suppliers and manufacturers, we maintain various product reliability processes including meeting relevant ISO standards, obtaining corresponding certification and meeting prescribed government/statutory body requirements.

The provision of highly reliable services requires responsible network management. To uphold the integrity of our network, our Engineering Team ensures that the Group is in full compliance with OFCA requirements to manage all incidents. To assure customers of our reliable service, we publish our performance pledges on our website.

We achieved our service availability and service restoration targets for 2017.

Item	📶 Performance Target	⚙️ Actual Performance in 2017
csl		
Network Reliability[2]	99%	100%
Service Restoration[3]	< 60 minutes	100%
NETVIGATOR		
Network Stability[4]	99.99%	99.99%
Service Restoration[5]	99%	99.94%

PCCW Solutions aims to provide a stable, reliable and high performing data center network to customers. Our Powerb@se MCX10 Data Center in Kwai Chung is Uptime Institute-certified[6]. The core infrastructure of our data centers provides full resilience for Internet connectivity via Data Center Interconnection (DCI) network. The DCI network is made up of fiber connections distributed in multiple locations across Hong Kong. Our de-centralized network ensures that our data centers have back up in case of incidents. Moreover, our data centers are equipped with up-to-date Distributed Denial-of-Service (DDoS) mitigation system to protect our customers against DDoS attack[7], a very common cyber security threat.

Building for tomorrow, today

We strive to anticipate and meet the ever-changing communication needs of people in Hong Kong and enhance their quality of life. In 2017, HKT introduced the NETVIGATOR 4x1000M Multi-Use Broadband Service that enables the various members of a family to simultaneously pursue their individual online interests (such as video streaming and gaming) while enjoying high-quality service that offers a minimum guaranteed speed, and a high level of data privacy and security.

HKT's Fiber-To-The-Building (FTTB) coverage reached 88.3% and Fiber-To-The-Home (FTTH) coverage reached 85.6% of all households in Hong Kong.

Our mobile communications network of more than 3,000 sites provides comprehensive mobile coverage in Hong Kong, including in all transportation tunnels and along all railway lines. We also have dedicated indoor and outdoor sites at major university campuses. We provide fiber connectivity to over 500 schools in Hong Kong to support the deployment of high-speed broadband and Wi-Fi in education.

In 2017, 3,400 members of our engineering staff received more than 9,000 days of training and professional development. Our engineers hold a range of certifications and accreditations in IT and product knowledge, etc. As of end of 2017, our engineers held a total of 1,882 professional certificates and institution memberships.

FTTB coverage

88.3%

FTTH coverage

85.6%

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2 Availability of the core network or core network uptime in a set observation period.
3 Mean time for recovering a fault in the core network following its discovery and identification.
4 Availability of broadband network.
5 Provide restoration of services for customers within two calendar days.
6 The Uptime Institute is a well-recognized global standard that rates and certifies data centers' performance and efficiency, it ensures corporates' sustainable IT performance and 24/7 reliable availability.
7 Distributed Denial-of-Service (DDoS) attack is a cyber threat that can shut down corporates' website and data centers entirely.

4.2 Customer Service and Satisfaction

In 2017, portable ramps were provided at seven csl/1O1O shops and nine HKT shops with entrance steps to enable easier access by wheelchair users and the elderly. Addresses of these retail shops are published on our corporate website.

Open and direct communication with our retail customers is vital to maintaining and improving our high level of customer service. Our customer service staff can be contacted via various channels, including service hotlines, website live chat, online enquiry, Facebook, e-mail, post or fax, as well as in person at retail stores and service centers.

My HKT is an e-platform that offers customers access to a wide range of services. Customers can manage their e-bills and get instant online support. As of end of 2017, My HKT had 1.05 million registered accounts.

Ensuring quality standards

Customer centric thinking is a core PCCW value. PCCW Solutions ensures that our products and services consistently meet the needs of our enterprise customers. In accordance with ISO 9001 and ISO 20000 standards, PCCW Solutions has established a quality management system (QMS) which defines quality management mechanisms across all business processes, including customer service. Our QMS is governed by our Quality Policy and Quality Manual. The QMS is led by the Head of Delivery Excellence and composed of Quality Representatives from multiple teams.

HKT also aims to provide quality service across the entire spectrum of our business. Our performance targets are set out in our service charter, which can be viewed on our corporate website. We value customer feedback on our products and services. Where a response is required, we aim to provide an initial reply within three working days and to resolve complaints within four working days. In 2017, over 95% of customer complaints were handled within four working days, which is a satisfactory level in the industry. As part of our ongoing service enhancement efforts, our dedicated service management team and technical experts work collaboratively to identify and address the root cause of an issue or complaint to reduce the chances of a recurrence.

