

Climate-related Impacts on Procurement and Supply Chain

Felix Lam
Head of Sustainability
Green Council

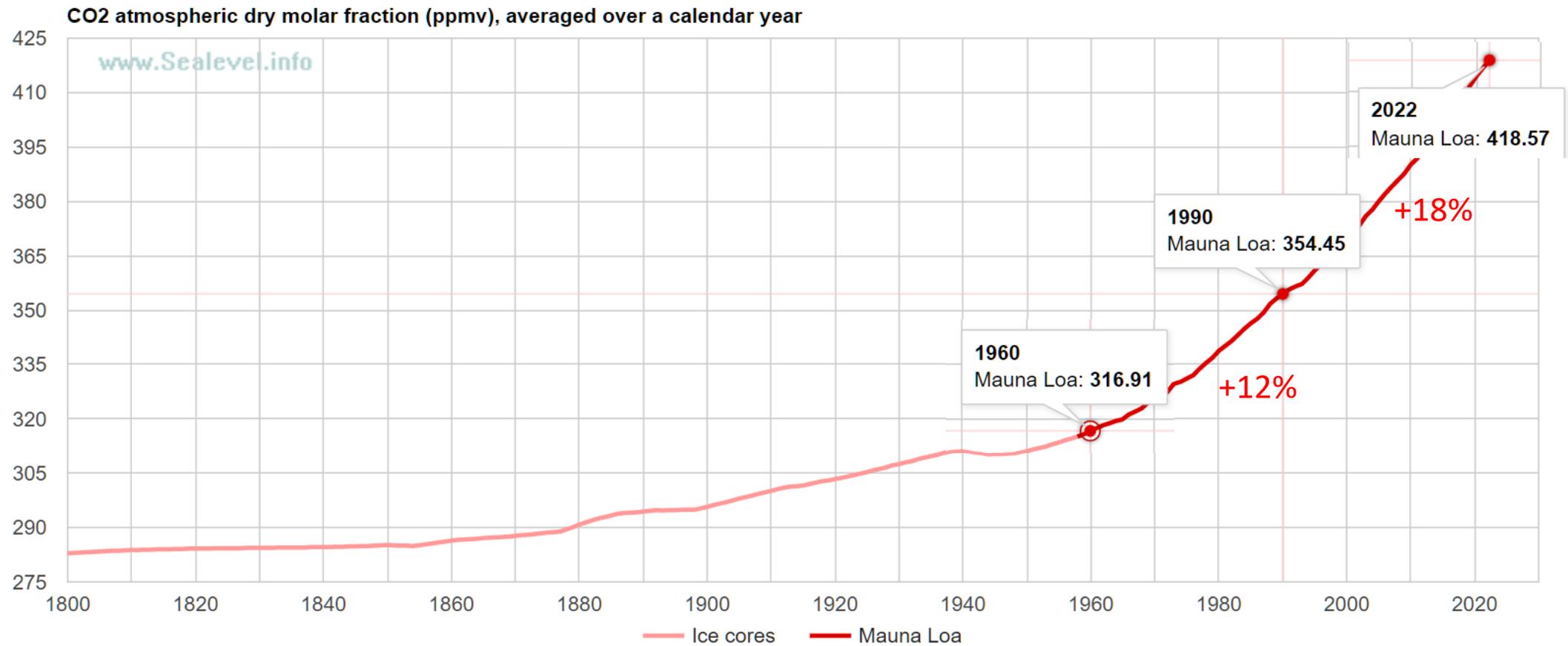




We only have ONE Earth...
but,
what is happening?

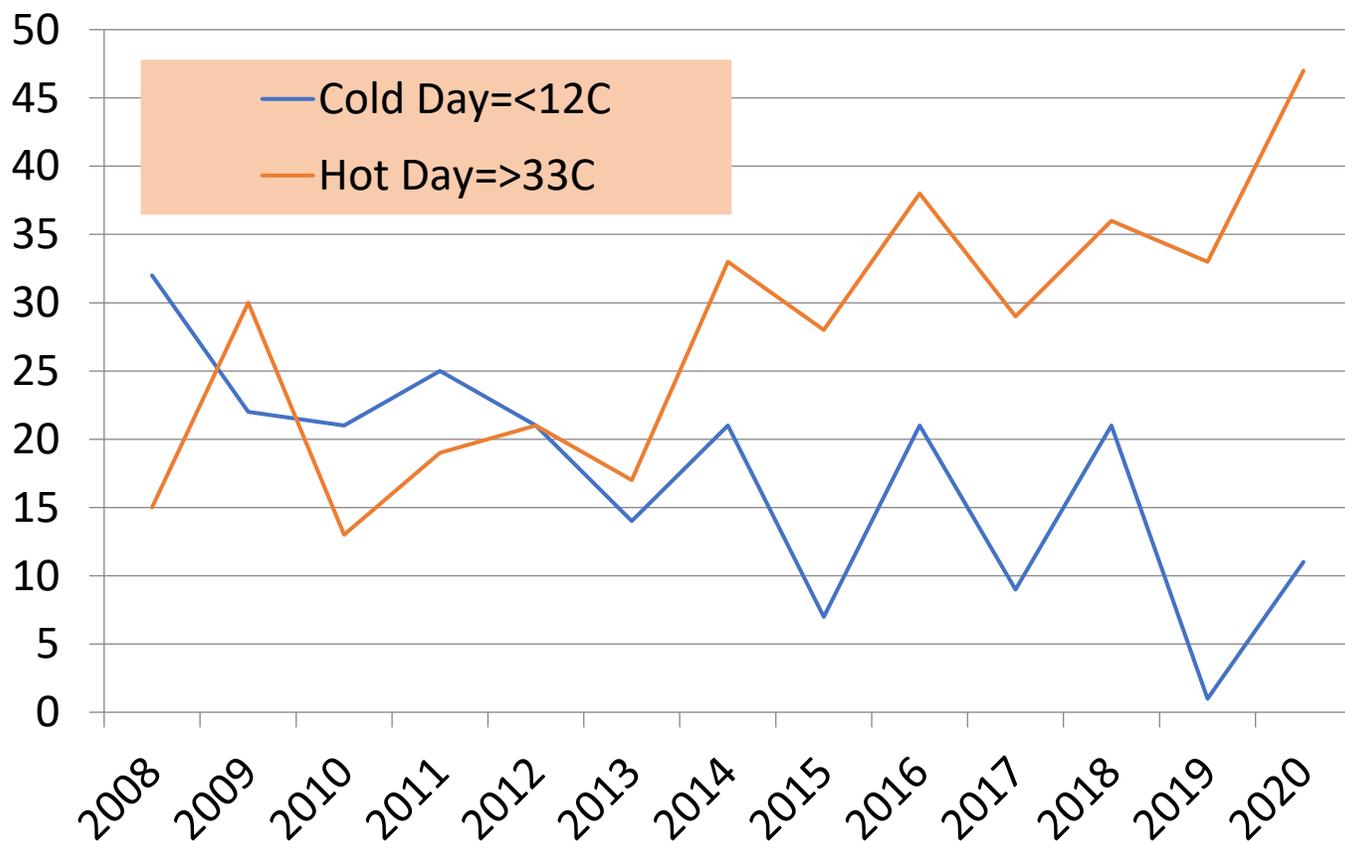
Human-made CO₂ emissions accelerated in the last 30 years after the first IPCC report in 1990

