



# ACHIEVING CARBON NEUTRALITY BY 2050

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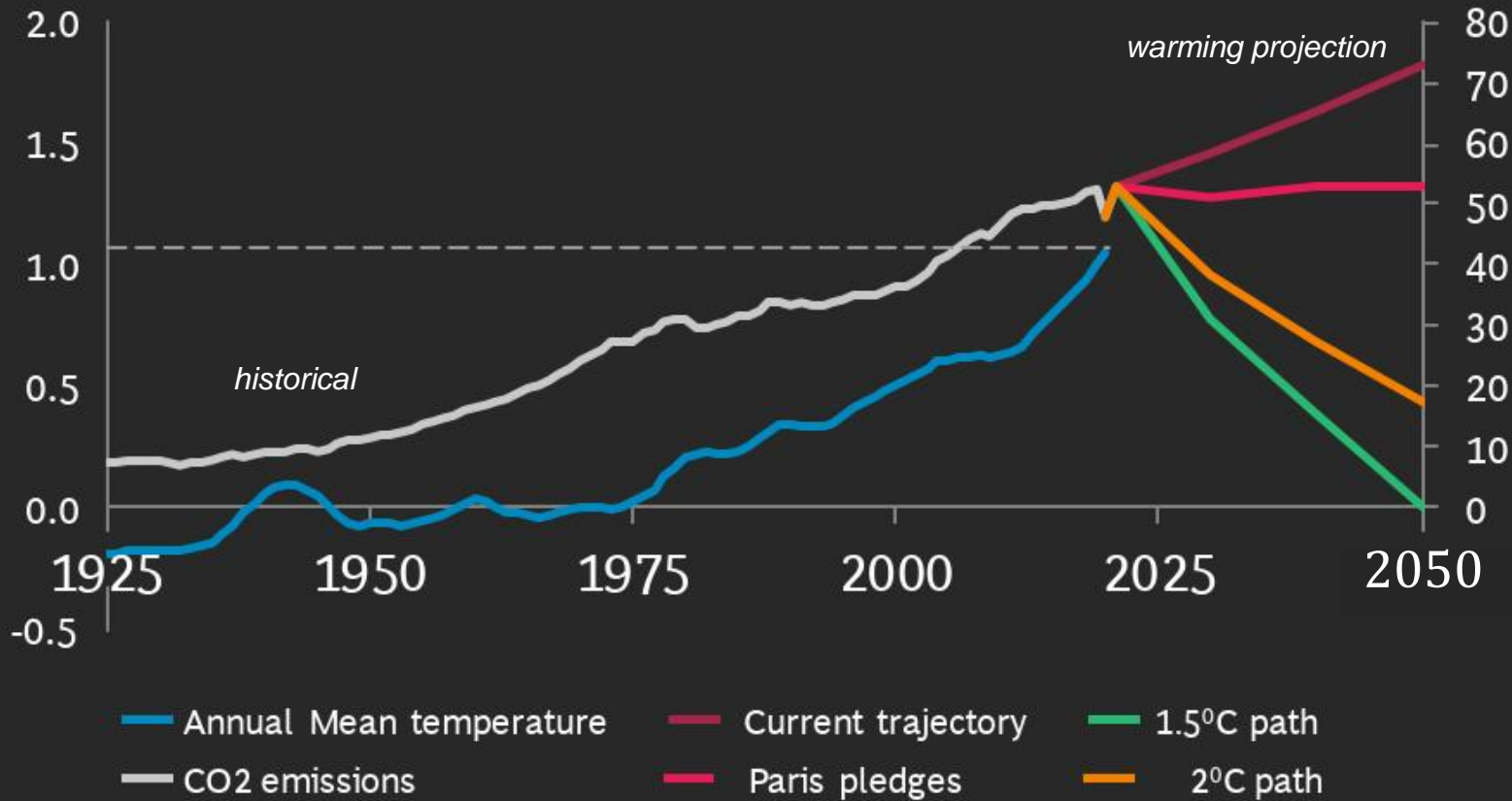
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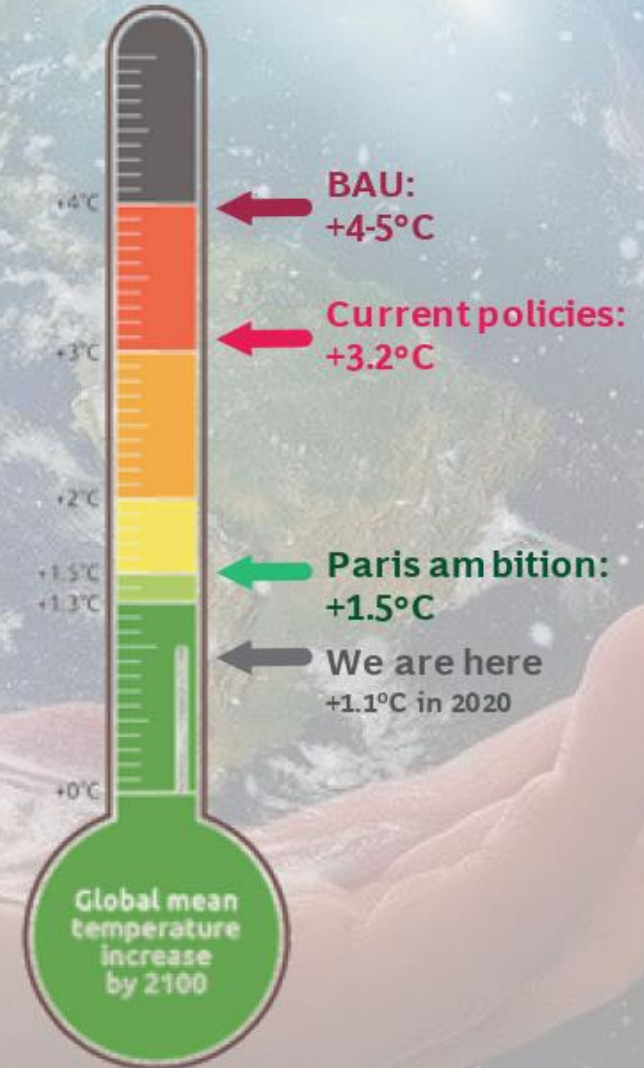
# Urgent need to mitigate global warming trajectory