A Call Monitoring Program assesses the performance of our customer service specialists, who were also required to receive up to 10 hours of call service training per month, amounting to an average of over 100 hours per person in 2017.

We also invite customers to participate in a Customer Transaction Survey and Net Promoter Score Survey at the end of each call and visit to help us evaluate our service quality and gain valuable customer feedback. Furthermore, our Mystery Shopper Program is an ongoing service performance benchmarking tool. Each retail location is audited at least twice a month. Over 1,800 Mystery Shopper visits take place annually across our retail locations.

In 2017, PCCW received 37,894 compliments from our customers[8], while the number of complaints decreased from 3,007 in 2016 to 2,153. In a recent customer satisfaction survey, 82% of customers responded that they were "satisfied" or "very satisfied" with the performance of our customer service specialists. Reports on customer suggestions, compliments and complaints are regularly reviewed by management.

Customer compliments

37,894

In addition, we participate in the Customer Complaint Settlement Scheme operated by the Communications Association of Hong Kong. The scheme offers a non-judicial forum for resolving deadlocked disputes between customers and telecommunications service providers.

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[8] Individual customers from fixed-line, NETVIGATOR broadband, mobile, Now TV and ViuTV businesses.

Service excellence awards

To help drive our efforts to continuously upgrade our service, we have in place Service Excellence Awards (SEA). SEA is open to all staff and certain external contractor staff, who may submit their own entries or be nominated by colleagues or supervisors on an individual or team basis. Every quarter, up to 45 individuals and eight teams will be named as SEA winners.

Colleagues from the Media group receive the SEA award.

4.3 Customer Data Privacy and Security

It is essential that our customers can trust us to safeguard their personal information. Ensuring the privacy and security of customer data is a key operating principle and top priority for the Group.

In addition to complying with relevant laws and regulations, our robust governance structure and comprehensive range of information privacy and data-security procedures protect individual privacy and safeguard commercially sensitive information. Our employees also receive regular training on data privacy-related issues. In 2017, there were no known issues of non-compliance in this area.

Our ISO 27001-certified IT security management systems keep our customer information secure. The systems also help us assess risk and identify new security measures. We rigorously follow the guidelines set out in our Document Retention Policy, Corporate Security Policy and Corporate Security Principles for securely storing physical records containing personal data. Staff access to personal customer data is granted strictly on a "need-to-know" basis and access to records and data without authorization is strictly prohibited.

We maintain substantial security infrastructure, including anti-virus and anti-spam software, network intrusion prevention systems, data loss protection and, more recently, Threat Intelligence Exchange and Advanced Threat Defense infrastructure, to minimize cyberthreats and the potential occurrence of malicious software infections, hacking attempts and accidental/deliberate attempts to misappropriate corporate data. Our internal IT and support teams are trained to monitor our network to detect any suspicious traffic and prevent potential cyber risk.

Our NETVIGATOR broadband Internet service provides customers with information and advice on identifying suspicious online content and activities such as phishing e-mails through its "Safe Internet Tips" and "Customer News" channels. Our network engineers will also immediately take necessary security measures, such as blocking any new incoming messages from the phishing e-mail sender addresses and regularly updating our e-mail anti-spam system. Customers can also stay informed about online threats by following our NETVIGATOR and customer service Facebook pages, where relevant notifications are posted.

5. OUR SUPPLY CHAIN MANAGEMENT

Our commitment to maintaining the highest ethical and professional standards not only applies to our own business operations but also those of our suppliers and business partners. We aim to build trusting supply chain relationships as we work together to deliver quality services and products. We engage over 2,000 suppliers, from whom we source a wide range of goods, equipment, materials and services. Around 75% of our suppliers are based in Hong Kong.

OBJECTIVES

- **Encourage suppliers and contractors to adopt sustainable initiatives**
- **Zero bribery and corruption**

MEASURES
- **Group Purchasing Policy and Principles**
- **Supplier Code of Conduct**
- **Annual performance review for major suppliers and contractors**
- **Regular supplier reviews**

All PCCW suppliers must adhere to our Supplier Code of Conduct (the "Code"), which clearly communicates our expectations. The Code's requirement includes full compliance with applicable laws and regulations, including strict adherence to occupational health and safety laws. Suppliers must also respect basic human rights, ensure their operations are free from forced labor and child labor, and manage their operations with consideration for the environment.

