

Shaping our future impacts, today

2023






Sustainability
Report

Community

Overview

Areas of stakeholder interest	Relevant sustainability agenda
<ul style="list-style-type: none"> Providing access to reasonably priced energy Community investment Safety around CLP's network Nuclear safety 	<p>Community stewardship</p> <ul style="list-style-type: none"> Ensuring thriving communities
Outcomes for stakeholders	



<p>CLP Power announced</p> <h1>>HK\$200 million</h1> <p>in community support programmes, with HK\$110 million to provide fuel cost subsidies for people in need</p> 	<p>Opened CLP Pulse, a new cultural hub to promote heritage, culture and green education</p> 	
<p>Awarded over A\$200,000 in Community Grants to 38 local community programmes in Australia</p> 	<p>Created hopes for the underprivileged youngsters through a series of initiatives</p> 	<p>Provided care to elderly by launching home electrical safety and digital device classes</p> 

Providing access to reasonably priced energy

Our approach

CLP understands that electricity services are essential. It continued to deliver a highly reliable, environmentally sustainable and reasonably priced electricity supply, and strives to make electricity services available to all.

Across the Group, measures have been put in place to ensure that social and physical challenges will not prevent people from accessing and using the Company's products and services. These include challenges relating to language, culture, literacy, financial situation and disability.

In Hong Kong, CLP Power offers a braille bill for those who are visually impaired. In Australia, EnergyAustralia provides interpreter services for those with a first language other than English, and also offers [hearing-impaired](#) and [vision-impaired](#) billing services.

Initiatives and progress

Various subsidy schemes and hardship programmes in Hong Kong and Australia are in place to relieve those in need and safeguard their access to electricity. Special arrangements are in place to ensure that customers facing financial difficulties can avoid disconnection to their electricity supply.

SASB reference: IF-EU-240a.3

Hong Kong

CLP is committed to maintaining electricity tariffs at reasonable levels while ensuring power supply reliability. CLP's tariff adjustments have been relatively stable over the years, due to prudent cost management and controls combined with a strategy of using a diversified fuel mix, utilising more natural gas, less coal, and importing zero-emission and relatively stably-priced nuclear power. While international fuel prices have fallen from their peak and appear to have stabilised, CLP Power will continue to adopt a prudent cost control approach in its management of electricity tariffs.

Soaring international fuel prices and a surge in the fuel cost for electricity generation since January 2021 have led to an increase in the Fuel Cost Adjustment. To ease the burden on families in need, CLP Power allocated HK\$110 million in 2023 to the CLP Fuel Cost Subsidy Programme, which provided one-off fuel cost subsidies to 150,000 underprivileged households and tenants of subdivided units in its supply area. The Company also allocated HK\$20 million to subsidise families in transitional housing in their purchase of energy-efficient electrical appliances.

CLP Power also provided subsidies and one-stop support to enable landlords of subdivided units to carry out rewiring works and install individual electricity meters for tenants of subdivided units, a move that has improved the safety of the units and enhanced tracking of electricity usage. The programme was launched in January 2019, and by the end of 2023 the programme had supported the rewiring of 79 subdivided units and the installation of 274 individual electricity meters.



In 2023, CLP Power announced over HK\$200 million in community support, with HK\$110 million allocated for subsidising the fuel expenses of 150,000 grassroots families and tenants of subdivided units.

Australia

EnergyAustralia recognises that all customers should have fair and equal access to its products and services. Through its Energy Charter, EnergyAustralia is committed to collaborating with customers to improve energy affordability, energy efficiency and provide support to customers in vulnerable circumstances.

[Download EnergyAustralia's Energy Charter 2022 disclosure](#) 

The rising cost of living continues to present challenges for many Australians. To support households facing short-term financial difficulties, EnergyAustralia continued to offer payment plans and payment extensions, as well as providing information on available government assistance. The EnergyAssist hardship programme offers support to customers experiencing financial hardship by providing additional tailored solutions that include customised payment plans, payment matching, debt waivers, and energy-efficiency education. These measures are ensuring that customers are well-informed when making decisions about their energy consumption.