Temperature anomaly vs pre-industrial averages (°C)

Annual Carbon Emissions (Bn tCO<sub>2</sub>e)



2100?



Note: Current policies assumes countries decarbonise further at same annual rate required to achieve NDCs between 2020 and 2030; 2.0°C path and 1.5°C path based on emission reductions required by respective 2018 average IPCC scenarios  
Source: IPCC

# Science stresses the need of reaching Net Zero emissions by 2050 to avoid catastrophic climate change



## The Intergovernmental Panel on Climate Change's Special Report 2018

Need to limit global warming to a maximum of 1.5°C to prevent surpassing the "tipping point" of irreversible and catastrophic climate change impact



## Limiting global warming to 1.5 °C requires staying within a total carbon budget

Total cumulative GHG emissions will need to be reduced to achieve at least net zero anthropogenic emissions, to prevent global warming from exceeding 1.5 °C



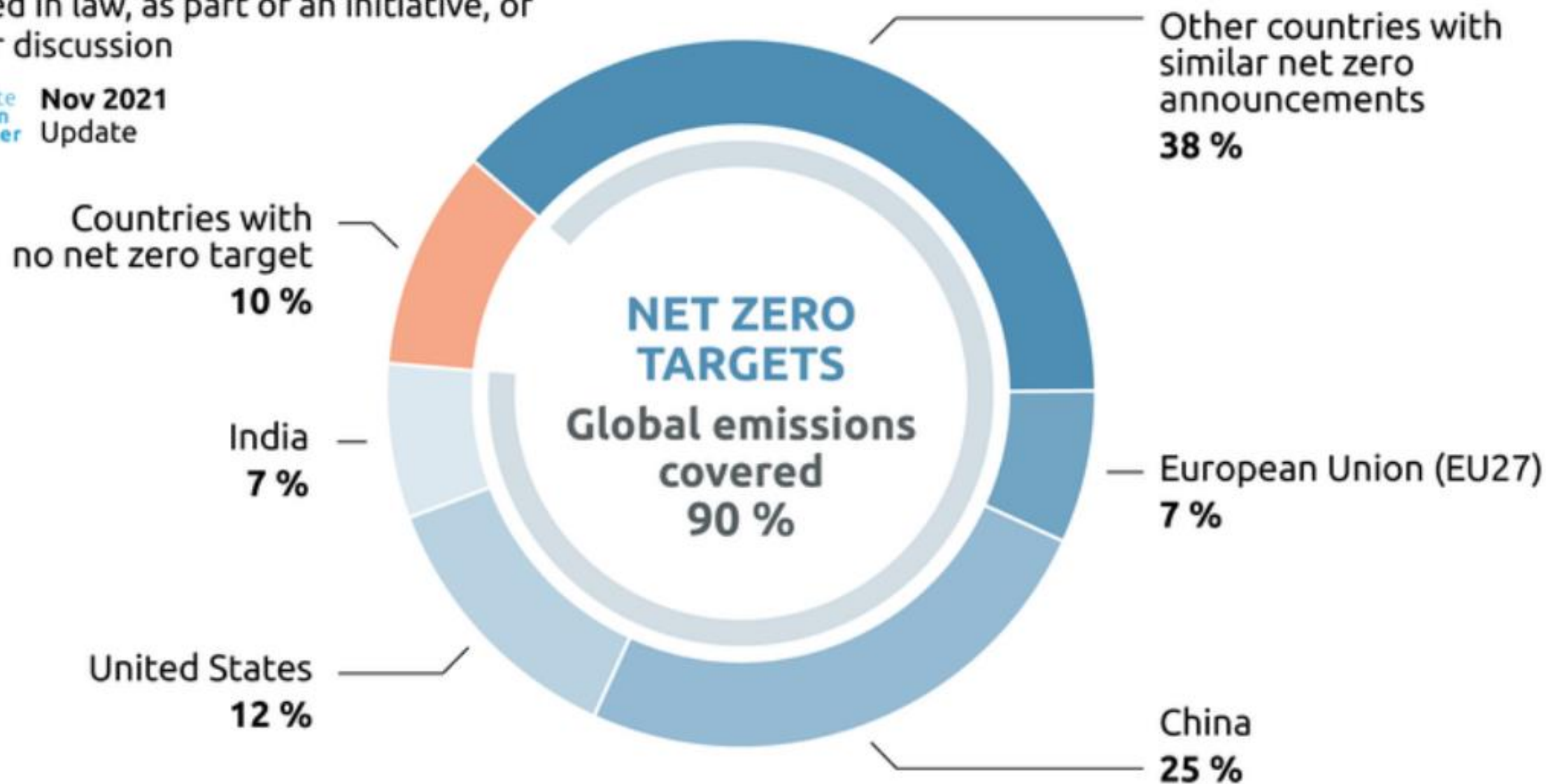
## Pace of GHG emissions reduction required to stay within total carbon budget