Any acts of bribery and corruption are strictly prohibited. We have well-established procedures in place for staff to report concerns relating to potential conflict of interest. Our "no conflict of interest" standard is set out in our CR Policy and Bribery, Gifts and Entertainment Policy.

We actively encourage our suppliers to adopt environmentally and socially responsible behavior by making them aware of our own CSR commitments. Our purchasing and procurement decisions are governed by our Group Purchasing Policy and Principles, through which we integrate social responsibility considerations into our supplier selection process.

5.1 Supplier Selection and Monitoring

When assessing new suppliers, we go beyond quality, cost, service and delivery capabilities to consider their commitment to CSR. Potential suppliers, vendors and business partners are vetted by our stringent procurement procedures prior to their engagement with us, which may include completing an assessment survey that enables us to evaluate their performance.

Our Group Purchasing and Supply Department undertakes annual performance reviews with our major suppliers and contractors, which form an important part of our process for monitoring the overall performance of our business partners, including adherence to our Supplier Code of Conduct. Any unsatisfactory ratings or areas of concern are communicated to the relevant supplier for rectification or improvement. If no improvement is observed or the breach of standards is significant, we will consider terminating the contract and, in the worst cases, blacklisting the supplier. In addition to this major annual review, we conduct regular supplier reviews and visits throughout the year. In 2017, we conducted 100 supplier visits and took the decision to blacklist four suppliers as they were not able to meet our expectations and requirements.

As an ISO 9001:2008-certified company, our quality management system ensures that our products consistently meet regulatory requirements and customer expectations. In 2018, we aim to achieve the ISO 9001:2015 standard. ISO 9001:2015 places greater emphasis on quality risk management with the adoption of the "High Level Structure", which applies the "Plan, Do, Check, Act" model for continuous improvement in quality management across our procurement process.

6. OUR ENVIRONMENT

PCCW is committed to protecting the environment. We integrate environmental sustainability into our business operations through internal policies and guidelines, which include:

- Energy and Water Management Policy and Guidelines
- Gas Emissions Reduction Policy
- Recycling procedures and programs

OBJECTIVES

- **Reduce energy consumption and carbon emissions**
- **Responsible waste management**
- **Help customers become more environmentally friendly**

MEASURES

- **Modernize data centers, exchange buildings, equipment and infrastructure**
- **Upgrade and electrify our fleet**
- **Promote recycling**
- **Develop green ICT solutions to optimize and reduce resource consumption**

Our ongoing environmental protection and green management efforts have received great recognition. In 2017, HKT received the Gold Award in the media and communications sector at the Hong Kong Awards for Environmental Excellence (HKAEE) 2016. The HKAEE Award is regarded as one of the most prestigious and reputable award schemes in Hong Kong. HKT was awarded for its best performance in environmental management and serving as an excellent example for our peers in leading the Hong Kong community to create a more sustainable environment.
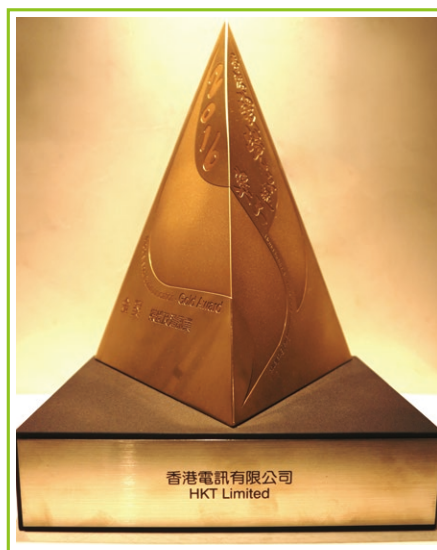
6.1 Sustainable Resource Use

We strive to be a good steward of natural resources through robust environmental management, and investment in and adoption of new technology.

Energy use

Our data centers, exchange buildings, telecom/IT equipment, infrastructure and offices account for most of our energy consumption. The Facilities Management Team is responsible for implementing new technologies and procedures to reduce electricity consumption. For exchange buildings, we review our energy usage and management systems every three months. We have also established optimal temperature set-points of 24°C to 26°C for offices, buildings and facilities.

We have been upgrading our facilities since 2004. To date, we have replaced conventional air-cooled systems for more energy efficient water-cooled chillers at 25 exchange buildings. Air conditioning currently accounts for about 30% to 35% of our total electricity usage, down from about 40% in 2012. In 2018, we will replace more existing chillers with water-cooled systems. These upgrades will lead to a 20% reduction in energy consumption of these chillers[9].