EnergyAustralia also partnered with various organisations to directly assist customers facing financial hardship and improve their energy efficiency:

- Member of the [One Stop One Story Hub Partnership](#), which supports people facing family and domestic violence or financial hardship by helping them navigate support programmes and reduce the need for multiple interactions.
- Partnered with [Uniting Energy Audits](#) to provide customers with energy-efficiency information via a home or phone audit, thus helping them to reduce their energy consumption and bills.
- Partnered with [The Good Guys](#) to assist with the delivery of new appliances and the removal of old ones as part of our appliance swap programme.

Furthermore, EnergyAustralia's business customers can access support through the Rapid Business Assist programme, launched in 2020 to support small to medium enterprises facing financial uncertainty. In consultation with these customers, the Company customised payment schedules were developed, advice on reducing energy consumption were provided, and guidance on accessing government energy-relief subsidies was offered.

[Read more on EnergyAustralia's Hardship Policy](#) 

Community investment

Our approach

CLP's community initiatives, sponsorship and donation activities complement other elements of its operations to build and maintain trust from its stakeholders and sustain a harmonious relationship with the community. CLP's approach is to apply its skills and resources strategically to projects, programmes and initiatives that have a positive impact on community development in the short and long term.

The Group is committed to contributing to programmes which support healthy, resilient and sustainable community development over the short and long term. In line with the CLP Group Community Initiatives, Sponsorship and Donation Policy on community engagement, the Company aims to:

- Support projects or programmes that align with the needs and expectations of local communities and respect their cultures, traditions and values;
- Support projects or programmes that are systematically managed with clearly defined objectives and expected outcomes;
- Foster enduring partnerships with credible international, national, regional and local community organisations, non-governmental organisations and charities;

- Support projects or programmes that offer an opportunity for CLP's employees to participate; and
- Regularly evaluate the outcomes and impacts of its contributions.

[Download the CLP Group Community Initiatives, Sponsorship and Donation Policy](#)

Strategies and procedures

CLP's community investment strategy is guided by the CLP Group's Community Initiatives, Sponsorship and Donation Policy. This sets out principles and directions for implementing community initiatives across all CLP's business units and group functions. Sitting alongside the Company's corporate governance and internal control measures and its standardised online reporting platform, the policy aims to facilitate a coherent and transparent approach to the assessment, design, review and reporting of CLP's community activities. It ensures that resources are deployed to meet the community's needs effectively and in a timely manner.

The community investment strategy focuses on four key areas: Community Wellbeing, Environment, Education and Development, and Arts and Culture. Each business unit implements the strategy according to local conditions and community needs.

CLP's Community Initiative Approach



Monitoring and follow-up

The CLP Group’s Community Initiatives, Sponsorship and Donation Policy is reviewed every three years to ensure it remains aligned with the Group’s development and changes in the external environment. A review was conducted in 2023 which reaffirmed that the policy in use has proved to be comprehensive and aligns with megatrends and the local needs of different regions.

Different tools for evaluating the socio-economic impact of community initiatives have been benchmarked, and the most

suitable of these are used to review the effectiveness of CLP’s community initiatives.

CLP has a standardised online reporting system for reviewing and reporting on its community initiatives. The system is designed to enhance the overall effectiveness and efficiency of these initiatives by aggregating data on themes, partners, spending, beneficiaries, volunteer hours and impacts.

Initiatives and progress

CLP Power launched a series of community support programmes in 2023, which are mentioned in the following case study section.

GRI reference: 201-1, 203-1, 203-2, 413-1

	2023	2022	2021	2020	2019
Direct beneficiaries ¹	626,000+	1,305,000+	1,580,000+	918,000+	615,000+
Organisations benefitted ^{1,2}	291	280	232	263	401

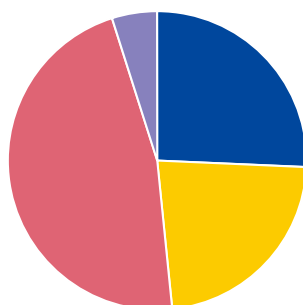
1 Apraava Energy ceased to be a subsidiary and is now accounted for as a joint venture. Apraava Energy is excluded in the figures for 2023, but included in figures for 2022 and prior years.

