

Low Carbon Manufacturing Programme (LCMP) 2020 Scorecard

WWF-Hong Kong November 2020



Low Carbon Manufacturing Programme (LCMP) objectives

WWF-Hong Kong's Low Carbon Manufacturing Programme (LCMP) aims to reduce carbon emissions generated by manufacturing facilities. The LCMP also encourages companies to increase the transparency of supply chain carbon emissions and uncover inefficiencies in overall resource use.

The achievement of LCMP contributes directly to WWF's Global Goal – to halve the amount of footprint from consumption and production and greenhouse gas (GHG) emissions.

 The programme also aligns with United Nations Sustainable

 Development Goals.
 7 affordable and communic growth

 9 industry innovation And production and production
 12 responsible consumption and production

Challenges to Sustainability

COVID-19



Climate crisis



Pandemic

Illegal wildlife trade, intensified agriculture and livestock production, deforestation and climate change are disrupting ecosystems and increasing zoonosis emergence.

1.5°C

Paris Agreement Net zero carbon 2050 Long term decarbonization? Renewable energy target? Climate adaptation and resilience plan?

Biodiversity loss



Ecological Footprint



1.7 / 4.2

Humanity would need the regenerative capacity of 1.7 Earths to provide what we need from nature. We would need 4.2 Earths if everyone were to adopt Hong Kong's current lifestyle.

-68%

The Living Planet Index, which tracks more than 4,000 species across the globe, reports a 68% decline in average abundance since 1970.



An unforgettable year - 2020



An unprecedented crisis, COVID-19 brought enormous challenges to every sector of society in 2020. It not only greatly affected economic and social activities, but also posed serious threats to human health and life. Nearly a year since the outbreak, lockdown measures adopted to contain the coronavirus pandemic continue to

significantly impact import and export trade, in particular travel and passenger transportation, hotel and tourism, and other related services industries.

Quarantine, travel restrictions and social distancing measures have posed challenges in carrying out onsite LCMP verification in factories. In consultation with members of the LCMP Accreditation Committee, participating companies and verifier organisations, a remote verification protocol was developed as an alternative solution to the normal onsite verification. The protocol aims to provide guidance on how to conduct through online meeting tools an offsite assessment and verification consistent with onsite verification standards.



Remote verification

Using an online platform, remote verification allows verifiers to bypass onsite inspections. Instead LCMP factories will need to prepare digitised documents, photos, video clips and other relevant materials in advance for submission beforehand.

On the assessment day, the data verification and validation process, factory tour and staff interview will all be carried out online to keep the scope of work aligned with an on-site verification. While the verification mode is different, the scoring requirements and criteria remain unchanged.

Benefits of remote verification:

- Avoid risk of infection
- Greater flexibility in schedule date/duration
- Greater flexibility in number of participants
- Reduce travel-related carbon emissions

Limitations of remote verification:

- Hard to drill into details via online tour or images
- Not able to inspect the internal structure of equipment
- Random selection of employees to interview is not feasible
- Longer preparation time for digital documentation
- Visual and audio quality is dependent on the Internet speed, phone model, site location, etc
- Some companies may not permit online factory tour due to confidentiality and privacy policies
- Longer verification time due to the size of computer screens that are unable to display multiple pages for data validation



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Companies attaining LCMP labels in 2020



	Factory name	Location	Major products	No. of verifications
LCMP	Platinum			
PLATINUM CO2 IDIN CALBON MANUFACTURING PROGRAMME	Dongguan Ye Ji Industrial Company Limited	Dongguan	Sweaters	5
	K+K Fashion Company Limited	Vietnam	Knitted garments	3
	Maxturn Apparel Company Limited	Vietnam	Knitted garments	3
	Ningbo Klite Electric Manufacture Co., Ltd.	Ningbo	LED lightings	5
	Spintec Precision (Shenzhen) Ltd.	Shenzhen	Metal fittings	5
LCMP	Gold			
	Dongguan Wings Footwear Ltd.	Dongguan	Footwear	3
	Hop Yick (Bangladesh) Ltd.	Bangladesh	Lingerie and swimwear	1
	Ningbo Helong New Material Co., Ltd.	Ningbo	Wood-Plastic composite	4
LCMP	Silver			
SILVER CO2 Dem Cabbon Manufacturing Programme	Foshan Longart Building Decoration Materials Co., Ltd.	Foshan	Mosaic	3



