

CLP's Climate Vision 2050

A more sustainable world



CEO's Message

There can be no serious doubt that greenhouse gas levels in the atmosphere are increasing due to human activity and that significant and damaging changes to our climate are occurring as a direct result. Time is ticking, with the risks and impacts of climate change becoming more evident as witnessed in the intensity and frequency of extreme weather events. The Intergovernmental Panel on Climate Change (IPCC) special report – *Global Warming of 1.5°C* – underscores the urgency with which we must act.

CLP has long been a staunch supporter of climate action. In 2007 we were the first Asian-headquartered power company to set carbon intensity reduction targets for our generation portfolio. A decade on, we are transforming into a Utility of the Future. We are progressively decarbonising our portfolio of generation assets and evolving our business model to support our customers to improve energy efficiency. We are also leveraging advanced technologies and exploring opportunities in transmission and distribution, electric vehicle charging, decentralised generation and smart energy services.

In our Climate Vision 2050 we have taken the strategic decision to add no additional coal-fired power generation assets to our portfolio. We also aim to phase out all remaining coal-based assets from our generation portfolio by 2050 at the latest.

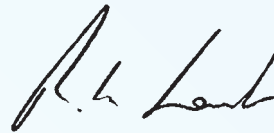
In 2018 we announced our tightened carbon intensity targets which require a reduction of 80% from the 2007 baseline-level by the middle of this century. We have also established new renewable energy and non-carbon emitting capacity targets for 2030, reflecting both the scale of the changes needed and the improved economic viability of renewable energy. These new commitments help us focus on opportunities stemming from low-carbon solutions inherent in a Utility of the Future business model.

We are committed to strengthening our targets at least every five years. We set our targets conservatively based on currently available technology and the existing regulatory context in our key markets. These targets are in line with our long-term decarbonisation strategy. We understand that

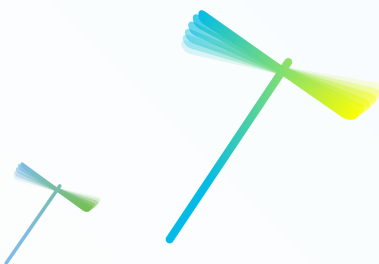
the pledges made under the Paris Agreement will not be enough to achieve the ambition of limiting global temperature increases to 1.5°C. But we anticipate that our markets will deepen their decarbonisation capabilities over time; hence we will start tracking our progress in climate action against the Sectoral Decarbonisation Approach (SDA) trajectory of the Science Based Targets initiative (SBTi). This transparent comparison will help us stay on course to accelerate our transition to a science-based target.

Addressing the challenges of climate change requires a collective effort from communities, governments and businesses. CLP is committed to working across sectors to support the development of stable policies and regulations that will speed up the transition to a low-carbon and affordable power supply for all.

Our updated Climate Vision 2050 demonstrates CLP's ambition to make decarbonisation a reality and to be an important player in the world's journey towards a sustainable, low-carbon future.



Richard Lancaster
Chief Executive Officer
December 2019



Our Context

Setting targets for the power sector

We first published our Climate Vision 2050 in 2007, and in 2017 undertook a comprehensive review of the existing targets.

Having set ourselves the target of progressive decarbonisation, we modelled various outcomes based on different projected approaches, taking into account likely trends in technology, regulatory context in our markets, and how the business would perform.

This work was based on global and regional energy development scenarios that align with the International Energy Agency's (IEA) World Energy Outlook 2016 Current Policies Scenario, New Policies Scenario and 450 Scenario (also called the 2°C Scenario), as well as forecasts outlined in Bloomberg New Energy Finance's New Energy Outlook 2017.

Moving forward we will use scenario analysis in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) to assess the ongoing impact of climate change on our business. Moreover, as we are committed to strengthening our decarbonisation targets at least every five years, we will chart our targets and our progress towards them against the Science Based Targets initiative (SBTi).

Changes in technology and business models

Wind and solar technology continues to improve and renewable energy is becoming increasingly more efficient and affordable. Battery and other energy-storage solutions combined with flexible forms of generation like natural gas and renewables are evolving fast and starting to contribute to grid stability.

Onshore wind turbines have substantially increased in size in addition to improvements in generator technology. Even more dramatic improvements have been observed in the size of offshore wind turbines. The increase in size has pushed down the cost of offshore wind projects and made this area an increasingly attractive and viable option for investment across the Asia-Pacific region. The capabilities of solar energy have also grown significantly in recent years, driven by dramatic reductions in equipment costs, primarily photovoltaic (PV) solar modules.

Millions of new players, in the form of homes, businesses and communities, are entering the energy economy as renewable energy creates more of a decentralised power generation business model.

In response to these changes, we are going beyond low-carbon generation to include broader investments in innovative projects and propagating new technologies within the energy economy in fields including transmission and distribution, electric vehicle charging and smart energy services.