2 Organisations benefitted include professional bodies, academic institutes, NGOs and community groups.

Beneficiaries by theme



Of the more than 626,000 beneficiaries in 2023, 46.7% benefitted from CLP’s Education and Development programmes. The main contributor was the POWER YOU Kindergarten Education Kit programme which targets all kindergarten children in Hong Kong.



2023¹

1 Apraava Energy ceased to be a subsidiary and is now accounted for as a joint venture. Apraava Energy is excluded in the figures for 2023.

Volunteering services in Hong Kong bounced back as pandemic restrictions were lifted locally. However, the increase was offset by a decrease in China and Australia due to the launch of new programmes with different focuses and a review of volunteer policy respectively. More community programmes

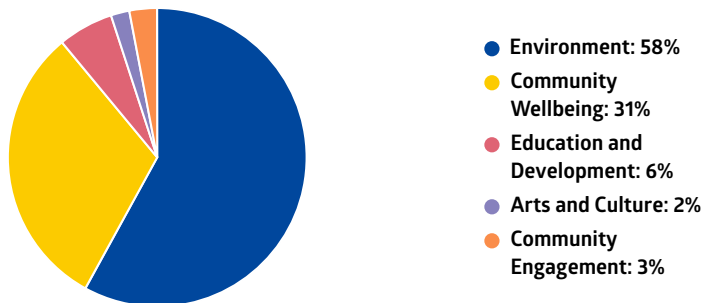
were implemented across Hong Kong, China, and Australia in 2023. The amount donated by CLP for charitable and other community purposes decreased to HKD\$9.18 million. Community spending by theme and geography is summarised in the charts below.

	2023	2022	2021	2020	2019
Amount donated for charitable and other purposes (HK\$M) ^{1,2}	9.18	10.02	15.09	27.00	20.98
Volunteer hours (hours) ^{1,2}	16,701	19,329	16,541	10,973	20,015
Programmes implemented (number) ¹	458	481	443	468	663

1 Apraava Energy ceased to be a subsidiary and is now accounted for as a joint venture. Apraava Energy is excluded in the figures for 2023, but included in figures for 2022 and prior years.
 2 Numbers have been subject to rounding.

Community spending by theme

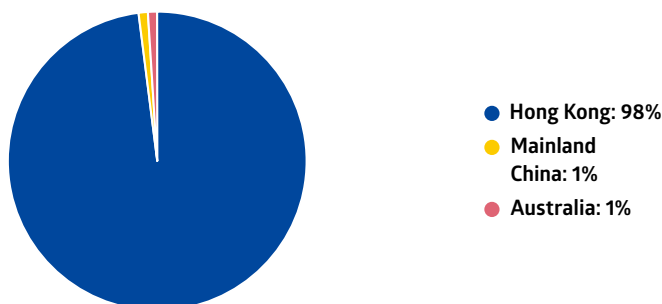
i The largest percentage of community spending was directed to environment initiatives (58%), followed by community wellbeing initiatives (31%).



1 Apraava Energy ceased to be a subsidiary and is now accounted for as a joint venture. Apraava Energy is excluded in the figures for 2023.

Community spending by region

i The largest percentage of community spending was directed to Hong Kong (98%).



1 Apraava Energy ceased to be a subsidiary and is now accounted for as a joint venture. Apraava Energy is excluded in the figures for 2023.

Case Study

EnergyAustralia's workplace giving programme passes A\$2 million in donations

EnergyAustralia actively engages with its local communities through volunteering, workplace giving and social investment.

In 2023, over A\$200,000 in Community Grants was awarded to 38 local community programmes near EnergyAustralia's power stations and Geelong contact centre.



As part of EnergyAustralia's Workplace Giving programme, staff donations are made to nine charity partners through pre-tax donations, which are then matched by EnergyAustralia. EnergyAustralia continue to have one of the highest participation rates among all participants in Australia, and in July 2023, the Company celebrated surpassing A\$2 million in donations to our charity partners within the first five years of the programme.


EnergyAustralia's employees are granted 16 hours of paid volunteering leave each year. In 2023, the Company

refreshed its volunteering policy to provide additional flexibility. Since implementing this change, over 600 of EnergyAustralia's employees have volunteered a total of 1,400 hours in their local communities.