Atmospheric Carbon Dioxide (CO₂) levels, 1800–present



<https://sealevel.info/co2.html>

Hot Days Increasing vs Cold Days Decreasing



Source: Hong Kong Observatory

The Standard 英文虎報

Trending Section News Features Event & Promotion Coffee Break

Top News Editorial Local Finance China World Sports Central Station Columns

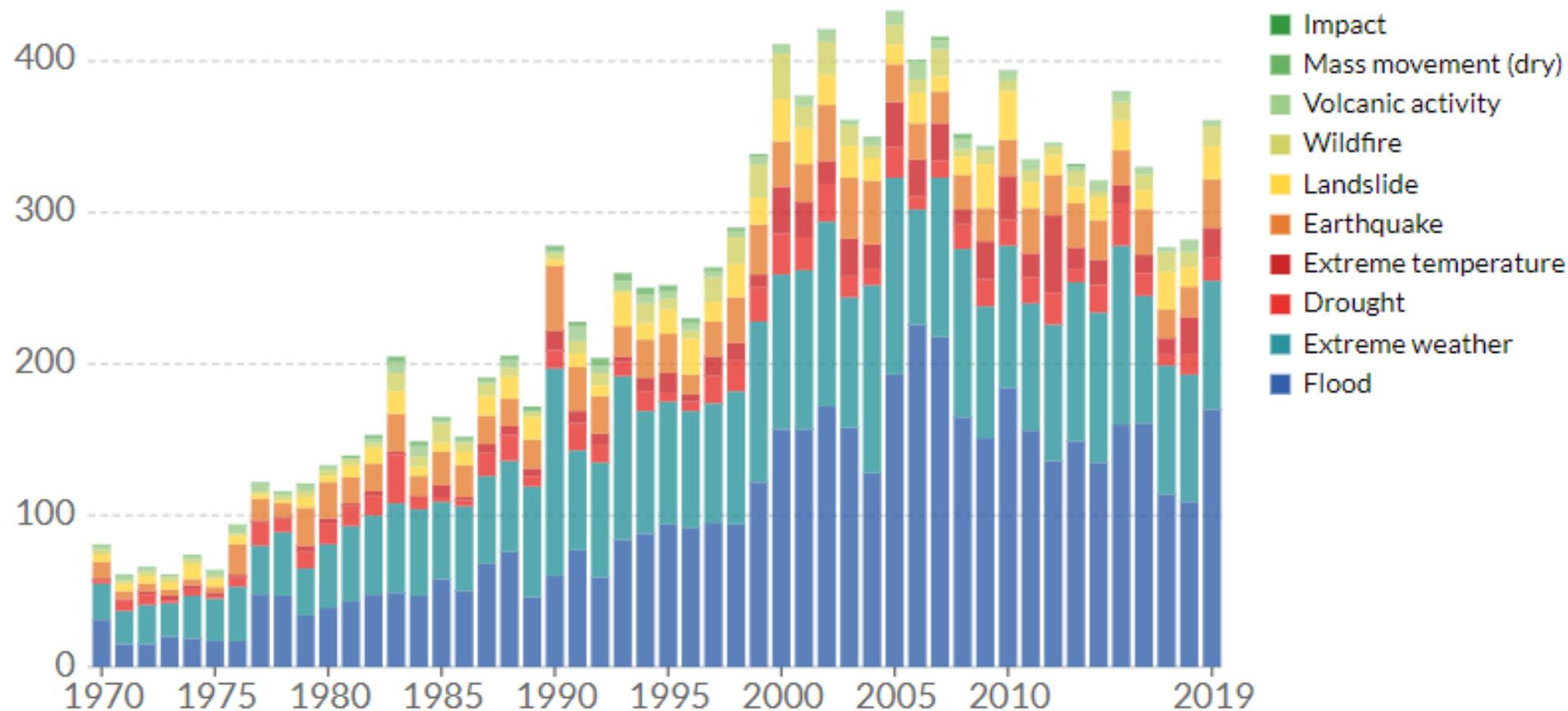
2021 is warmest year on record: HKO

Local | 7 Jan 2022 3:58 pm



Global reported natural disasters by type, 1970 to 2019

The annual reported number of natural disasters, categorised by type. This includes both weather and non-weather related disasters.



Source: EMDAT (2020): OFDA/CRED International Disaster Database, Université catholique de Louvain - Brussels - Belgium
OurWorldInData.org/natural-disasters • CC BY

Logistics disruption in 2021



Malaysia's Federal Highway from Kuala Lumpur to the port of Klang shut down due to flooding Dec,21.