Our Climate Action

Following the ratification of the Paris Agreement, we reviewed our Climate Vision 2050 targets in 2017 on the basis of existing technology, anticipated technical developments, as well as local, regional and national government policies in each region where we do business. Reliability, safety, affordability and environmental responsibility are our key consideration factors.

These targets seek to guide the development of our business so that we can:

- shoulder our share of the responsibility to mitigate climate change;
- manage the key risks posed to our business by transforming away from carbon-emitting generation; and
- focus on business opportunities and deliver value from low-carbon solutions.

Policies that encourage and facilitate investment in high efficiency and state-of-the-art technologies for fossil fuel power plants, new capacity in lower-emitting fuels such as gas, nuclear and renewables, and decentralised generation and storage, would help facilitate the transition in particular.

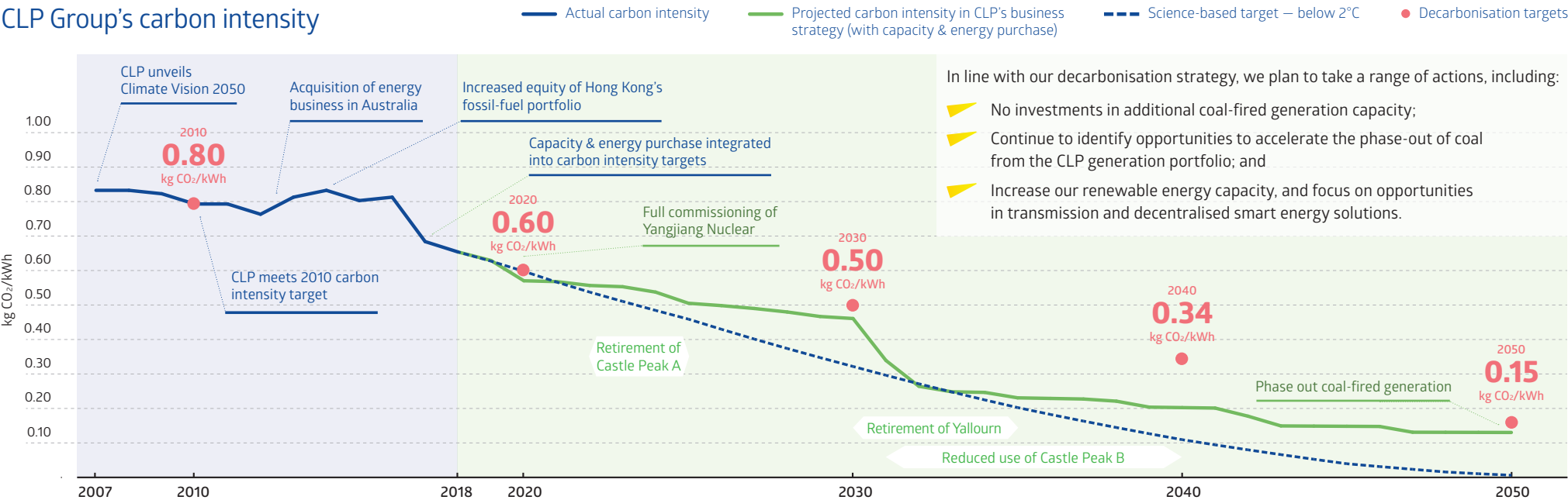


Discover CLP's latest performance in our Sustainability Report: clp.to/SR

Our past and projected carbon intensity

The trajectory of the CLP Group's projected carbon intensity is in line with our 2018 business plan and long-term decarbonisation strategy.

CLP Group's carbon intensity



Note: The plant retirement timeframes are indicative only.

Regional plans

As a responsible energy provider, we considered a range of factors, including the regional context, community needs, energy security and the environmental impact, when setting out our regional plans.

Hong Kong

- Centralised electricity generation will remain necessary for dense and highly populated cities like Hong Kong
- Continue to deploy gas and nuclear power to enable our move away from coal power
- Plan to close our coal-fired generation units at Castle Peak A Power Station progressively in the mid-2020s
- Support the Government to facilitate the decarbonisation of the power system in Hong Kong

Mainland China

- Continue to grow our renewables and non-carbon emitting portfolio
- The role of coal will continue to decline over the coming years under our commitment of not building any additional coal-fired generation facilities in Mainland China
- Explore further partnerships in integrated energy systems and independent decentralised generation and distribution to deliver more technology-enabled energy solutions



India

- As part of our partnership agreement with Caisse de dépôt et placement du Québec (CDPQ), CLP India is committed to expanding investments in low-carbon growth areas including renewable energy investments as well as non-generation business opportunities in transmission, distribution and other customer-focused businesses

Southeast Asia and Taiwan

- Explore options to expand our renewable footprint in Thailand
- Our minority-owned Ho-Ping Power Company in Taiwan will invest in renewables over the coming years
- Explore new investment opportunities in renewable generation in Vietnam