To extend EnergyAustralia's support further, the Company End of Year Giving Appeal resulted in a donation of A\$54,000 to its Workplace Giving charity partners. In addition, EnergyAustralia's contributed over A\$10,000 worth of toys and hamper items through donations to local Christmas appeals in its communities. Dedicated volunteers in Melbourne and Geelong sorted the donated presents to give underprivileged children the joy of receiving gifts at Christmas. Furthermore, a team of volunteers assembled 21 items of furniture for three Melbourne families who were setting up new homes after experiencing family violence and homelessness.



EnergyAustralia volunteers assembled IKEA furniture and sorted presents as part of the End of Year giving appeal.

[Find out more on local community initiatives at EnergyAustralia](#) 

[Read more on each business unit's community programmes in the Annual Report](#) 

Case Study

A new cultural hub to promote heritage, culture and green education

CLP Pulse is housed in the Grade 1-listed CLP clock tower building built in 1940. Formerly CLP’s Head Office, the building has been transformed into a museum that showcases the intertwined histories of Hong Kong’s electricity development and the Kadoorie Family. It also promotes decarbonisation and sustainable development through experiential activities.

May 2023 saw the opening of CLP Pulse, a new museum featuring themed exhibitions on the history of the electricity industry in Hong Kong, its pivotal role in shaping the city’s development, and the influence of the Kadoorie family on the modernisation of Hong Kong as well as the intangible cultural heritage of Hong Kong. The exhibitions promote heritage, culture and environmental education.

CLP Pulse is housed in CLP’s iconic 80-year-old clock tower building on Argyle Street, which once served as the headquarters for CLP Power. Listed as a Grade 1 historic building by the Antiquities and Monuments Office in 2018, it is one of Hong Kong’s few remaining examples of international modernist architecture. Entry to the museum is free of charge, and complimentary guided tours and experiential activities are available.

From its opening in May up to the end of the year, CLP Pulse welcomed over 46,000 visitors. The museum also provides a permanent headquarters for the Hong Kong Heritage Project, which gives access to a rich and storied archive that encourages and facilitates scholarship in local history.



CLP Pulse, a unique cultural hub housed in CLP’s renovated clock tower building, promotes heritage, culture and green education for the benefit of the Hong Kong community.



The themed exhibition “ElectriCity” at CLP Pulse offers an extraordinary experience for visitors, enabling them to feel the impact of climate change and explore ways of navigating the journey to a zero-carbon future.

Case Study

Connecting the elderly with society

CLP Power has launched a series of social events and digital lessons in Hong Kong to help elderly people stay socially connected.

To bridge the digital divide and empower the elderly, CLP Power launched “Sharing the Festive Joy – Fun4Infinity” in the year. This programme teaches the elderly how to use commonly used mobile applications through digital device classes, provides them with practical opportunities to apply digital skills in their daily lives, and offers guided tours around local neighbourhoods. CLP Power collaborated with 4 NGO partners to organise more than 50 digital classes with practical activities for over 600 elderly people.

To celebrate the Tuen Ng Festival, Mid-Autumn Festival and Senior Citizens Day with the elderly, CLP Power organised visits to the Xiqu Centre and the Hong Kong Palace Museum to explore Chinese culture. Volunteers helped the elderly visitors to apply their newly acquired digital knowledge during the visit, for instance by using QR codes to order desserts and by playing online energy-saving games. Over 300 CLP volunteers took part in the digital classes and practical activities, sharing their love and care with the elderly in their digital journeys.



The Sharing the Festive Joy – Fun4Infinity programme empowers the elderly with digital technology, offering practical opportunities to bridge the digital divide.

CLP Power has four Hotmeal Canteens in Sham Shui Po, Kwun Tong and Kwai Tsing districts, which provide nutritious hot meals to people in need and offer a place for them to meet, socialise, and connect with the community. In 2023, the CLP Hotmeal Canteen programme served its one millionth hot meal to the community, and a celebration lunch was held in April to mark this milestone. CLP volunteers visit the Canteens regularly to help serve meals and organise thematic activities such as games and art workshops. These activities promote physical and mental health while demonstrating care to people in need.