Carbon reduction achievements

Year of verification	2019 - 2020	
Number of LCMP- accredited Companies ⁽ⁱ⁾	19	
Cumulative change in business volume (base year vs. performance year)	Collectively these companies grew by +139%	
Annual change in carbon intensity ⁽ⁱⁱ⁾ per company	-6.8%	

(i) The LCMP requires companies to conduct verification every two years. Carbon reduction achievements are therefore calculated and reported according to the data available over the respective two-year period.

(ii) Carbon intensity is carbon emissions divided by business volume.



Carbon reduction achievements

Carbon emissions performance of 19 LCMP-accredited companies in 2019-20

Carbon reductions by LCMP

Carbon emissions

(iii)

Base Year: Setting a base year allows for meaningful and consistent comparisons of emissions over time. The base year is generally the earliest year that verifiable emissions data are available, and can be either a single year or a multi-year average.

BAU: BAU (Business as Usual) refers to the estimated amount of greenhouse gas emissions that would be produced under a company's current business model, without employing any carbon reduction measures. BAU is calculated as the carbon emissions (in tonnes) produced in the base year divided by the business volume in the base year, multiplied by the business volume in the performance year.

Performance Year: The performance year is the latest year that verifiable emissions data are available from the date of verification and can be either a single year or a multi-year average.

Tonnes 800,000 700,000 600,000 292.35 500,000 400,000 715,360 300,000 572,509 423,006 200,000 100,000 n Base Year Projected BAU Performance Year



LCMP: Decoupling business growth from greenhouse gas emissions



These businesses collectively grew by **139%**, and after implementing the LCMP, they successfully avoided **292,354** tonnes of carbon emissions, according to a comparison of performance year data with projected business-as-usual (BAU) scenarios. To put that in perspective, it would take 12,711,043 trees an entire year to absorb that amount of carbon emissions!



Another LCMP highlight is the absolute reduction of **149,503** tonnes of carbon emissions of 19 LCMP companies from 572,509 tonnes in base year, to 423,006 tonnes in performance year relative to the 139% business growth during the same period. Companies either improved the efficiency of their facilities and systems such as boilers^(iv), or utilized cleaner fuels resulting in an absolute emissions reduction.

 $({\rm iv})$ The LCMP company adopted the high efficient "circulating fluidized bed boilers" and effectively reduced fuel consumption



Scope distribution of carbon emissions

Scope distribution of carbon emissions^(v) of 19 LCMP-accredited companies in 2019-20



(v)

Carbon emissions by scope (according to the international standard Greenhouse Gas [GHG] Protocol):

Scope 1: Direct GHG emissions

Direct emissions from stationary or mobile combustion sources in or belonging to the manufacturing factory. For example, fuel consumption by boilers or furnaces and emissions from company vehicles.

Scope 2: Indirect GHG emissions

Indirect emissions from the generation of purchased electricity, steam or heat. For example, electricity consumed by a factory that is supplied via a local power grid.

Scope 3: Other indirect GHG emissions

Other indirect emissions could include emissions resulting from business travel in non-company owned vehicles as well as thirdparty outsourced activities, for example

(vi)

The difference in carbon emissions of scopes 1 and 2 in the base and performance years is mainly due to the change of steam generation methodology, from the use of its own boiler in the base year to the purchase from supplier in the performance year.



Carbon reduction and business growth

The scatter diagram on the right illustrates the relationship between business growth and a reduction in carbon intensity at LCMP-accredited companies. The percentage change represents a comparison between the base year and the performance year. As shown in the diagram, 75% of the data points lie in the upper-left hand guadrant, which represents a scenario of business growth and a decrease in carbon intensity. A high percentage reduction in carbon intensity indicates efficiency improvements in electricity Increased or resource usage. efficiency is a source of competitive advantage and could lead to further business growth.