Mr. Peter Lam, Managing Director of Engineering (center), receives the Biggest Units Saver Award.

For four consecutive years, HKT has won the Biggest Units Saver Award (Organization) of the Power Smart Energy Saving Contest organized by Friends of the Earth (HK). From June 2016 to May 2017, we recorded an eight million kilowatt hour (kWh) reduction in the electricity consumption of our exchange buildings resulting from network modernization and installation of water-cooled chillers.

Our data centers are designed and maintained to the highest level of environmental standards. All power supplies including Uninterruptible Power Supplies (UPS), backup generators, air conditioning systems and other electrical and mechanical signaling services for our facilities have adopted the most advanced environmentally friendly technologies and measures. We have adopted "hot aisle/cold aisle" server rack layout design strategy, along with cold aisle-containment. This helps to optimize cooling efficiency through separating cold air supply to the server rack inlet and hot air ejected from servers.

Our efforts in the data center have earned us the LEED (Leadership in Energy and Environmental Design) Platinum accreditation and ISO 14001:2015 certification for Environmental Management System (EMS).

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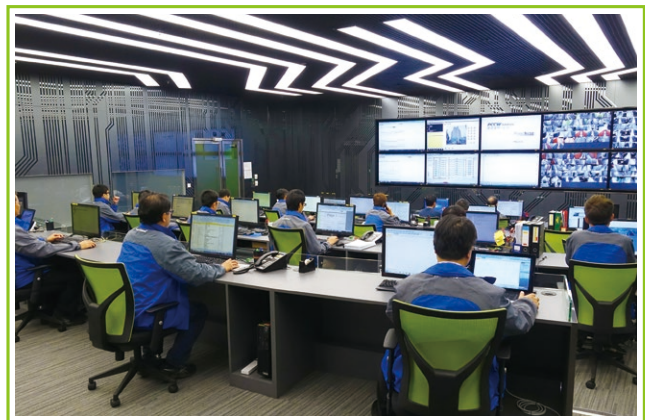
9   Estimation of reduction is based on information in EMSD guidance "Water-cooled Air Conditioning Systems (WACS)":
     https://www.emsd.gov.hk/en/energy_efficiency/water_cooled_air_conditioning_system/index.html.

Carbon emissions

We strive to reduce our greenhouse gas emissions through enhancing energy efficiency and reducing energy consumption across our operations. Our efforts in this regard include:

Fleet

We use more efficient and environmentally friendly vehicles to help protect human health and the environment. In 2017, we acquired five electric vehicles and upgraded 18 vehicles that had been in use for more than 10 years. In the next four years, we will gradually upgrade 60 more vehicles, representing 30% of our fleet.

Refrigerants

The Montreal Protocol requires the phasing out of ozone-depleting hydrochlorofluorocarbons (HCFCs) by January 2020. We are continuing to replace our remaining HCFC-based air conditioning systems with more environmentally friendly refrigerants (e.g. hydrofluorocarbons).

E-billing

We offer our fixed-line, eye, IDD, NETVIGATOR broadband, mobile and Now TV customers the option to receive account statements and other notices in electronic rather than paper format. 98% of our broadband customers, 97% of mobile customers, 86% of Now TV customers, and nearly 34%[10] of our fixed-line, eye and IDD customers signed up for e-billing. In 2017, nearly 18 million e-bills were generated, which collectively saved 48 million sheets of paper.