Flooding in central China in July 21 disrupted supply chains for commodities and forced the closure of a Nissan plant.



Texas freeze Feb 21 caused the worst involuntary energy blackout in U.S. history. That forced three major semiconductor plants to close, exacerbating a global pandemic-triggered semiconductor shortage

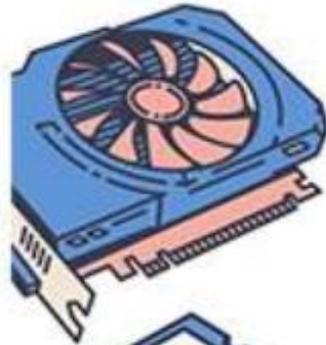
<https://e360.yale.edu/features/how-climate-change-is-disrupting-the-global-supply-chain>

4 Ways to Explain the Global Microchips Shortage



Covid-19

From early 2020, factories producing microchips were forced to close, particularly in Asia where most are based. Home working and gaming rose and microchips were bought up in vast amounts by electronics manufacturers.

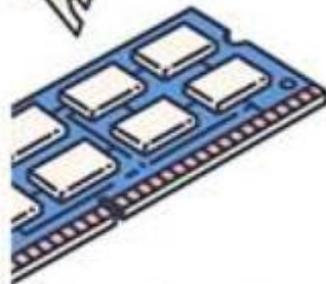


Political

Actions led by the Trump administration led to a reduction in microchips from China as the US blocked technology transfers and imposed tariffs.

Natural catastrophes

Production of microchips requires a vast amount of water and Taiwan is affected by drought – TSMC has been bringing in water in trucks.



Other factors

Other reasons for supply hold-ups include the tanker that was blocked in the Suez canal and Brexit.

Source - fleetnews.co.uk

CompanyDebt

CLIMATE CHANGE

Climate Change is Fuelling Global Food Price Inflation and Shortages

BY ALEXANDER PHAM

AFRICA AMERICAS ASIA EUROPE MIDDLE EAST OCEANIA

JUN 13TH 2022

3 MINS



With climate change producing mounting harms throughout the world, as well as the war in Ukraine raging on, the issue of a global food price inflation and shortages has reached international attention. Food security is not a new phenomenon, but one that has existed for years now, backgrounded against more pressing concerns.

<https://earth.org/climate-change-global-food-price-inflation-and-shortages/>

Drought and power shortages worsen China's supply chain snags

China's power crunch threatens supplies of everything from metals such as aluminum to automotive parts — as well as food commodities.



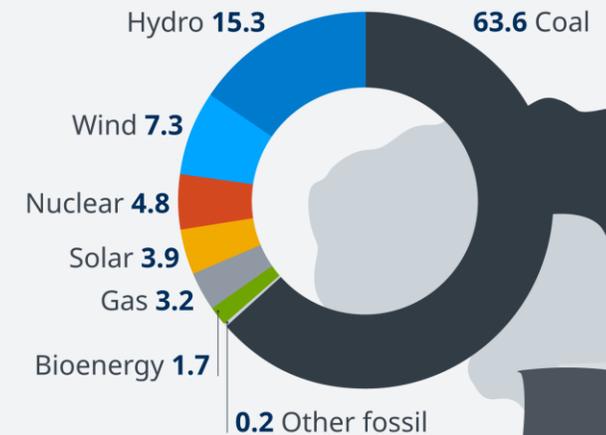
•Date 25.08.2022



Record low water levels in parts of China have put pressure on the nation's hydropower generators

A severe drought and sweltering heat have led to low water levels and a drop in hydroelectric power generation in [China](#) in recent weeks, causing power shortages and forcing the government to ration electricity in some provinces.

Power production in China by source in percent



Source: Ember, CEC | figures from 2021

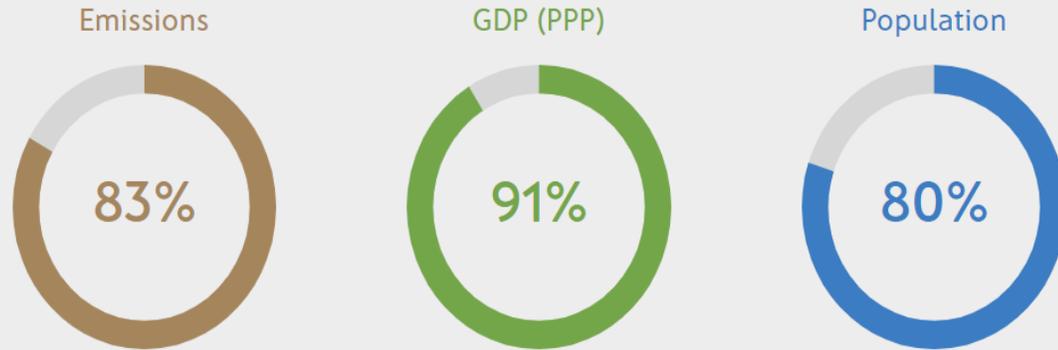


Why are increasing requirements for companies to disclose their exposure to climate-related risks, as well as supply chain emissions?



A race to net zero commitments

GLOBAL NET ZERO COVERAGE



Country-level coverage only. We do not include sub-national net zero targets in countries without a target.

NET ZERO NUMBERS

Countries	Regions
137	116
Cities	Companies
240	734

Out of 198 countries, 713 regions, 1,177 cities and 2,000 companies.