The CLP Hotmeal Canteens have served up more than one million meals, at the same time providing a place for people to socialise and connect with the community.

The ‘Be Dementia Friendly’ programme was launched in the year, designed to help elderly people exhibiting early signs of dementia by providing interactive services that can delay cognitive decline. CLP organised five workshops during the year. In December, a trial run of the ‘Be Your Peer Community Power Journey’ led by trained retirees was organised for elderly participants in the ‘Be Dementia Friendly’ programme to interact with CLP volunteers and the community.



Case Study

Providing opportunities for young people and nurturing future generations

In the face of the challenges encountered by fresh graduates and career starters, CLP Power is dedicated to addressing the working needs of local youth and providing support in collaboration with various partners to boost opportunities for youngsters.

In collaboration with the Correctional Services Department, CLP Power is helping young people in custody and those who have been released with their reintegration into society by organising career talks, interview skills workshops, caring visits, induction courses and special internships. Approximately 130 young inmates have benefited from the programme, gaining information on continuing their studies and exploring pathways in engineering.

CLP Power supported the government's Strive and Rise Programme 2022/23 by nominating 16 mentors, including graduate trainees, young engineers, and representatives from various business units. These mentors participated in a one-year mentorship programme, with 6 of the mentors pairing with underprivileged junior form students on a one-on-one basis. They accompanied the students in a wide range of activities, including 25 visits to CLP facilities such as the CLP E-Playground, CLP Learning Institute and Low Carbon Energy Education Centre, providing them with valuable life and study advice. CLP is continuing to support the Strive and Rise Programme 2023/24 by nominating 11 mentors to join the one-year mentorship programme.

CLP Power supported the Hong Kong Federation of Youth Groups for the CLP Energy for Brighter Tomorrows Award, providing scholarships for 20 young people with outstanding achievements in battling against adversity. Nine CLP Power colleagues acted as mentors for the students. Since its launch, a total of 100 students have been awarded scholarships.

In addition, the CLP Power Academy collaborated with education institutions in Hong Kong and overseas including the Vocational Training Council (VTC), Scotland's University of Strathclyde and Australia's RMIT University to offer a range of electrical and mechanical engineering courses for students from different educational backgrounds. More

than 2,100 students have benefitted from the courses offered by the academy since it was founded in 2017, highlighting the academy's role in nurturing young people and working adults, providing a career pathway for people without conventional academic qualifications and widening the engineering talent pool.

The CLP Power Academy launched a pioneering training course in 2022 for Hong Kong engineering personnel to gain high-voltage electrical qualifications in Mainland China in a joint initiative with the Guangzhou Industry and Trade Technician College and the VTC. The first cohort graduated in June 2023 and a new training course for low-voltage electrical work was launched in April 2023.

CLP Power is committed to promoting a low-carbon and energy-saving lifestyle through innovative tools and public education programmes. Its Power Kid Mobile application has been updated with a 3D interface, offering new games and expanded sections promoting messages of energy efficiency and low-carbon living to children. The updated application was launched at the annual Hong Kong Book Fair, which attracted over 35,000 visitors to the CLP booth across its seven days. The newly revamped application has been downloaded more than 11,000 times since its launch. In addition, a new 3D cartoon video featuring sustainable living habits was launched in 2023. CLP's graduate trainees and young engineers continued to visit local kindergartens to talk about the power generation journey, the safe use of electricity, the work life of engineers and to offer energy-saving tips. Approximately 50,000 children in over 600 kindergartens have been reached so far.

CLP's commitment to nurturing future generations extends to primary schools, with 17 primary schools having been accredited as Green Elites campuses under the CLP Green Elites Campus Accreditation Programme. This brings to almost 120 accredited schools under the programme, recognised for their efforts in promoting energy saving, renewable energy and environmental protection on campus.

Since its launch in 2016, the "Engineer in School Programme" has motivated secondary school students to save energy and explore careers in power engineering.