We began voluntarily providing our carbon emissions data to the Environmental Protection Department's Carbon Footprint Repository for Listed Companies in Hong Kong in 2014, making us one of the first companies to engage in this non-mandatory environmental reporting practice.
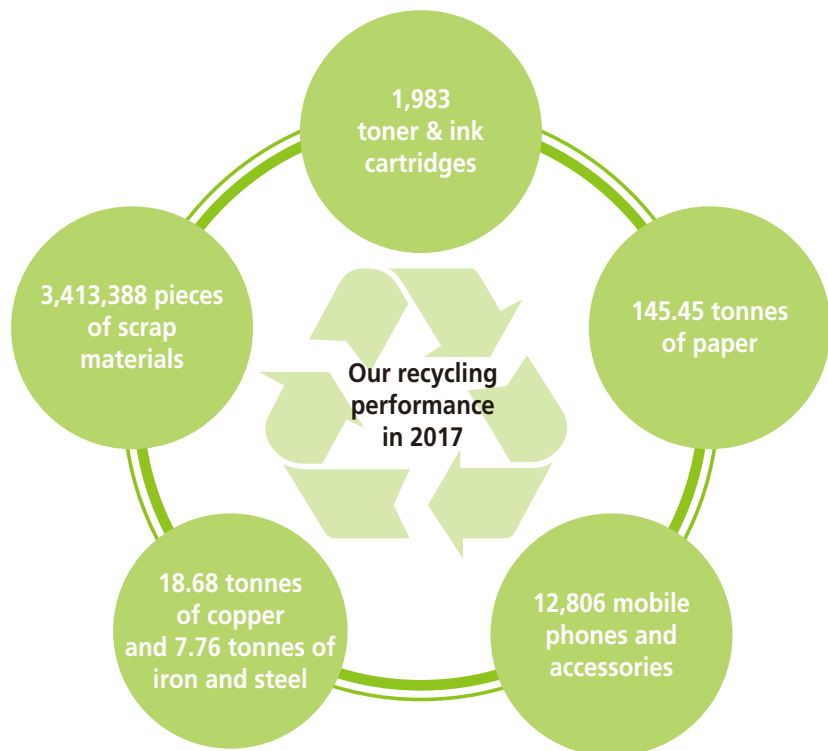
6.2 Waste and E-waste Management

Our approach to waste management reflects the key principles of the waste hierarchy: avoidance at source, reuse, recycling and reprocessing, proper waste treatment and responsible waste disposal. We implement and regularly review the Company's recycling practices and programs, and raise staff awareness of best practices for resource conservation.

Our recycling programs

We have programs promoting the recycling of used toner and ink cartridges, paper, scrap metals (which include copper, iron and steel), as well as scrap materials such as scrap cables, scrap telephones, obsolete devices and accessories, modems and router, set-top boxes, waste electrical and electronic equipment (WEEE) and transmission equipment.

In 2017, we launched a Printer Cartridge Collection Program. Used cartridges are sent for refill or recycling, depending on their condition. Those that cannot be reused will be dismantled by our recycling partner. For every cartridge collected, our recycling partner will make a donation to local environmental charity The Green Earth to support its environmental education initiatives.

Our recycling performance in 2017

- 1,983 toner & ink cartridges
- 145.45 tonnes of paper
- 12,806 mobile phones and accessories
- 18.68 tonnes of copper and 7.76 tonnes of iron and steel
- 3,413,388 pieces of scrap materials

E-waste recycling

Our mobile business has run the "Help Yourself • Help the Needy • Help the Earth Handset Recycling Program" since 2015. This initiative allows customers to donate their old mobile phones and accessories, such as batteries and chargers, at our shops. Our Government-endorsed recycling contractor collects donated items and checks their condition. Handsets in good condition are refurbished and sent to a network of social organizations which then distribute them to low income families. In 2017, a total of 12,806 mobile phones and accessories were collected, of which around 30% were donated to the underprivileged. We also donated computers and equipment to the underprivileged via Caritas Computer Workshop.

Hazardous waste

Although our Company produces limited hazardous waste, we must still responsibly dispose of items such as florescent tubes, industrial batteries, WEEE and general office batteries. We hire specialist contractors and licensed waste collectors to handle the recycling and management of such waste.

Non-hazardous waste

Our non-hazardous waste consists of general office waste and construction waste generated by the renovation of our retail outlets. To ensure our waste disposal methods are in line with local regulations, we engage professional cleaning service providers and contractors to handle this waste.

Environmental Assessment for Ultra Express Link Project

To meet the rising demand for high speed and high capacity connectivity from data center operations, we are constructing the Ultra Express Link, a three-kilometer-long submarine cable connecting Tseung Kwan O Industrial Estate (TKOIE) and Chai Wan. This cable will not only provide robust, reliable, lower latency and diverse connectivity, but will also support the development of TKOIE into an important Asian data center hub.

We assessed the potential environmental impacts of this project before commencing work, and have established the following measures to minimize these impacts.

- Stockpiles of materials will be covered with tarpaulin or similar fabric to minimize run-off to the adjacent marine waters during the rainy season.
- All construction waste and drainage will be handled and/or disposed of in accordance with the Waste Disposal Ordinance.
- Relevant standard mitigations set out in the Air Pollution Control (Construction Dust) Regulation will be implemented to minimize dust emissions.
- To reduce noise disturbance in adjacent residential areas, various measures have been implemented, such as the use of quiet Powered Mechanical Equipment (PME) and installation of noise-reducing barriers.

Following its approval by the Environmental Protection Department, work on the project commenced in September 2017 and is expected to be completed in 2018.