NET ZERO TRACKER PARTNERS

<https://zerotracker.net/>

Energy&Climate
INTELLIGENCE UNIT

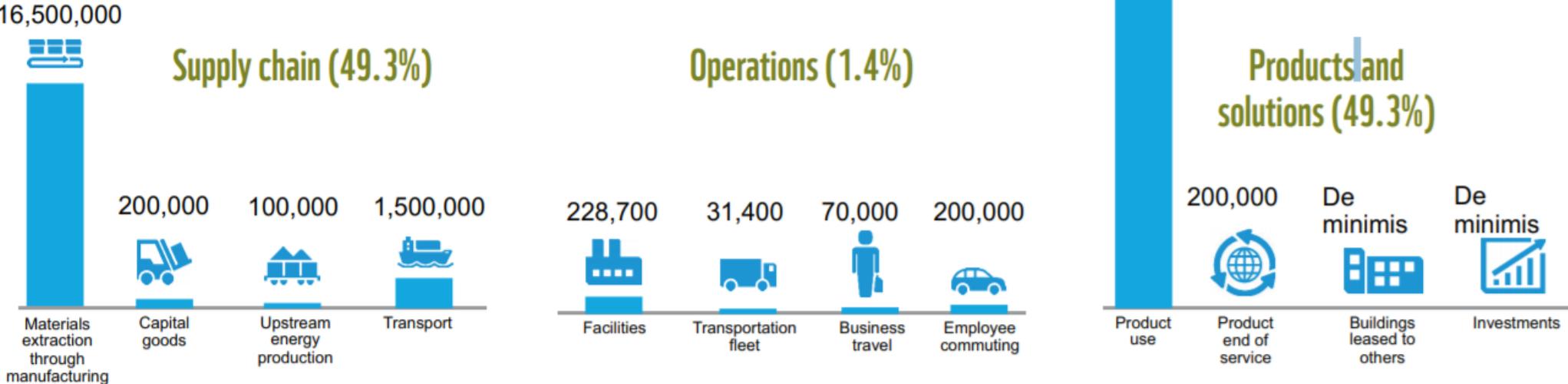


NEW
CLIMATE
INSTITUTE

NAME	COUNTRY	SECTOR	ANNUAL REVENUE	TARGET YEAR	TARGET TYPE	END TARGET STATUS	INTERIM TARGET	DETAILED PLAN	REPORTING MECHANISM	SCOPE 3 COVERAGE	CARBON CREDITS
↑↓	↑↓ HKG ▾	↑↓ All ▾	↓	↑↓ All ▾	↑↓ Science-1 ▾	↑↓	↑↓ All ▾	↑↓	↑↓	↑↓	↑↓
Lenovo	HKG	Retail	\$51.8bn	2050	Science-based target	In corporate strategy		●	●	●	●
CK Hutchison	HKG	Services	\$38.2bn	2050	Net zero	In corporate strategy	2030	●	●	●	●
Cathay Pacific Airways	HKG	Transportation services	\$13.7bn	2050	Net zero	Declaration / pledge		●	●	●	●
CLP Holdings	HKG	Power generation	\$10.9bn	2050	Net zero	In corporate strategy	2030	●	●	●	●
Swire Pacific	HKG	Infrastructure	\$10.9bn	2050	Net zero	In corporate strategy	2030	●	●	●	●
New World Development Co	HKG	Infrastructure	\$7.6bn	2050	Net zero	Proposed / in discussion	2030	●	●	●	●
Link REIT	HKG	Services	\$1.3bn	2035	Net zero	In corporate strategy		●	●	●	●

HP's carbon footprint (2017) ⁵

37,130,100 tonnes CO₂e

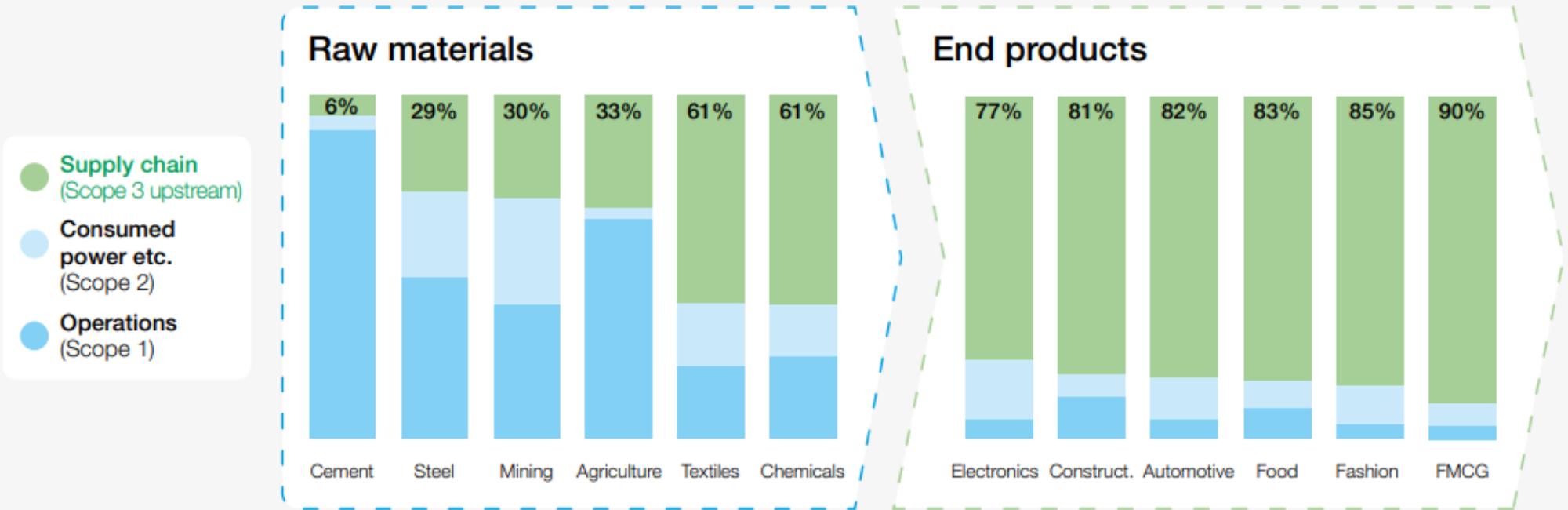


4 Based on a 2017 life cycle assessment (LCA) performed by Four Elements Consulting and commissioned by HP.

5 Source: HP Inc. (2018)

How big is supply chain emission?