Global net anthropogenic emissions of GHG would need to fall by about 45% from 2010 levels by 2030, and then to Net Zero at a global level around 2050

# Net zero emissions target announcements

Agreed in law, as part of an initiative, or under discussion

 **Nov 2021**  
Update

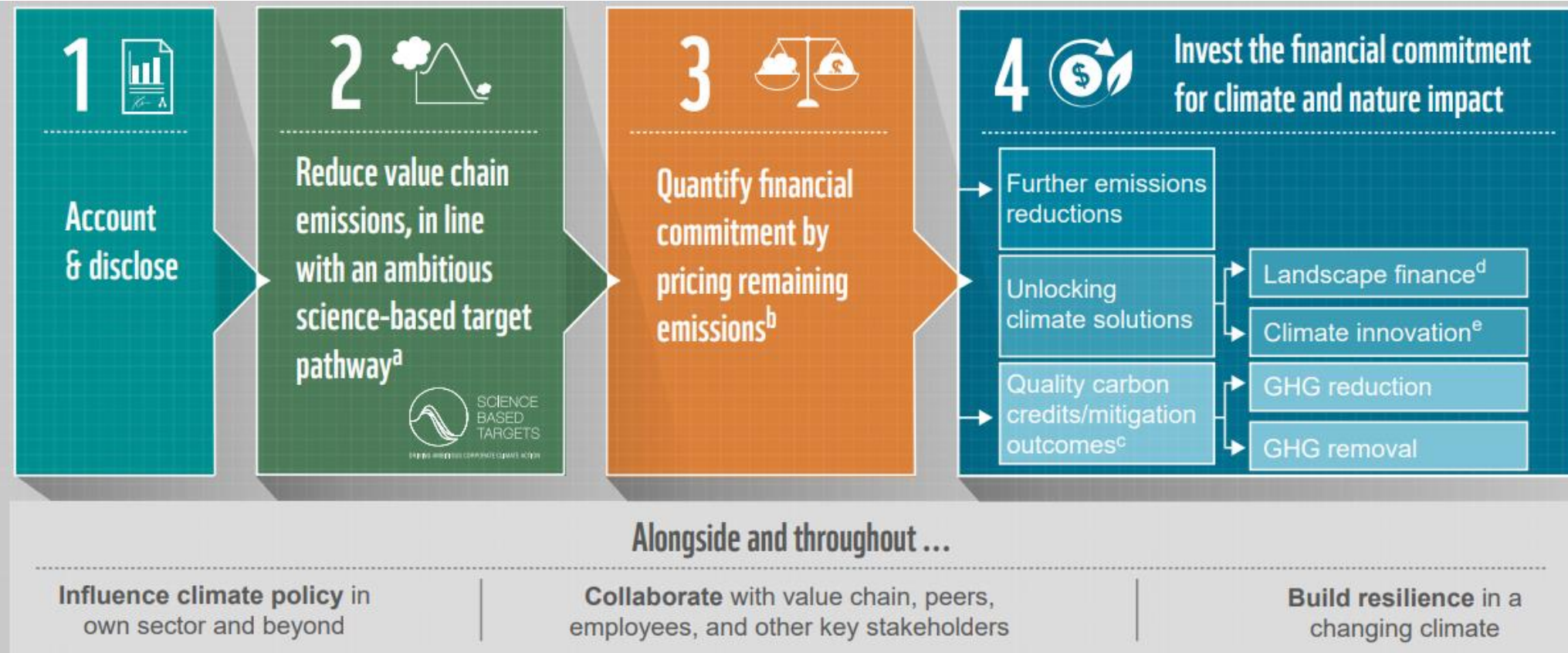




# CORPORATE ACTIONS

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# CORPORATE CLIMATE MITIGATION BLUEPRINT