6.3 Green ICT Solutions

We help our customers adopt more environmentally friendly lifestyles and business practices by incorporating green ideas into the design of our products and services, which include solutions for electric vehicles (EV), homes and schools.

In partnership with CLP Holdings Limited, HKT addresses the entire EV charging process and offers a one-stop-service to assist individuals and businesses with green charging solutions. Through this Smart Charge service, we aim to encourage the wider adoption of EVs and contribute to creating a cleaner environment.

Our Smart Living service utilizes advanced technology to bring life-enhancing comfort, convenience and efficiency into the homes of our customers. By using either a customized remote control or mobile devices, our customers are able to automate and easily control home settings such as lighting, curtains and air-conditioning, as well as entertainment and security systems. These enhanced controls also enable customers to better manage their energy use and expenses.

HKT education has developed the HKTE Parent app for parents to receive and respond to school notices, including the ability to sign and submit school e-notices using their smartphones. This digital solution also allows schools to receive feedback from parents in a timely manner and streamline administrative tasks. HKTE Parent has reduced the collective consumption of paper at participating schools by about one million sheets per year.

The process of student admissions has traditionally involved a lot of paperwork. To help schools manage admissions more efficiently while enhancing their environmental performance, we have created an e-admission system solution for kindergartens, primary and secondary schools. The system enables applicants to submit admission forms online. The system was also adopted by the largest music and speech festival in Hong Kong in 2017.

6.4 Employee Environmental Awareness

Our internal newsletter publishes a regular "Green Matters" column, which provides information on environmental issues and the Group's green initiatives. We have launched a set of "Go Green" labels in all our offices. Our staff are reminded to turn off equipment that is not in use and to save water, paper and food.

Green awareness activities offered to colleagues include learning how to turn food waste into eco-enzyme detergent.

Green volunteering

Our Environmental Protection Volunteer Service Group has been active for over 20 years. In 2017, over 370 volunteers participated in 14 environment-related programs in partnership with seven charity and social services groups. Program highlights include:

Organization	Program	
Green Power	**Green Power Hike** On-site support for the annual fundraising activity aimed at encouraging our future generations to appreciate and cherish nature.	
WWF-Hong Kong	**Weeding at Mai Po Nature Reserve** Volunteers removed invasive plants to protect the natural ecosystem in this conservation area.	

Other environmental programs

We participated in the following initiatives in 2017:

Organization	Program	
WWF-Hong Kong	**WWF Earth Hour** The event aims to raise public awareness of low-carbon living. We switched off the signage lights of 13 office buildings, exchanges and shops for one hour on March 25.	
Friends of the Earth (HK)	**Suits for Success** Nearly 300 pieces of business clothing and accessories collected from our colleagues were donated to young graduates from underprivileged families.	

ASSURANCE REPORT

VERIFICATION STATEMENT

Scope of Verification

Hong Kong Quality Assurance Agency (HKQAA) has been engaged by PCCW (PCCW) (SEHK: 0008) to undertake an independent verification for the "Our Environment" section and the related environmental performance data stated in its Environmental, Social and Governance Report 2017 (The Report).

The scope of HKQAA's verification covers the data and information associating to PCCW's environmental performance as described in the "Our Environment" and "Performance Data Summary" sections of The Report for the period of 1st January 2017 to 31st December 2017.

Level of Assurance and Methodology

The process applied in this verification was based on relevant international standard. Our evidence gathering process was designed to obtain a reasonable level of assurance as set out in the standard for the purpose of devising the verification conclusion. The extent of this verification process undertaken was provided for the criteria set in The Environmental, Social and Governance Reporting Guide of The Stock Exchange of Hong Kong Limited.

In order to understand the process that PCCW adopted to ascertain the key environmental issues and impacts, the Report compilation process was discussed. Also, system and process for collecting and collating environmental performance data, as well as the overall presentation of these data in The Report were verified. Our verification procedure performed covered reviewing of relevant documentation, interviewing responsible personnel with accountability for preparing the reporting contents and verifying the selected representative sample of data and information. Raw data and supporting evidence of the selected samples were also thoroughly examined during the verification process.

Independence

PCCW is responsible for the collection and presentation of the information presented. HKQAA does not involve in calculating, compiling, or in the development of the Report. Our verification activities are independent from PCCW.

Conclusion

On the basis of our verification results and in accordance with the verification procedures undertaken, it is the opinion of the HKQAA's verification team that:

- The Report illustrates PCCW's environmental performance in a balanced, comparable, clear and timely manner;
- The environmental performance data and information states in the Report are reliable and complete.