CLP engineers have engaged with more than 63,000 students from 170 schools through school talks and workshops, which have included STEM workshops and visits to CLP's E-Playground. The first "Triathlon" Cup summer camp was organised in July, where around 60 secondary students got to unlock their creativity and be inspired to pursue power engineering.

In 2023, the CLP Community Energy Saving Fund (CESF) allocated HK\$0.75 million to the CLP Award for VPET

students, providing a subsidy of HK\$10,000 to each eligible student and benefiting a total of 75 Year 2 students in the 2022/23 cohort. One of the awardees was offered a summer internship in August to learn about the power industry. The award not only provides training opportunities to these students in the energy sector, but it also helps nurture a new generation of talent for Hong Kong's power engineering industry.



Career talks, interview skills workshops, caring visits, induction courses and special internships were offered to help young people in custody and those who have been released to reintegrate into society.

Case Study

Enabling Growth and Engagement through Continued Community Support

As part of its commitment to community stewardship, CLP Power has rolled out a range of targeted initiatives to address the needs of different communities in Hong Kong.

CLP Power allocated HK\$6 million from its Community Energy Saving Fund in 2023 to launch the [E-Learning Assistance Programme](#). The programme provides new electronic learning devices, including iPads, internet mobile WiFi hotspots and data SIM cards, to 1,600 primary, secondary, and tertiary students from low-income families. The initiative aims to support young people needing electronic devices for online classes and e-learning.



CLP Power distributed e-learning devices to 1,600 underprivileged students to help them learn more effectively.

In addition, CLP Power launched the Substation Beautification Project to connect people with their communities by decorating substations with murals promoting energy conservation, carbon reduction and green living. The Substation Beautification Project this year was conducted in Yau Tsim Mong, Sham Shui Po and Kwun Tong districts. Non-profit making art organisations, ethnic minority families, senior citizens, and young people were engaged to collaborate in creating beautiful murals together.



Residents of all ages teamed up to beautify the substation in Shek Kip Mei with colourful messages about local heritage and the importance of low-carbon lifestyle.

CLP China launched the 3-year 'Rural Vitalisation Programme' in 2023. In the first year, CLP China carried out 7 projects in 5 regions under the themes of ecological, talent and industrial/ agricultural vitalisation. The projects have benefitted more than 6,200 people. Also, the 'Knitting for the Community' programme was launched, bringing together CLP China volunteer group of employees and their families to knit over 600 scarves and accessories for the underprivileged in China.

A Volunteer Appreciation Ceremony was held in November 2023 to recognise the volunteering work of employees with NGOs and community partners from 2020 to 2022, a period in which employees collectively delivered close to 30,000 hours of volunteer service. The Volunteer Team adjusted its services in response to the pandemic, switching from door-to-door visits to calls to provide care for elderly people with early symptoms of dementia; and from dine-in hot meals to distributing meal coupons, takeaways and deliveries to the homes of people in need.

Safety around CLP's network

Our approach

Electromagnetic fields (EMFs) from power systems are a prominent area of public concern. However, CLP's EMF levels remain well below international guidelines.

GRI reference: 416-1, 416-2

While the Group's HSE Management System Standard sets out an overarching approach to managing the safety risks in operations, CLP also takes responsibility for preserving public health and safety, including the health and safety of those who work or live in close proximity to power supply lines.

CLP operates a transmission and distribution network in Hong Kong, as well as transmission networks in Shenzhen, China and in the northeastern part of India. Working near power supply lines may pose safety hazards. Both CLP's Hong Kong and Mainland China operations conduct regular construction site inspections and provide cable plans and safety talks to road

work contractors and site management personnel, to keep a high level of safety awareness at all locations.

EMFs arising from power systems are a matter of public health concern. CLP's power supply equipment fully complies with the guidelines issued by the International Commission on Non-ionizing Radiation Protection. Regular EMF measurements of CLP's power supply equipment are carried out jointly with the Electrical and Mechanical Services Department of the Hong Kong Government. The measured EMF levels continue to be well below the guideline limits.

Regarding customer health and safety, CLP Power has Customer Service Centres conveniently located in its supply areas in Hong Kong that provide assistance on product safety, as well as advising on energy-efficient products, energy-saving tips and account management issues.