a. Emissions reductions must be compliant with the Paris Agreement to limit warming to 1.5°C, or at most well-below 2°C, above pre-industrial levels, such as by following a pathway provided by the Science-Based Targets initiative.

b. Companies should disclose assumptions, including the internal carbon price used (even if implicit). Please refer to more detailed guidance on how to size financial commitments in the text.

c. The term “mitigation outcome” refers to any type of ex-post climate mitigation, whether emissions reductions or the removal and sequestration of emissions from the atmosphere. For readability and simplicity the term “carbon credit” is instead used through the document; however, a carbon credit is a subset of the term mitigation outcome. Please refer to Annex 3 regarding the dimensions of carbon credit quality.

d. For example: Projects operating at a landscape or jurisdictional level

e. For example: Technological and R&D innovation, efforts to advance climate business model innovation

# INVESTING FOR FURTHER EMISSIONS REDUCTION



## On premise solar photovoltaic system

- Chiho Environmental Group, a metal recycling listed company in HK (Stock code 976HK) in Yuen Long Industrial Estate
- Leases a 1MW solar PV system from EcoSmart
- Over 2,300 solar panels were installed on the rooftop of factory building
- The system will generate about 1 million kWh per year or equivalent to 240 x 3-person families one-year's electricity consumption

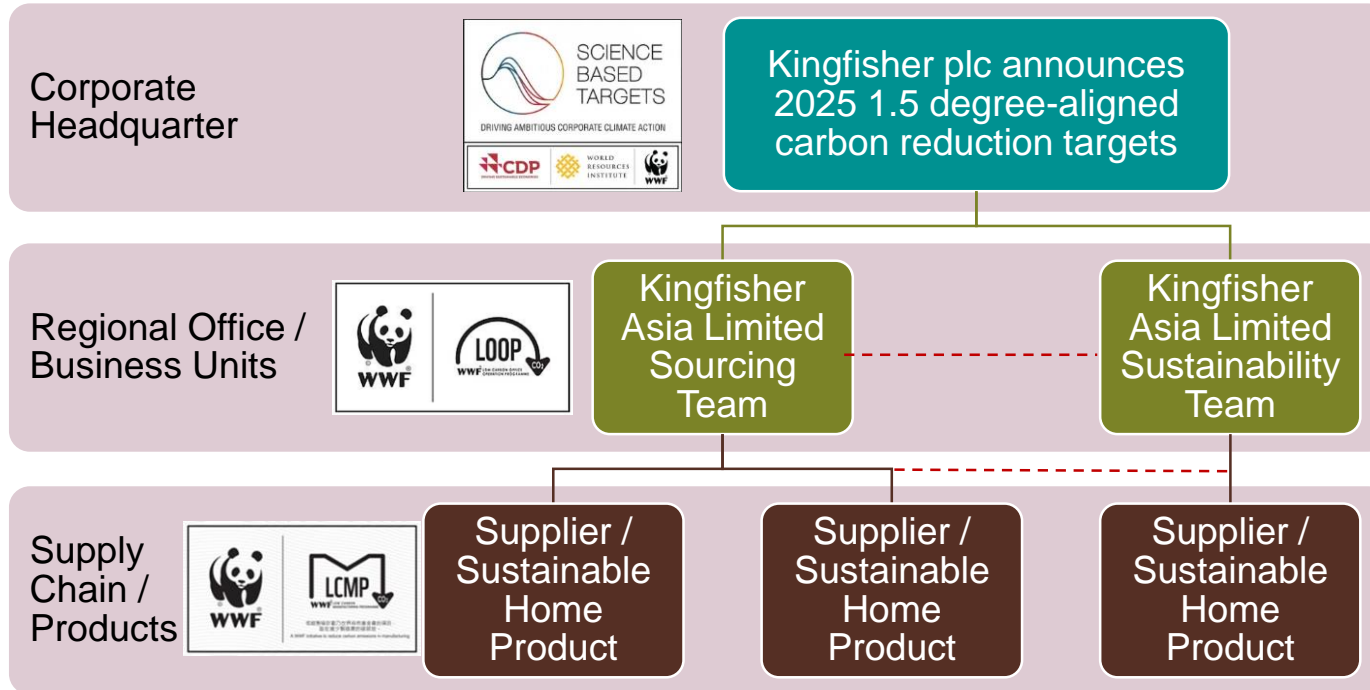


## Retro-commissioning of building systems

- Rejuvenate energy and operational efficiency of equipment with no or low cost
- Identify operational improvements and energy saving opportunities
- Raise efficiency of building system and extended equipment life, shorter return on investment (ROI) period
- Improve comfort of occupant and lower operation cost, in return of higher rental or asset value