The Report reflects appropriately PCCW's context and materiality of its environmental issues and allows stakeholders to have a clear understanding of its commitments and stewardship towards environmental management.

Signed on behalf of Hong Kong Quality Assurance Agency

Connie Sham
Head of Audit
February 2018

EXTERNAL CHARTERS AND MEMBERSHIPS

External Charters

Name of Association	Name of Charter
Environment Bureau	Charter on External Lighting
Labour Department/ Occupational Safety & Health Council	Occupational Safety Charter
Occupational Safety & Health Council	Charter on Preferential Appointment of OSH Star Enterprise

Memberships

Name of Association	Type of Membership
Business Environment Council (BEC)	Council Member
Employers' Federation of Hong Kong	Corporate Member
Girls Go Tech, The Women's Foundation	Technology Partner, Council Member
The Green Earth	Green Earth Companion, Water Category 2017-2018
The Hong Kong Council of Social Service	Caring Company Patron's Club – Coral Membership 2016/17
The Hong Kong Institute of Human Resource Management (HKIHRM)	Corporate Member
WWF-Hong Kong	Corporate Membership Program (CMP) – Silver Membership 2016/17

PERFORMANCE DATA SUMMARY

HKEX ESG KPIs		2017 Data
A. Environmental **Aspect A1: Emissions**		
General Disclosure	Disclosure statement	Refer to 6. Our Environment section
KPI A1.1	**The types of emissions and respective emissions data**	
	I. Sulfur oxides (SOx) – Direct	6.62 kg
	II. Nitrogen oxides (NOx) – Direct	6,613 kg
	III. Particulate matter (PM) – Direct	308.81 kg
KPI A1.2	**Greenhouse gas (GHG) emissions and intensity**	
	I. GHG emissions - Scope 1[11]	6,497 tonnes CO_2-e[12]
	II. GHG emissions - Scope 2[13]	248,652 tonnes CO_2-e
	III. GHG emissions - Scope 3[14]	968.15 tonnes CO_2-e
	Total GHG emissions (I+II+III)	256,117 tonnes CO_2-e
	GHG emissions intensity per employee[15]	17.29 tonnes CO_2-e /employee
KPI A1.3	**Hazardous waste produced**	
	I. Solid waste[16]	337.25 tonnes
	II. Waste electrical and electronic equipment (WEEE) disposal	162,293 pieces
KPI A1.4	**Non-hazardous waste produced**	
	I. General waste[17]	889.00 tonnes
	II. Construction waste[18]	156.50 tonnes

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[11]   Scope 1 emissions generated from HFC and PFC emissions for refrigeration; diesel from fleet and standby emergency generators, and petrol from fleet.
[12]   "tonnesCO_2-e" is the short form of tonnes carbon dioxide equivalent.
[13]   Scope 2 emissions generated from the electricity consumed by PCCW major operations with individual meters.
[14]   Scope 3 emissions generated from our office paper consumption.
[15]   As at December 31, 2017, the number of employees in Hong Kong was 14,810, which is also the basis for electricity and water intensity calculations.
[16]   Solid waste includes industrial battery (valve-regulated lead-acid battery), office batteries and fluorescent tubes.
[17]   General waste includes mainly general office waste.
[18]   Construction waste from renovation of shops.

HKEX ESG KPIs		2017 Data

KPI A1.5	**Measures to mitigate emissions and results**	Refer to
		6. Our Environment section
		   > 6.1 Sustainable Resource
		      Use

KPI A1.6	**Waste reduction initiatives and results**	
	I. Scrap materials recycled[19]	3,413,388 pieces
	II. Toner and ink cartridges recycled	1,983 pieces
	III. Paper recycled	145.45 tonnes
	IV. Scrap metals recycled[20]	26.44 tonnes
Aspect A2: Use of Resources		
General Disclosure	**Disclosure statement**	Refer to 6. Our Environment section
KPI A2.1	**Direct and/or indirect energy consumption by type and intensity**	
	I. Electricity	394,477,441 kWh
	II. Electricity intensity per 1,000 employees	26.64 kWh/1,000 employees
	III. Towngas[21]	N/A
	IV. Petrol fuel – vehicle fleet	136,701 L
	V. Diesel fuel – vehicle fleet	283,618 L
	VI. Diesel fuel – standby emergency generators	54,882 L
KPI A2.2	**Water consumption in total and intensity**	
	I. Water[22]	409,271 m^3
	II. Water intensity per employee	27.63 m^3/employee

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[19] Scrap materials such as scrap cables, scrap telephones, obsolete devices and accessories, modems and router, set-top boxes, WEEE and transmission equipment.
[20] Scrap metals recycled include copper, metal and steel.
[21] Towngas is primarily consumed at our staff canteens. The operation of these canteens is outsourced to third-party operators and we do not have direct operational control over this gas consumption.
[22] Water consumption of PCCW major operations with individual meters.

