Low Carbon Manufacturing Programme (LCMP) 2019 Scorecard

WWF-Hong Kong
November 2019

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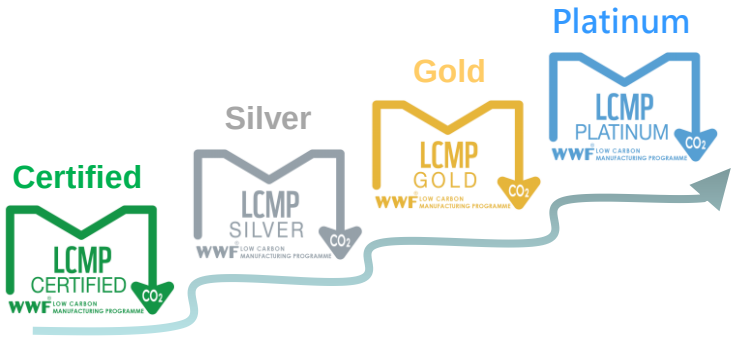
Low Carbon Manufacturing Programme (LCMP) objectives

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.

Companies attaining LCMP labels in 2019



Factory name	Location	Major products	No. of verifications
Platinum			
Dongguan Crystal Knitting and Garment Co., Ltd.	Dongguan	Knitted garments	5
Martin Emprex Textiles (Zhongshan-China) Limited.	Zhongshan	Underwear	2
Gold			
Chow Tai Fook Jewellery Park (Wuhan) Co., Ltd.	Wuhan	Jewellery	1
Dongguan Shatin Lake Side Textiles Printing & Dyeing Co., Ltd.	Dongguan	Printed and dyed fabrics	6
Jiangmen New Star Hi-Tech Enterprise Ltd.	Jiangmen	Stainless steel kitchen sink	4
Karisma Apparel (Myanmar) Company Limited	Myanmar	Cotton knitted garments	1
Luceco Electrical (Jiaxing) Ltd.	Jiaxing	LED lightings and wiring devices	4
PPI Xiamen Industry Co., Ltd.	Xiamen	Water tap	5
PY Garment Manufacturing (Rongxian) Company Limited	Rongxian	Women bras & underwear category	2
Silver			
Shenzhen Hong Tao Non-woven Fabric Co., Ltd.	Shenzhen	Non-woven fabrics	5

Carbon reduction achievements

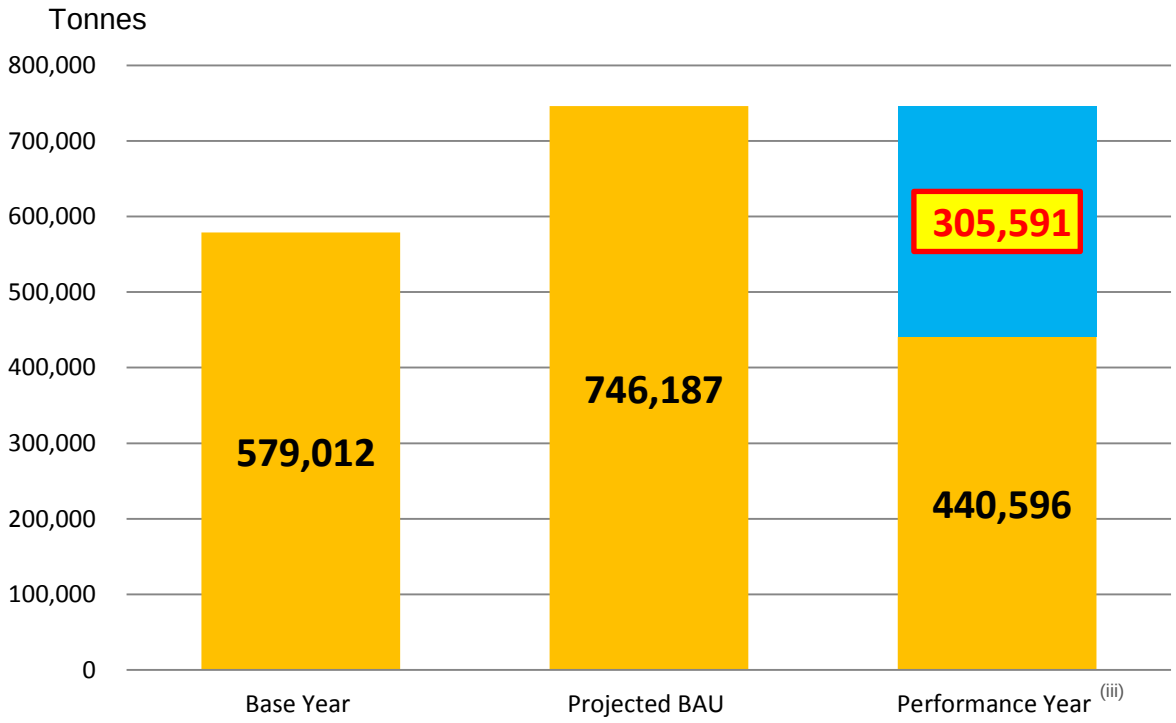
Year of verification	**2018 - 2019**
Number of LCMP-accredited Companies(i)	**21**
Cumulative change in business volume (base year vs. performance year)	**Collectively these companies grew by +120%**
Annual change in carbon intensity(ii) per company	**-8.2%**