Emission split in Scopes 1, 2 and 3 upstream for selected industries (CO₂e, 2019)



Note: Top companies selected based on number of reported Scope 3 upstream categories and industry fit;
FMCG = fast-moving consumer goods
Source: CDP, BCG

Mandatory disclosure of value chain emission has been proposed

U.S. Securities and Exchange Commission (SEC)

On 21st March, 2022, a draft regulation published to require public companies to disclose their supply chain-based Scope 3 emissions for all the carbon dioxide and methane emissions they generate.



International Financial Reporting Standards, Sustainability Disclosure Standard, Climate-related Disclosures by the International Sustainability Standards Board (ISSB)

On 31st March 2022, for Scope 3 emissions, the Exposure Draft proposes that an entity shall include upstream and downstream emissions in its measure of Scope 3 emissions; if the entity excludes those greenhouse gas emissions, it shall state the reason for omitting them, for example, because it is unable to obtain a faithful measure.





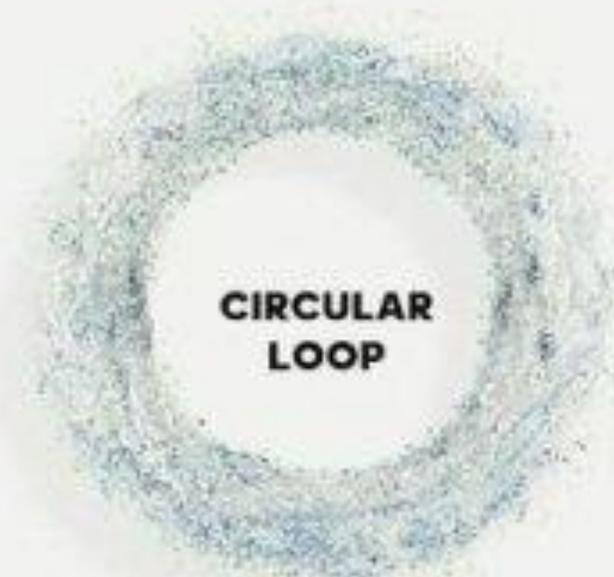
**Opportunities in Climate Change-
Are you ready?**

Recycle: Adidas commitment to end Plastic Waste - only recycled polyester by 2024

INTRODUCING THE THREE LOOP STRATEGY
THREE PILLARS OF PRODUCT SUSTAINABILITY



REPLACING VIRGIN PLASTICS WITH
MATERIALS THAT ARE
MADE WITH RECYCLED MATERIALS



DESIGNING CIRCULAR PRODUCTS
WHICH ARE
MADE TO BE REMADE



CREATING PRODUCTS AND
MATERIALS THAT ARE
MADE WITH NATURE

Are you ready to supply lower-emission products?

15 September 2022

Air New Zealand welcomes first shipment of Neste MY Sustainable Aviation Fuel into New Zealand

Published in [Releases and news](#) under [Renewable solutions](#), [Aviation](#)
📌 [Neste MY Sustainable Aviation Fuel](#)

Neste Corporation, Press Release, 15 September 2022 at 9:00 a.m. (EET)



<https://www.neste.com/releases-and-news/renewable-solutions/air-new-zealand-welcomes-first-shipment-neste-my-sustainable-aviation-fuel-new-zealand>

Volvo Group and fossil-free steel

2022-06-01

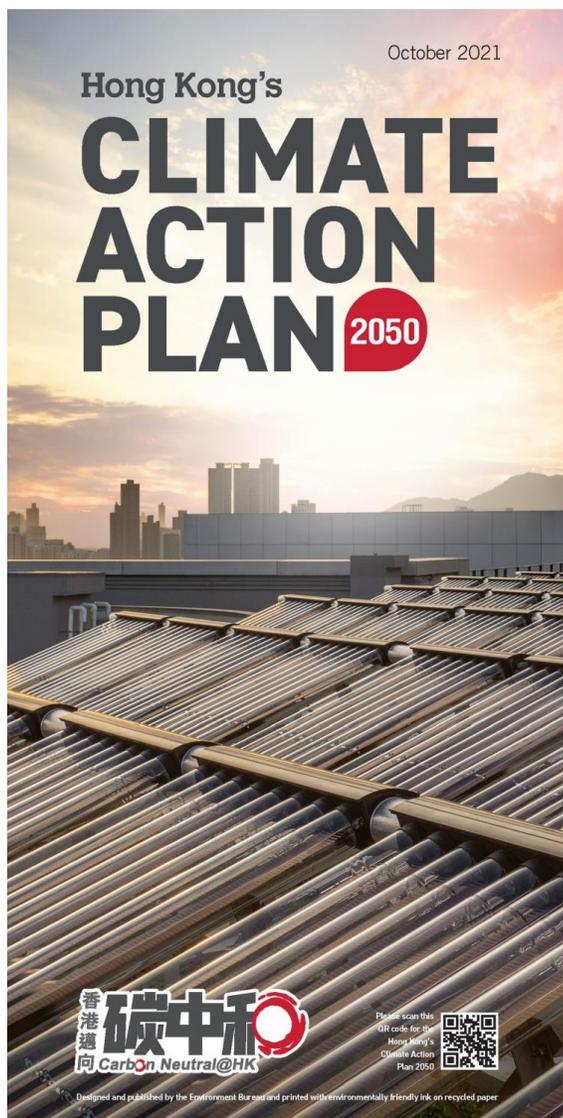
Matt O'Leary

When it comes to the race to net zero, there's a lot of focus on vehicles' exhaust emissions. But it goes much deeper than that – in fact, right down to the very materials that the vehicles and equipment are built from.



An A30G articulated hauler – made from fossil-free steel.

<https://www.volvogroup.com/en/news-and-media/news/2022/jun/volvo-group-and-fossil-free-steel.html>



Hong Kong's Roadmap to Carbon Neutrality



Medium-to-long-term decarbonisation targets

Before 2035

Before 2050

Total carbon emissions Compared with 2005 level

↓ 50%

香港邁向 Carbon Neutral@HK

Four decarbonisation strategies

Net-zero Electricity Generation

Energy Saving and Green Buildings

Green Transport

Waste Reduction

Is there any business opportunity?