Australia

- EnergyAustralia's coal-based generation assets are expected to be gradually phased out over a timeframe that provides for carefully managed transition
- Continue to work closely with customers, communities, governments and partners to support the development of stable policies and regulations that assists the transition to a low-carbon, reliable and affordable power supply
- Explore a portfolio of opportunities, including new gas and pumped hydro generation projects, with the potential to provide customers with firm, reliable and flexible capacity

	Identified needs
Hong Kong	Long-term lower carbon electricity supplies to support smart city economic development and environmental needs
Mainland China	Continued policy support that enables the growth of renewables and microgrid solutions, and supports better utilisation of the least emission-intensive facilities
India	Meet the need for new clean energy capacity and a strengthened grid that facilitates the integration of more renewable energy
Southeast Asia	New generation capacity to support strong population and economic growth and, over time, a higher penetration of low- or zero-carbon generation assets
Australia	Stable national and regional policies, and a flexible, well-coordinated energy system to enable and react to a higher penetration of variable supply from renewables

Climate Vision 2050

CLP is determined to play its part in the worldwide response needed to tackle climate change. We are keeping our 2020 carbon intensity target of 0.60kg CO₂/kWh while introducing new carbon intensity reduction targets for 2030 and 2040 to replace the previous target set for 2035.

Furthermore, we tightened our 2050 target to reduce the carbon intensity of our portfolio by 80% from 2007 levels, to

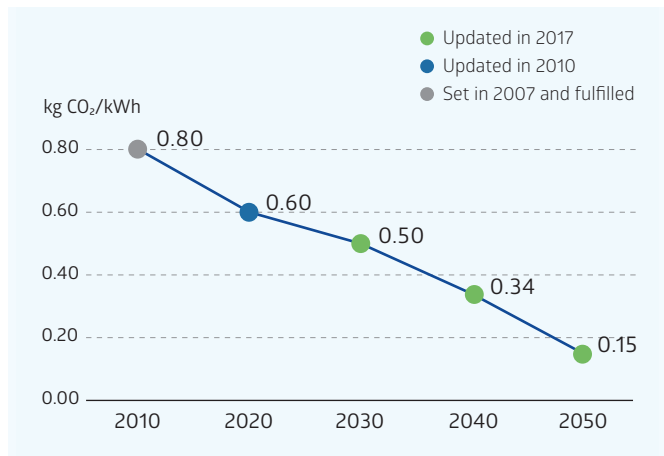
0.15kg CO₂/kWh. A new renewable energy capacity target of 30% and a new non-carbon emitting capacity target of 40% by 2030 were established.

By strengthening our targets at least every five years moving forward, we can take into account the changes in technologies, policies, regulations and market structures, and conditions over time.

Strengthening CLP's decarbonisation and clean energy targets over time

Decarbonisation Targets

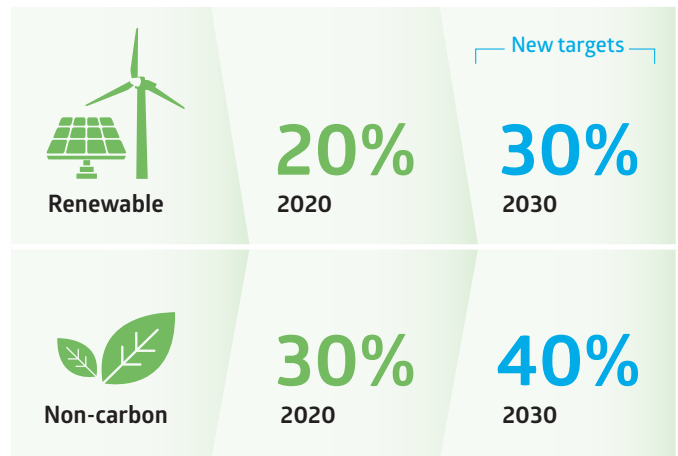
(in terms of carbon intensity)



Note: The targets are on an equity plus long-term capacity and energy purchase basis.

Clean Energy Targets

(in terms of renewable and non-carbon emitting energy share of CLP's generation portfolio)



Our Path to 2050

With the daunting IPCC projections of what it will take to shift to a 1.5°C world, there is much work that needs to be done.

We are committed to no longer investing in any additional coal-fired assets and accelerating our plans to phase out coal-fired generation capacity by 2050 at the latest. We are determined to deliver on our purpose to provide safe, reliable and affordable electricity for customers, and we are fully aware that our environmental responsibility has never been greater.

CLP is set to continually raise our ambitions while all of us need to play our part. Energy efficiency starts at home, and we are proud to provide solutions and services to allow our customers to do just that. Together we can speed up the pace of the energy transition and make a low-carbon world our new future.

CLP Holdings Limited

CLP is currently one of the largest investor-operators of power assets in the Asia-Pacific region. We operate in Hong Kong, Mainland China, India, Southeast Asia and Australia, with business activities ranging from generation, transmission and distribution to retail and energy services.

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