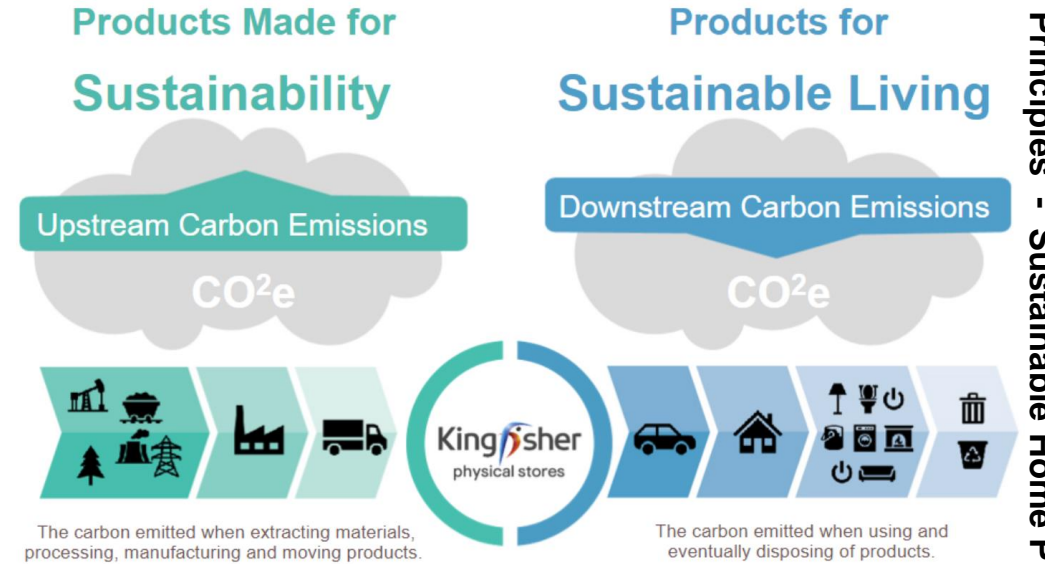


# COLLABORATION WITH VALUE CHAIN AND KEY STAKEHOLDERS



Kingfisher's new 1.5 degree-aligned carbon reduction targets approved by the SBTi. (The business has achieved a 27% cut in operational carbon emissions in four years, meeting its previous target four years ahead of schedule.)

- Reduce Scope 1 & 2 emissions from property and transport by c.38% in absolute terms by 2025, compared to 2016;
- Reduce Scope 3 emissions from the supply chain and customer use of products by 40% per £million of turnover by 2025, compared to 2017..



- Responsibly sourced materials**  
Sourcing from well-managed forests & other sustainable sources, treating people fairly
- Recycled materials**  
Using waste as a resource
- Alternative materials**  
Switching to materials that have a lower environmental impact
- Lower carbon manufacture**  
Encouraging factories to be energy efficient, addressing carbon in the supply chain
- Building biodiversity**  
Helping nature in our gardens and outdoor spaces
- Protecting health**  
Making homes safer environments, addressing pollution
- Saving energy**  
Energy efficiency, using renewable energy
- Saving water**  
Water efficiency, preventing flooding, using rainwater
- Saving resources**  
Reduce, rent, reuse, repair, recycle, compost

Principles - Sustainable Home Product - Attributes & Criteria

# ACHIEVING NET ZERO WITH SEVEN SPHERES OF ACTIONS



- N**urturing a sustainability mind-set  
*~Otto Int'l's reusable glass bottles save 80% cost*
- E**ncouraging low-carbon habits  
*~HKBN's 34% paper reduction campaign*
- T**alking about management policy & carbon reduction goals  
*~Wharf T&T's 7 years x 2% reduction target*
- Z**ooming in on energy efficiency investment  
*~Kai Shing MC5's i-actuator saves 50% water flow*
- E**xploiting opportunities for refurbishment, retrofitting and renovation  
*~Lidl reuses 90% furniture in the new office*
- R**eaching out to communities and stakeholders  
*~SaSa's Global Greenovation Challenge*
- O**ffsetting unavoidable carbon emissions with renewable energy projects  
*~Kai Shing Landmark North Gold Standard credits*