1. Net-zero electricity generation

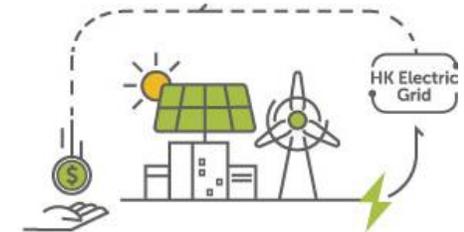
Fossil fuels (natural gas and coal) account for over 70% of Hong Kong's fuel mix for electricity generation

▪ Target

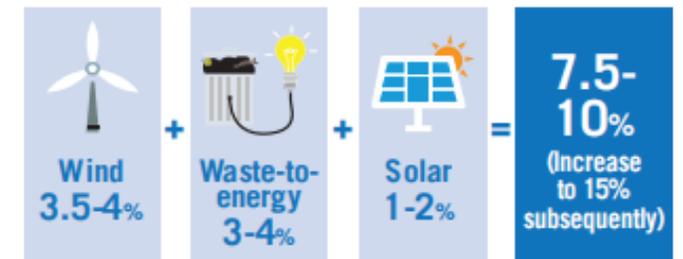
- ⇒ Increase the share of Renewable Energy in the fuel mix from the existing less than 1% to 7.5% by 2035 and further to 15% before 2050
- ⇒ Phase out coal for electricity generation by 2035

▪ Feed-in Tariff Scheme

- ⇒ Promote the society to install of solar PV panels and wind energy generation systems
- ⇒ Power company will purchase the RE at a rate 100-200% higher than the normal electricity tariff rate



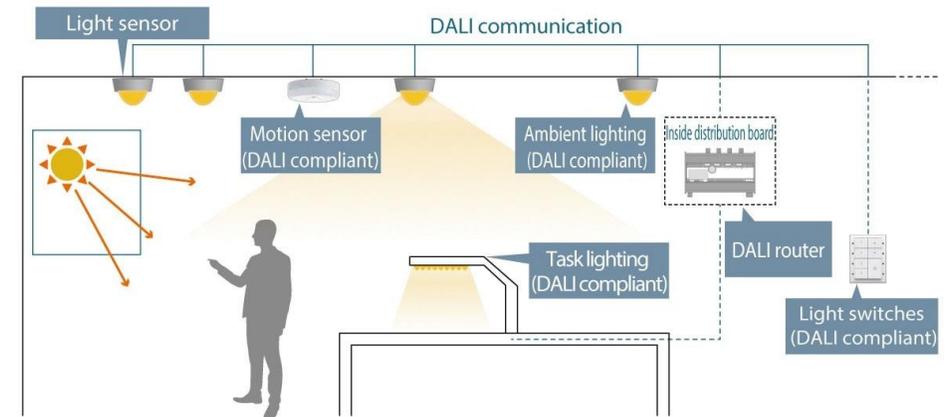
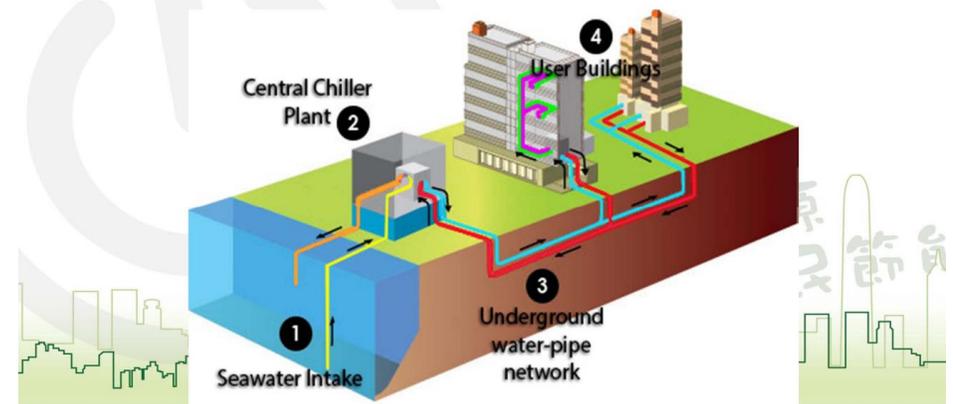
RE Potential (Until 2035)



Are you ready to supply green buildings solutions?