Maintaining proper Health, Safety and Environment management practices for transmission towers is important to keep the general public safe.

Nuclear safety

Our approach

CLP is the minority owner of two nuclear power stations in Mainland China, namely Daya Bay Nuclear Power Station and Yangjiang Nuclear Power Station. The power stations have adopted defence-in-depth principles to ensure multiple independent layers of safety protection.

SASB reference: IF-EU-540a.2

Nuclear risk management

The safe and steady operation of the two nuclear power stations is a top priority. The **defence-in-depth principle** of safety is applied in every area, including design, site selection, operation, radiation protection, environmental monitoring, and emergency preparedness. The safety principle of "As Low As Reasonably Achievable" is also applied.

The two nuclear power stations have each delivered good safety performances over the years due to:

- The adoption of best international practices, including the International Atomic Energy Agency Nuclear Safety Standards, in their operations;
- A well-trained and well-qualified workforce;
- Well-established safety practices and procedures; and
- Comprehensive risk analysis and mitigation.

[Read more from the Audit & Risk Committee Report in the 2023 Annual Report](#)

Nuclear waste management

Daya Bay Nuclear Power Station (Daya Bay) adheres to national policy and international practices for nuclear waste management. The station stores its spent nuclear fuel onsite in dedicated storage facilities.

The back-end management of the fuel cycle is performed onsite for a number of years before the spent fuel is passed on for reprocessing to a service provider licensed by the Chinese Government. The service provider is supervised by the National Nuclear Safety Administration, and its environmental impact is monitored by the Ministry of Ecology and Environment. The policy in Mainland China on reprocessing spent nuclear fuel is similar to that of a number of European countries.

Low- to intermediate-level solid radioactive waste is appropriately sealed and stored onsite in a dedicated facility on an interim basis, to ensure protection against unauthorised access. The waste is transferred to a final repository operated by a service provider, using the shallow burial method commonly adopted in the United States, France and the United Kingdom. The operation of the offsite repository is under the supervision of the national nuclear regulator and is subject to relevant nuclear safety regulations.

Monitoring and follow-up

Workers' exposure to radiation is closely monitored and managed by plant operators both collectively and at an individual level as part of operating protocols. Workers are exposed to most radiation during planned refuelling outages, when they need to work at the nuclear generating units, including carrying out inspection and maintenance activities in radiation-controlled areas. Radiation dosage levels typically reflect the number of planned outages carried out at the units.

Training and awareness

An onsite training school provides professional training on operational procedures for nuclear sites. The training aims to enhance nuclear safety by systematically minimising the chance of human error. There is a once-every-five-years requalification mechanism to ensure operator professionalism and competency in plant operation.

Initiatives and progress

The International Atomic Energy Agency (IAEA) and the Organisation for Economic Co-operation and Development (OECD) developed the International Nuclear and Radiological Event Scale (INES) to improve public understanding and awareness of the nature and significance of safety aspects of incidents, as well as to communicate to the public the safety significance of nuclear and radiological events in a consistent manner. Any event that happens in a nuclear power station that qualifies for the INES scale is considered as a Licensing Operational Event (LOE). Daya Bay continued to operate smoothly in 2023, with no LOE occurring during the year.

To ensure the provision of low-carbon and cost-competitive energy to Hong Kong, Daya Bay will continue to provide an additional 10% electricity output to Hong Kong from 2024 to 2028, in addition to the 70% of its electricity already committed to Hong Kong. This arrangement helps avoid substantial carbon dioxide emissions in the city while keeping the tariff stable.

CLP is committed to promoting education about nuclear and low-carbon energy. It sponsored The City University of Hong Kong to set up the CLP Power Low Carbon Energy Education Centre in 2017. Since then, the centre has been serving as an important platform for engaging with and educating the public about the benefits of low-carbon energy sources, including nuclear energy, and how they help address the challenge of climate change. There are five themed zones to introduce various types of low-carbon energy including wind, solar, hydro, gas and nuclear through interactive exhibits and tools. Guided tours and various low-carbon themed workshops are offered to visitors free of charge. In 2023, more than 9,000 visitors visited the centre, nearly double the number in 2022. Visitors included students, teachers, professional groups and the general public.