Source: LOOP 7 Greencheck videos

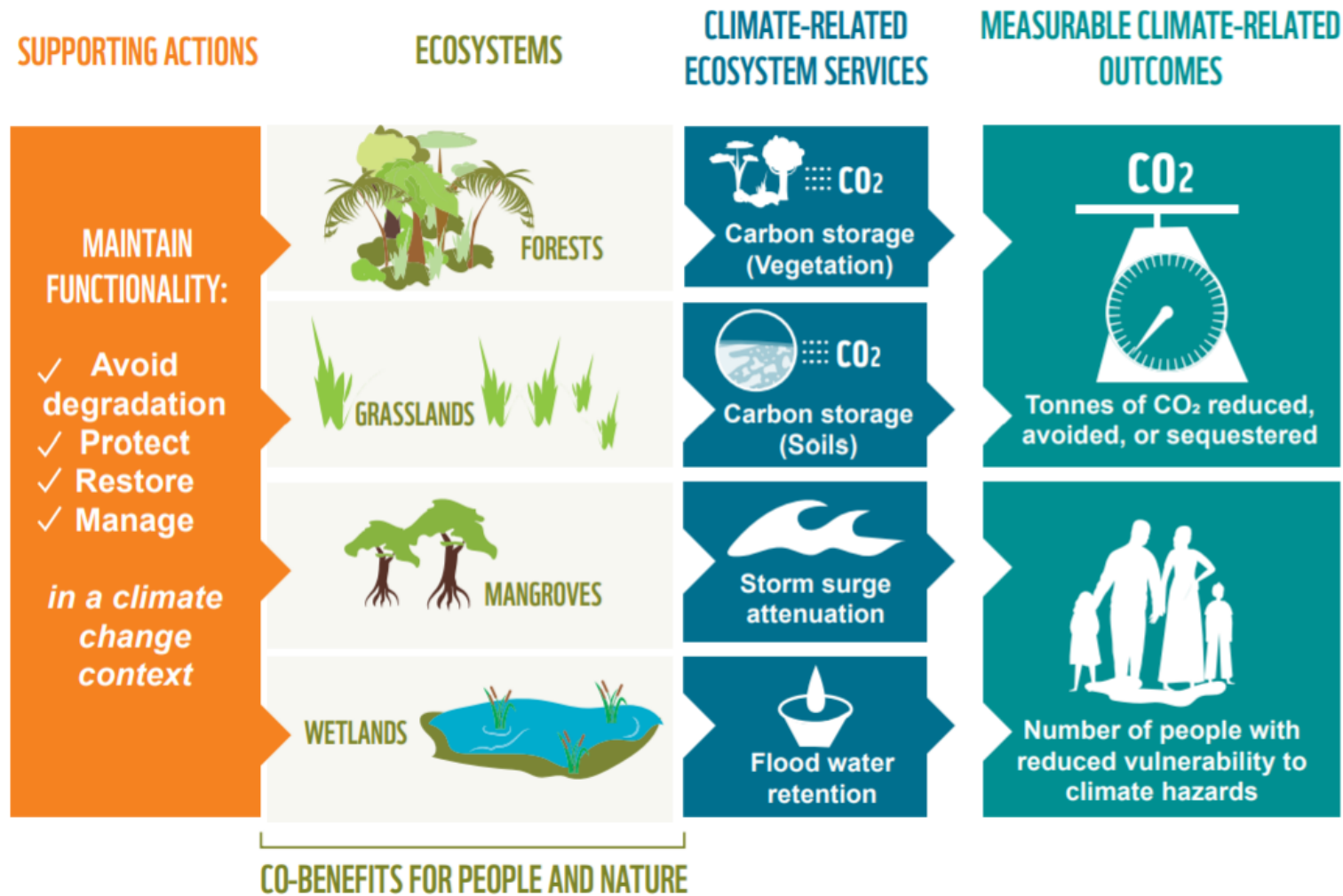


# BUILDING RESILIENCE WITH NATURE-BASED SOLUTIONS



For WWF, Nature-based Solutions for climate change are:

“Ecosystem conservation, management and /or restoration interventions intentionally planned to deliver measurable positive climate adaptation and /or mitigation benefits that have human development and biodiversity co-benefits managing anticipated climate risks to nature that can undermine their long-term effectiveness.”