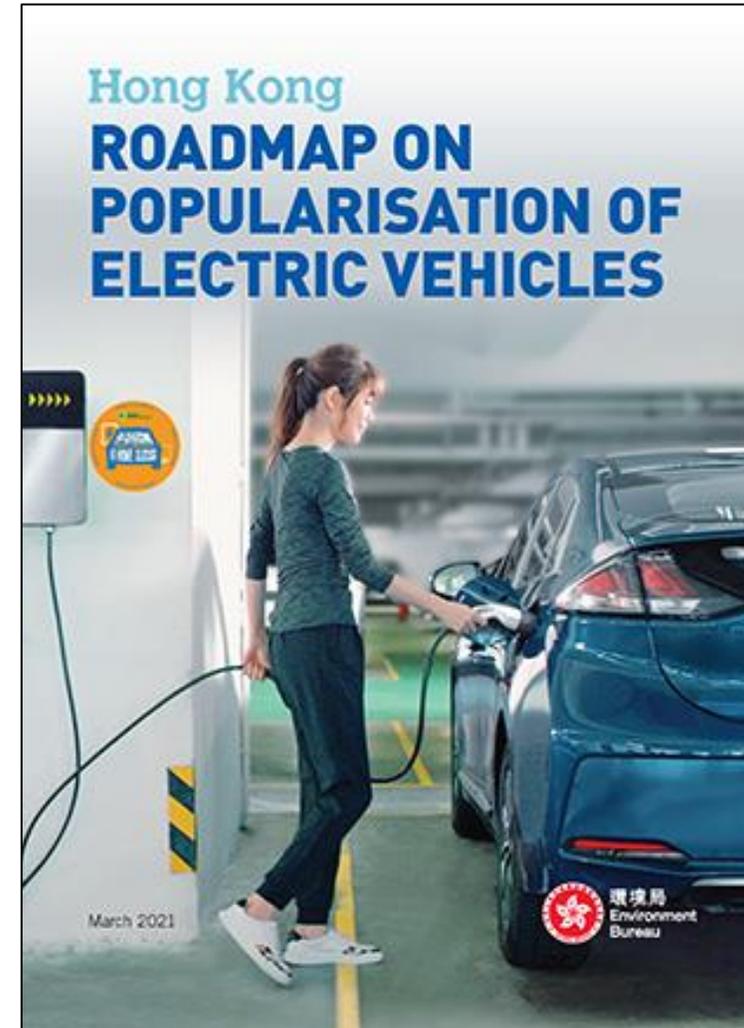


- Supply chilled water to more than one building through distribution networks



Eco-system of Electric Vehicles

- ❑ EV
- ❑ EV charging facilities and services
- ❑ EV software development e.g design, monitoring, maintenance, navigation
- ❑ EV battery
- ❑ Battery swapping services
- ❑ Battery recycling



4. Waste reduction

Waste contributes to about 7% of carbon emissions in Hong Kong, with the bulk of them being the Greenhouse Gas generated from decomposition of waste in landfills.

- **Government set up the Waste Blueprint with 4 visions:**
 1. Waste Reduction
 2. Resources Circulation
 3. Zero Landfill
 4. Municipal Solid Waste (MSW) Charging Scheme



- **Municipal Solid Waste (MSW) Charging Scheme**

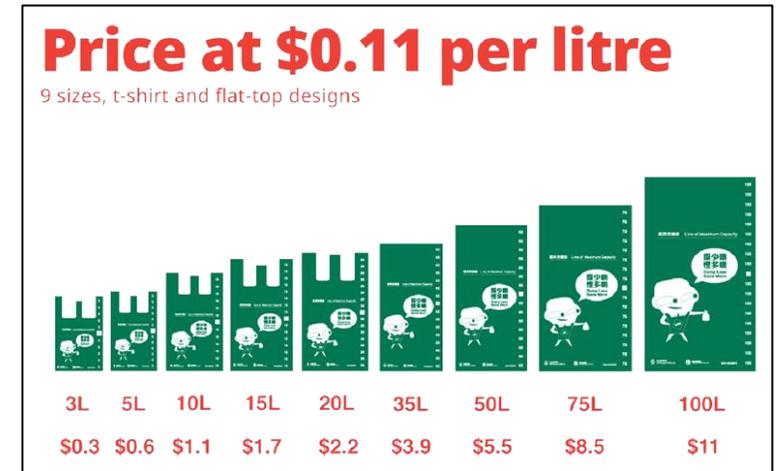
- ⇒ The charges are based on the quantity of waste generated

- **Zero Landfill**

- ⇒ GREEN@COMMUNITY located in different regions in Hong Kong

- ⇒ Accept at least 8 common types of recyclables:

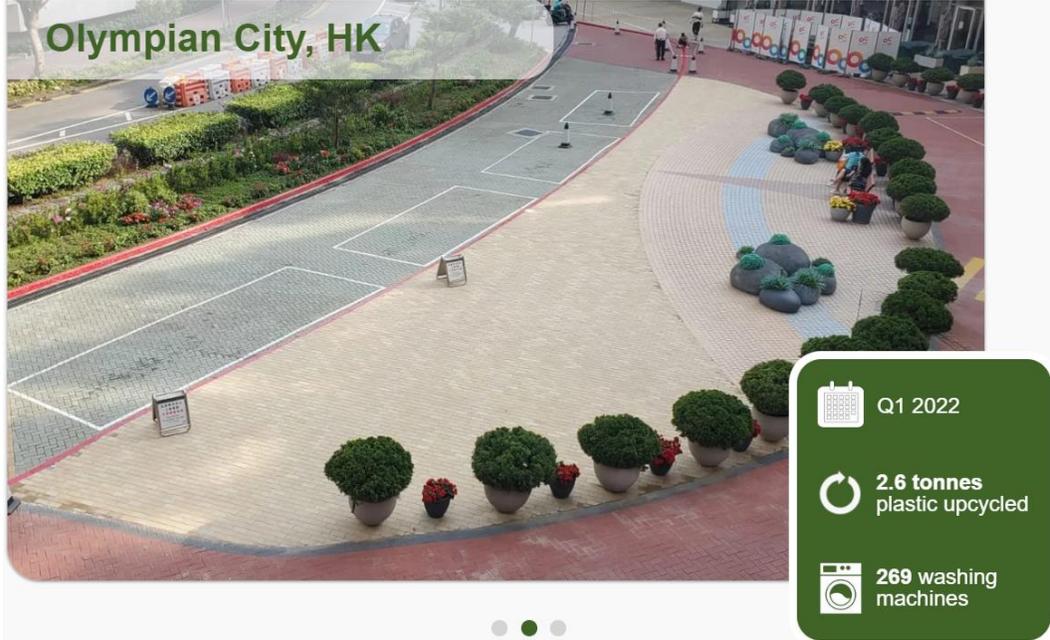
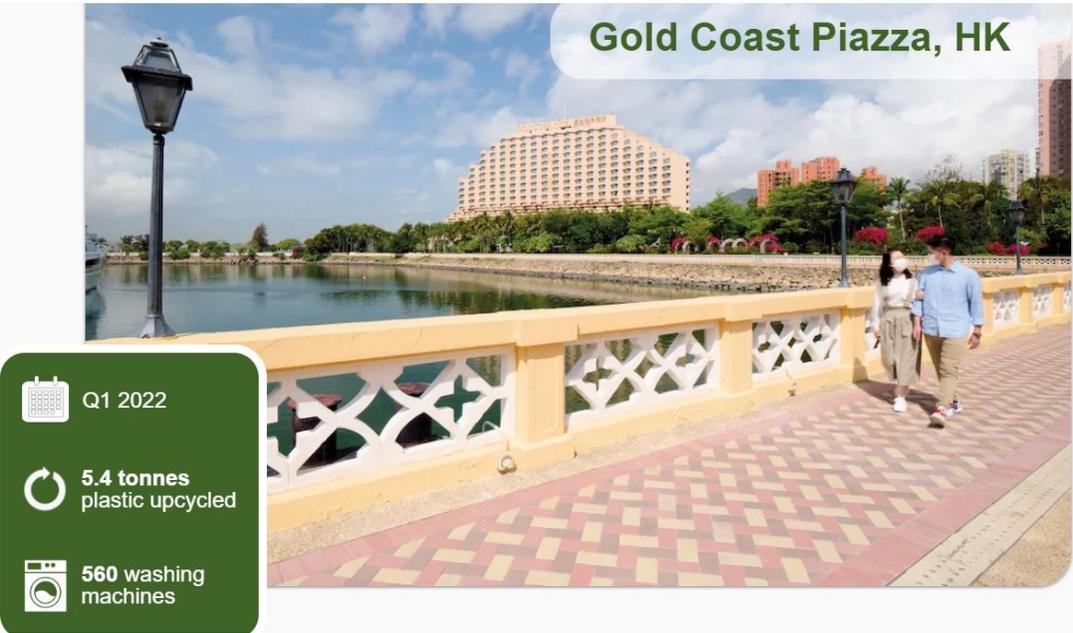
- Paper, metals plastics, glass bottles, regulated electrical equipment, small electrical appliances, fluorescent lamps and tubes, and rechargeable batteries, etc.