DECREASE IN CARBON INTENSITY INCREASE IN CARBON INTENSITY



LCMP label level change

LCMP label level change of 16^(vii) LCMP-accredited companies in 2019-20

No. of factories





Hop Lun (Hong Kong) Limited

Hop Lun (Hong Kong) Limited, a leading lingerie and swimwear manufacturing group, signed the undertaking in 2019 to support the vision outlined in the Fashion Industry Charter for Climate Action under UNFCCC. The company commits to work collaboratively with the peers and relevant stakeholders to develop, implement and enhance the climate action agenda in fashion in order to help implement the Paris Agreement and accelerate the transformative change needed to reach greenhouse gas (GHG) emission neutrality (i.e. climate neutrality) in the second half of the 21st century.

One of its subsidiary factories in Bangladesh joined LCMP in 2019 and received the LCMP gold label in the same year. As of the end of 2018, a reduction of 31% in energy consumption and 25% in GHG emissions per production piece was achieved compared with FY13/14 base year. The factory set a new target in FY18/19 to cut energy consumption by 20% and GHG emissions by 18% per production piece by FY23/24 against FY18/19 base year.

"The LCMP carbon accounting tool helps us track our energy performance and provides valuable insights to identify areas for improvement. The best practices provided by WWF helped us prioritise our efforts," said Caroline Briggert, Head of Sustainability at the Hop Lun Group."

Hop Lun is committed to reducing carbon emissions and is also fully aware of the truth of "Many a little makes a mickle". Therefore in 2020, through the Making Zero Impact Fashionable project, three other subsidiary factories in China, Indonesia and Bangladesh also participated in the LCMP to fulfill its commitment to combat climate change.







LCMP expands to India, Indonesia and New Zealand





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India is among countries most vulnerable to climate change, with about 12% of its land at risk of flooding and 16% prone to drought conditions. About half of India's population depends on agriculture or other climate-sensitive sectors. India, the world's third-largest emitter of greenhouse gases after China and the United States, saw its annual emissions jump nearly four times between 1990 and 2018, from less than 700 million tonnes to more than 2600 million. India pledged to reduce the carbon emissions intensity of its GDP by 33 to 35 per cent by 2030 from 2005 levels.



Indonesia, one of the world's-largest emitter of greenhouse gases, nearly tripled its annual emissions between 1990 and 2018, from around 200 million tonnes to more than 550 million tonnes. Its emissions mainly stem from deforestation and peatland megafires and, to a lesser extent, the burning of fossil fuels for energy. Indonesia has pledged to cut its carbon emissions with an unconditional reduction target of 29% and a conditional reduction target of up to 41% of its business-as-usual scenario by 2030.



LCMP expands to India, Indonesia and New Zealand



New Zealand's climate is warming and it's seeing the effects of climate change, which could have a profound impact on future generations of New Zealanders, according to the report "Our atmosphere and climate 2020", published in October by the Ministry for the Environment and Stats New Zealand. New Zealand's average annual temperature rose

1.13 (\pm 0.27) degrees Celsius from 1909 to 2019, at an average rate of 0.10 degrees per decade, compared to 0.31 degrees Celsius per decade in the past 30 years. The mean-relative sea level has risen by 1.81 (\pm 0.05) millimetres per year on average since records began more than 100 years ago, and the average rate for the years between 1961–2018 was twice the average rate for the period since records began in 1960. New Zealand has set its carbon emissions reduction targets to 5% below its 1990 gross emissions, for the period 2013-2020 and 30% below its 2005 gross emissions for the period 2021-2030.

Apart from China, the LCMP has also been implemented in Vietnam, Cambodia, Myanmar and Bangladesh. This year, we extended the programme to India, Indonesia and New Zealand. Factories participating in the LCMP in these countries can also effectively use the tools provided by the programme. The LCMP can be effectively implemented wherever factories are located without geographic constraints.



ABOUT THE LCMP

292,354



Actual Change in Carbon Intensity of 21 LCMP-accredited companies*