# UNLOCKING CLIMATE SOLUTIONS - POWERING OUR WETLANDS



**Workstream 1:** Enhance carbon sequestration potential in Mai Po



**Workstream 3:** Sustainable use of biomass cellulose for fashion products



**Workstream 2:** Create a landscape of eco-fishponds for climate adaptation and resilience building



**Workstream 4:** Connect and share learnings with stakeholders



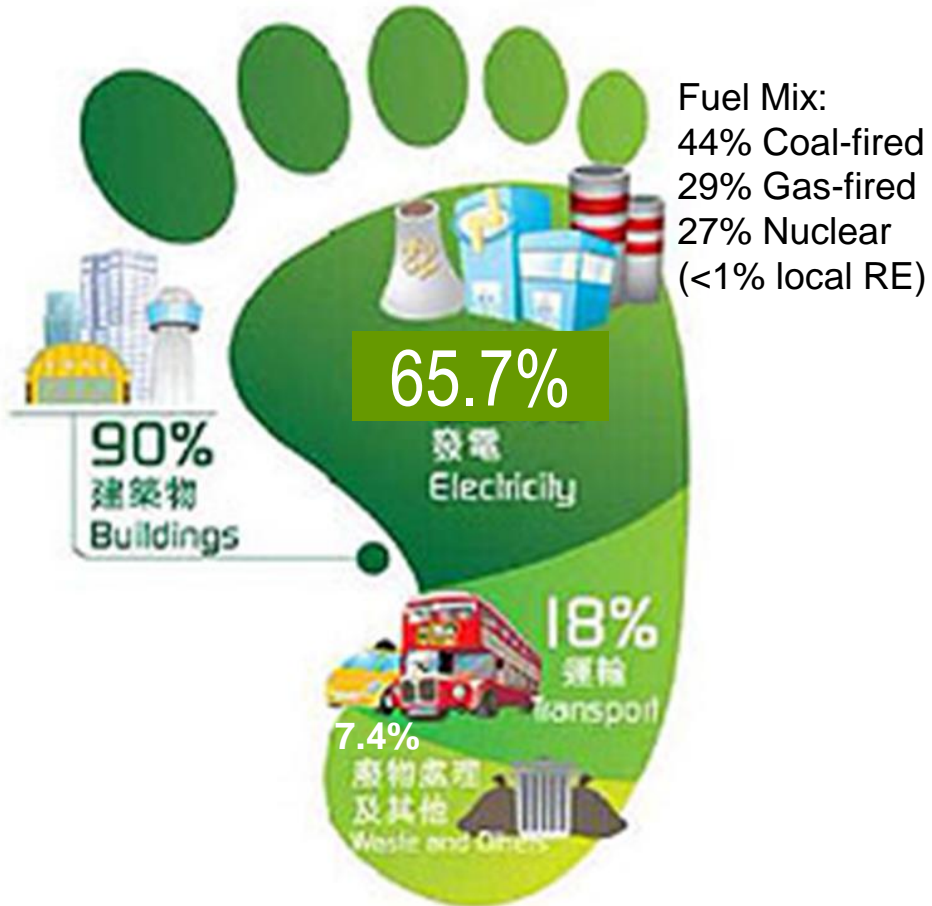


## INDIVIDUAL ACTIONS

# KNOWING OUR FOOTPRINT



## 1. LOCAL GHG EMISSIONS ~40,100,000,000 KG IN 2019



Source: Environmental Protection Bureau

## 2. EMBODIED CARBON from imported goods and end-of-life



## 3. TRANSBOUNDARY & INT'L Aviation and maritime emissions



A round trip from HK to Tokyo by plane is 420 KG CO<sub>2</sub>e, relative to 5,620 KG per capital per annum production-based CO<sub>2</sub>e in 2019

### TAKAWAY:

1. Production vs Consumption-based emissions
2. Embodied vs Operational carbon
3. Linear vs Circular economy

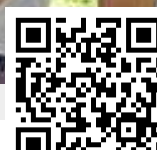
# LEARNING FROM NATURE



米埔  
Mai Po



元洲仔  
Island House



海下灣  
Hoi Ha Wan



# CHANGING OUR HABITS FOR GOOD CAUSE



There are abundant resources available to support you live a more sustainable lifestyle.

1. Visit [wwf.org.hk](http://wwf.org.hk), follow us in FB, IG
2. The 337 green tips from WWFHK
  - English version: [http://awsassets.wwfhk.panda.org/downloads/wwf\\_green\\_tips\\_english.pdf](http://awsassets.wwfhk.panda.org/downloads/wwf_green_tips_english.pdf)
  - Chinese version: [http://awsassets.wwfhk.panda.org/downloads/wwf\\_green\\_tips\\_chinese.pdf](http://awsassets.wwfhk.panda.org/downloads/wwf_green_tips_chinese.pdf)
3. Educational video from WWFHK
  - Green Food Challenge: <https://www.facebook.com/wwfhongkong/videos/2454204258162240/>
  - Sustainable Clothing: <https://www.facebook.com/wwfhongkong/videos/2679620772085488/>
  - Walk More Drive Less: <https://www.facebook.com/wwfhongkong/posts/10156902453826892>
4. Energy Saving, Waste Less and Low Carbon Living Style from EPD HK
  - [https://www.epd.gov.hk/epd/sites/default/files/epd/english/how\\_help/living\\_style/files/Cloth%2C%20eat%2C%20live%20and%20commute.pdf](https://www.epd.gov.hk/epd/sites/default/files/epd/english/how_help/living_style/files/Cloth%2C%20eat%2C%20live%20and%20commute.pdf)