GREEN@HAPPY VALLEY is one of the stores which operated by Green Council

Recycle: Turning Plastic Waste into Sustainable Concrete

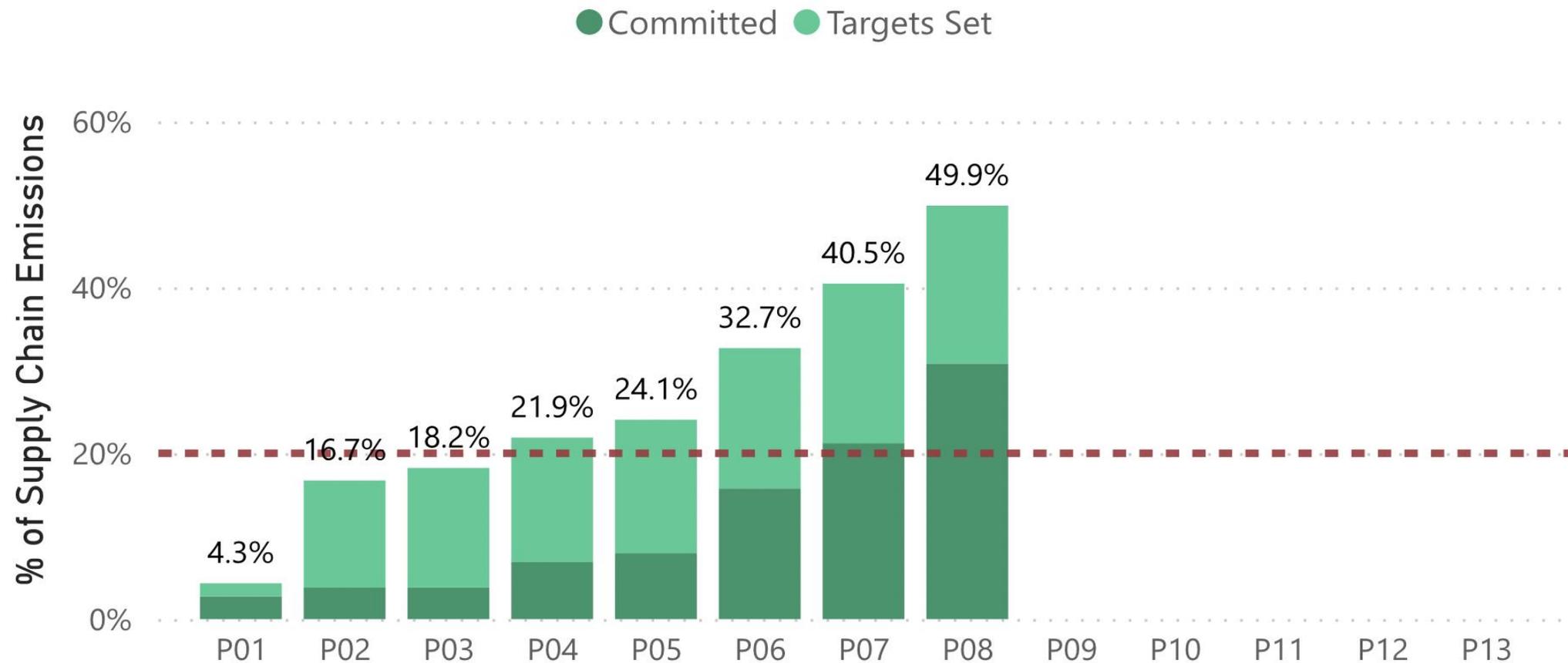
A Hong Kong start-up has joined forces with the developer to upcycle plastic waste into sustainable construction materials.



Business advantages on investing in reduction of emissions, including:

- ❑ Reduce operating costs: improved efficiency and reduced resources
- ❑ Complying with climate-related legislation and government policy
- ❑ Lower business risk in transition to low-carbon economy
- ❑ Enhanced access to green financing
- ❑ Unique growth opportunities through differentiation
- ❑ Meeting and align with customer's net zero goal

% of supply chain emissions where suppliers have committed to Science Based Targets





Facts

The Climate Crisis Is Getting Worse

To limit the worst effects of climate change, we need to halve emissions by 2030 and achieve net zero by 2050.

Every Action of SME Helps

Footprint of an SME might be small, but together SMEs contribute a sizable amount to the global carbon footprint. SMEs make up 90% of global business.



GREEN COUNCIL
環保促進會

Thank for your listening!