HKEX ESG KPIs		2017 Data

KPI A2.3	**Description of energy use efficiency initiatives and results achieved**	Refer to
		6. Our Environment section
		    > 6.1 Sustainable Resource Use
		        > Energy use
		    > 6.4 Employee Environmental Awareness

KPI A2.4	**Description of water efficiency initiatives and results achieved**	Water consumption is mainly due to general office/ building use. There is no material concern about water consumption. Please also refer to 6. Our Environment section > 6.4 Employee Environmental Awareness
KPI A2.5	**Total packaging material**	
	I. Shopping bags	21.89 tonnes
Aspect A3: The Environment and Natural Resources		
General Disclosure	**Disclosure statement**	Refer to 6. Our Environment section
KPI A3.1	**Description of significant impacts of activities on the environment and natural resources and the actions taken**	Our operations incur no material adverse impact on natural resources.

REFERENCES TO HKEX ESG REPORTING GUIDE

A. Environment		PCCW's Comments
Aspect A1: **Emissions**	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	6. Our Environment
KPI A1.1	The types of emissions and respective emissions data.	Performance Data Summary
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Performance Data Summary
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Performance Data Summary
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Performance Data Summary
KPI A1.5	Description of measures to mitigate emissions and results achieved.	6. Our Environment > 6.1 Sustainable Resource Use
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	6. Our Environment > 6.2 Waste and E-waste Management, and Performance Data Summary

A. Environment		PCCW's Comments
Aspect A2: **Use of Resources**	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.	6. Our Environment
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Performance Data Summary
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Performance Data Summary

KPI A2.3	Description of energy use efficiency initiatives and results achieved.	6. Our Environment
		     > 6.1 Sustainable Resource Use
		         > Energy use
		     > 6.4 Employee Environmental Awareness

KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Performance Data Summary
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Performance Data Summary
Aspect A3: **The Environment and** **Natural Resources**	General Disclosure Policies on minimising the issuer's significant impact on the environment and natural resources.	6. Our Environment
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Performance Data Summary

B. Social		PCCW's Comments
Employment and Labour Practices		
Aspect B1: Employment	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	3. Our People
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	Note*
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Note*
Aspect B2: Health and Safety	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	3. Our People
KPI B2.1	Number and rate of work-related fatalities.	Note*
KPI B2.2	Lost days due to work injury.	Note*
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	3. Our People > 3.4 Healthy and Safe Workplace

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*   This KPI will be reported in the future.

B. Social		PCCW's Comments
Aspect B3: Development and Training	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	3. Our People > 3.3 Talent Progression and Succession Plan
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Note*
KPI B3.2	The average training hours completed per employee by gender and employee category.	We report on the average training hours per employee. For more details, please refer to 3. Our People > 3.3 Talent Progression and Succession Plan
Aspect B4: Labour Standards	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	3. Our People
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	3. Our People
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	N/A

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* This KPI will be reported in the future.

Operating Practices		PCCW's Comments
Aspect B5: Supply Chain Management	General Disclosure Policies on managing environmental and social risks of the supply chain.	5. Our Supply Chain Management
KPI B5.1	Number of suppliers by geographical region.	We engage over 2,000 suppliers, around 75% of them are based in Hong Kong. For more details, please refer to 5. Our Supply Chain Management
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	5. Our Supply Chain Management
Aspect B6: Product Responsibility	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	4. Our Customers
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	N/A
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	4. Our Customers > 4.2 Customer Service and Satisfaction
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	4. Our Customers
KPI B6.4	Description of quality assurance process and recall procedures.	4. Our Customers > 4.2 Customer Service and Satisfaction
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	4. Our Customers > 4.3 Customer Data Privacy and Security

Operating Practices		PCCW's Comments
Aspect B7: **Anti-corruption**	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	1. Corporate Social Responsibility at PCCW > 1.2 Our Policies
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	1. Corporate Social Responsibility at PCCW > 1.2 Our Policies
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	1. Corporate Social Responsibility at PCCW > 1.2 Our Policies
Community		
Aspect B8: **Community Investment**	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	2. Our Community
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	2. Our Community
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	2. Our Community

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