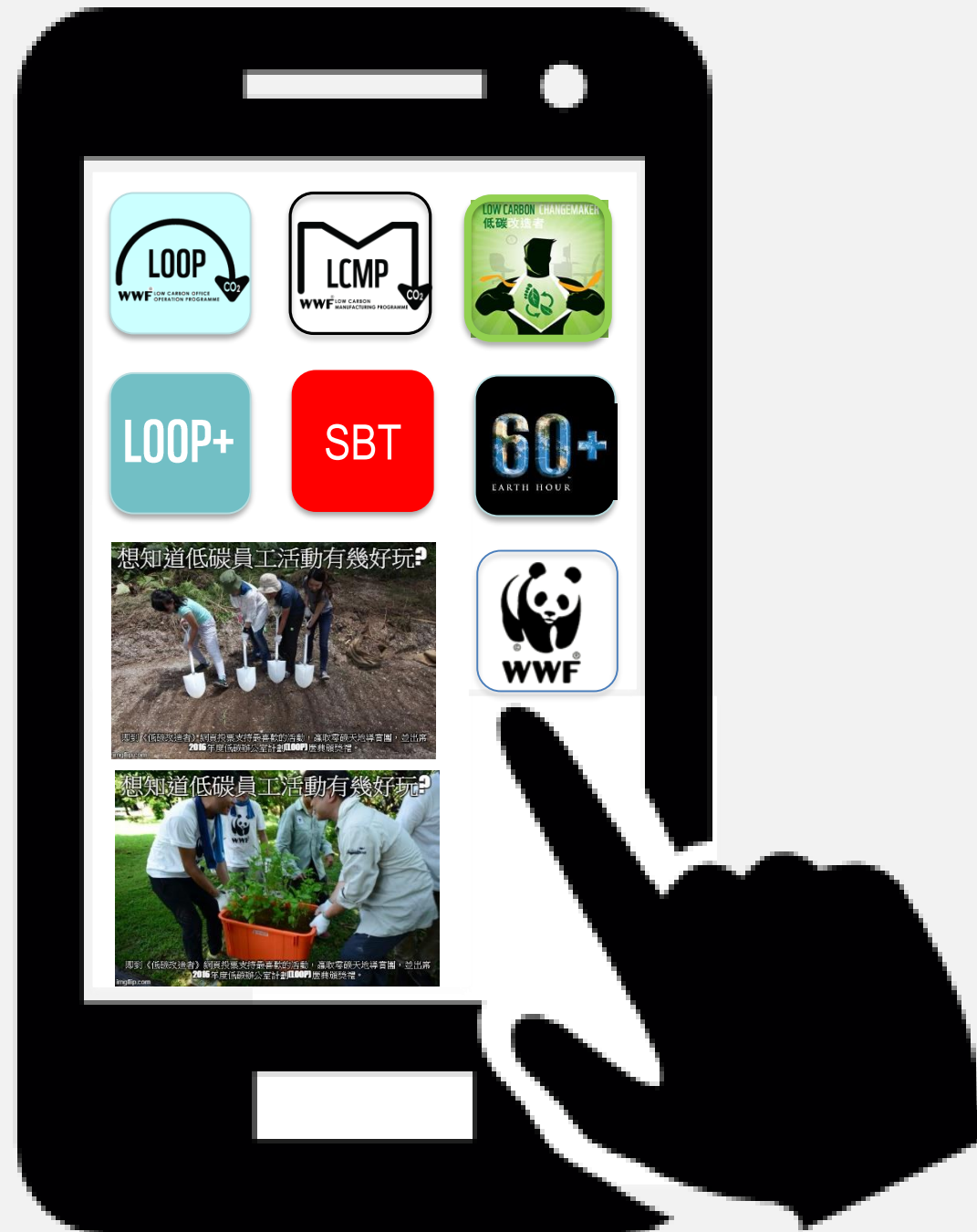




# CALL TO ACTION

Together, we build a sustainable future where people and nature thrive!.

1. Stay informed, visit [wwf.org.hk](http://wwf.org.hk), subscribe e-news and/or follow us on FB, IG, LinkedIn
2. Take up a new habit and protect the environment.
3. Challenge yourself and practice low-carbon sustainable lifestyle
4. Ask yourself what and how you can help future-proof our communities or neighbourhood.
5. Collaborate with us and transform Hong Kong into one of the most sustainable cities in Asia.
6. Be our member, individual or corporate, and support our conservation and education work
7. Use your expertise and join as volunteers or community scientists
8. Spread the conservation messages with your family, friends or business partners.



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**together possible™**