GRI reference: 306-3 (2016), 306-1, 306-2, 306-3

The average radiation dose rate for workers in 2023 was less than 0.4 mSv per person per year. By comparison, the background radiation dose rate from the natural environment in Hong Kong is 2.4 mSv per person per year.

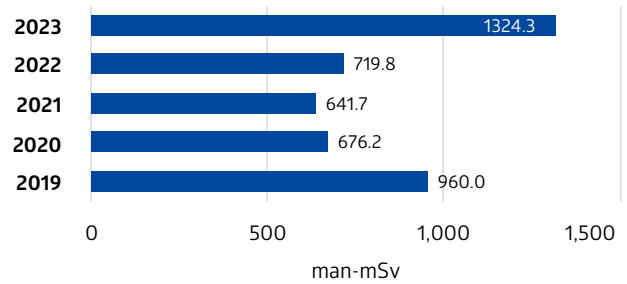
The charts on the right and below show the amounts of spent nuclear fuel and low- to intermediate-level radioactive nuclear waste from Daya Bay in recent years. The amounts of both types of waste are related to the number of planned refuelling outages in each year.

In 2023, Daya Bay carried out a 30-year planned outage, and the total quantity of spent nuclear fuel generated reflected this event.

Collective radiation dosage for workers



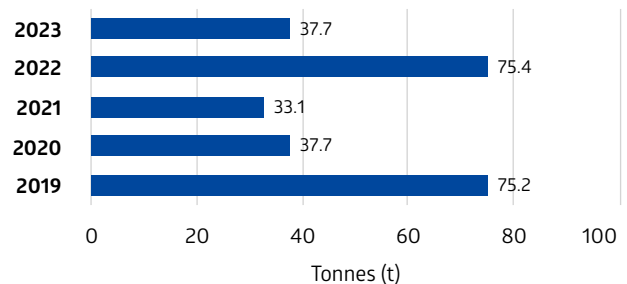
The collective radiation dosage for the year was 1324.3 man-mSv, greater than the 2022 level of 720 man-mSv, as there was a 30-year planned refuelling outage of a longer duration.



Spent nuclear fuel



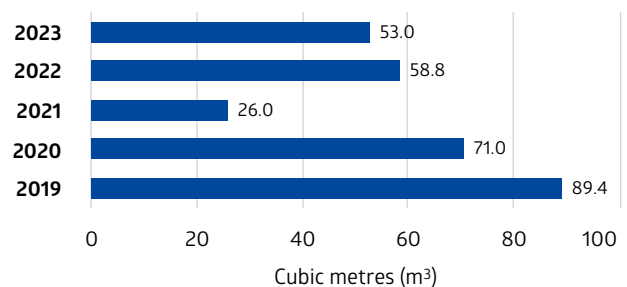
The amount of spent nuclear fuel in 2023 was at an expected level given the one planned refuelling outage, by comparison with two in 2022.



Solid radioactive nuclear waste



There was a decrease in low- to intermediate -level nuclear waste in 2023, as compared with 2022, due to a 30-year planned refuelling outage of a longer duration.



Case Study

Low-Carbon Invention Competition sparks students' creativity for decarbonisation solutions

Nurturing the younger generation and supporting environmental education have always been part of CLP's commitment to the community.

Over 1,100 primary and secondary students participated in the Low-Carbon Invention Competition organised by the CLP Power Low Carbon Energy Education Centre (LCEEC) located at City University of Hong Kong to harness their creativity for environmentally friendly inventions using 3D printing technology. The competition combined elements of creativity, STEM (Science, Technology, Engineering, Mathematics), and environmental awareness and encouraged students to come up with eco-friendly ideas which could be applied in daily life. Some winning entries featured renewable energy by harnessing wind and solar power together with energy storage devices. Other entries aimed to reduce carbon emissions through greening.

The Low-Carbon Invention Competition aligns perfectly with the LCEEC's mission to raise awareness of

climate change while introducing participants to the transformative power of STEM in driving sustainable development. The overwhelming response to the competition reflects the LCEEC's achievement in environment education.



A group picture of winners and guests.



ESG Data Table and GHG Accounting Methodology

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