(i) The LCMP requires companies to conduct a 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 21 LCMP-accredited companies in 2018-19

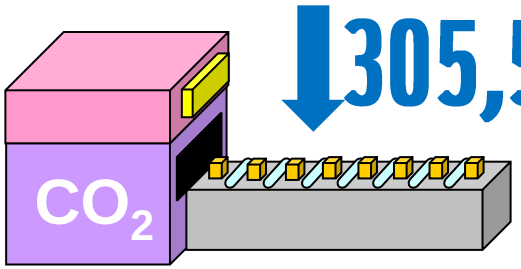


(iii)
Base Year: Setting a base year allows for meaningful and consistent comparisons of emissions over time. The base year is generally the earliest year that verifiable emissions data is available, and can be either a single year or a multi-year average.

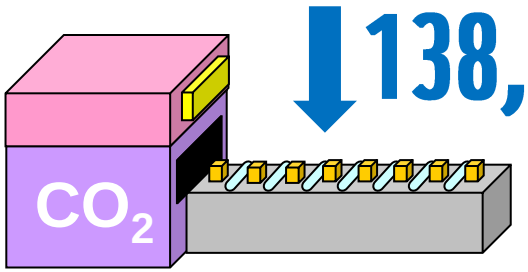
BAU: BAU (Business As Usual) refers to the estimated amount of greenhouse gas emissions that would be produced under a company's current business model, without employing any carbon reduction measures. BAU is calculated as the carbon emissions (in tonnes) produced in the base year divided by the business 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 is available from date of verification, and can be either a single year or a multi-year average.

LCMP: Decoupling business growth from greenhouse gas emissions!



These businesses collectively grew by **120%,** and after implementing the LCMP, they successfully avoided **305,591** 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 13,286,500 trees one whole year to absorb that amount of carbon emissions!

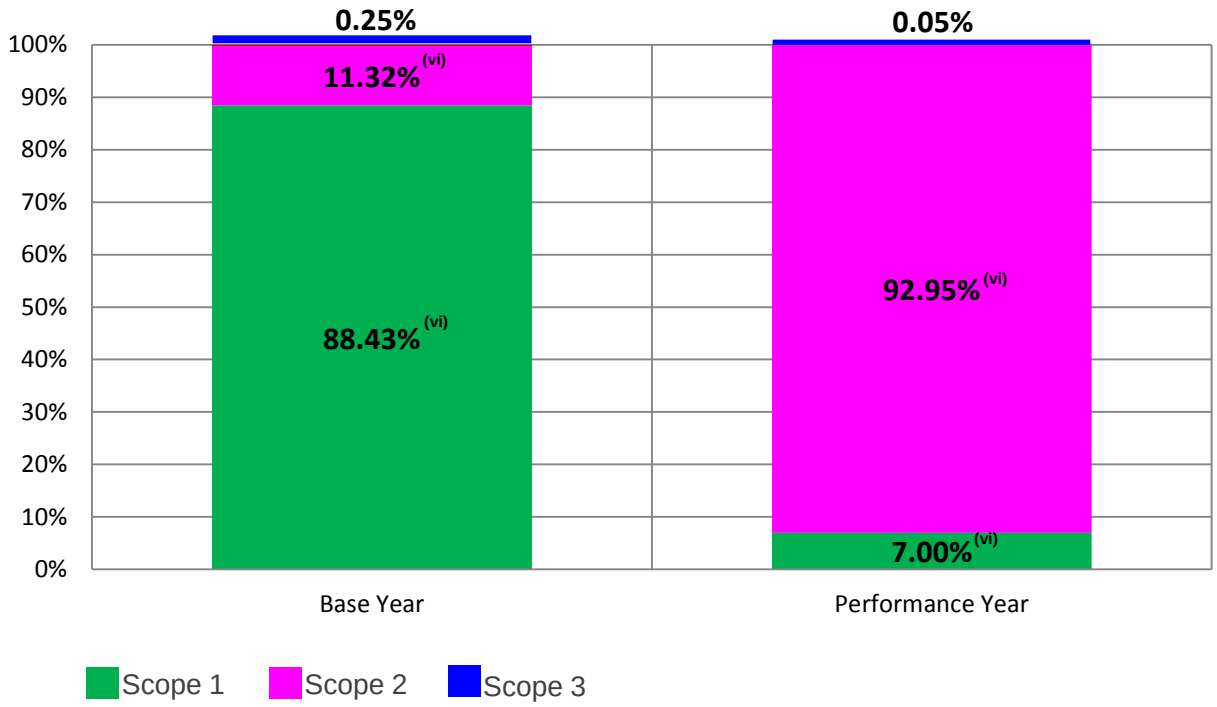


Another LCMP highlight is the absolute reduction of **138,416** tonnes of carbon emissions from 579,012 tonnes in base year, to 440,596 tonnes in performance year relative to the 120% business growth during the same period. Companies either improved the efficiency of their facilities and systems such as boilers[iv], or utilized cleaner fuels resulting in an absolute emissions reductions.

(iv) The LCMP company adopted the high efficient "circulating fluidized bed boilers" and has effectively reduced the fuel consumption

Scope distribution of carbon emissions

Scope distribution of carbon emissions[v] of 21 LCMP-accredited companies in 2018-19



(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.

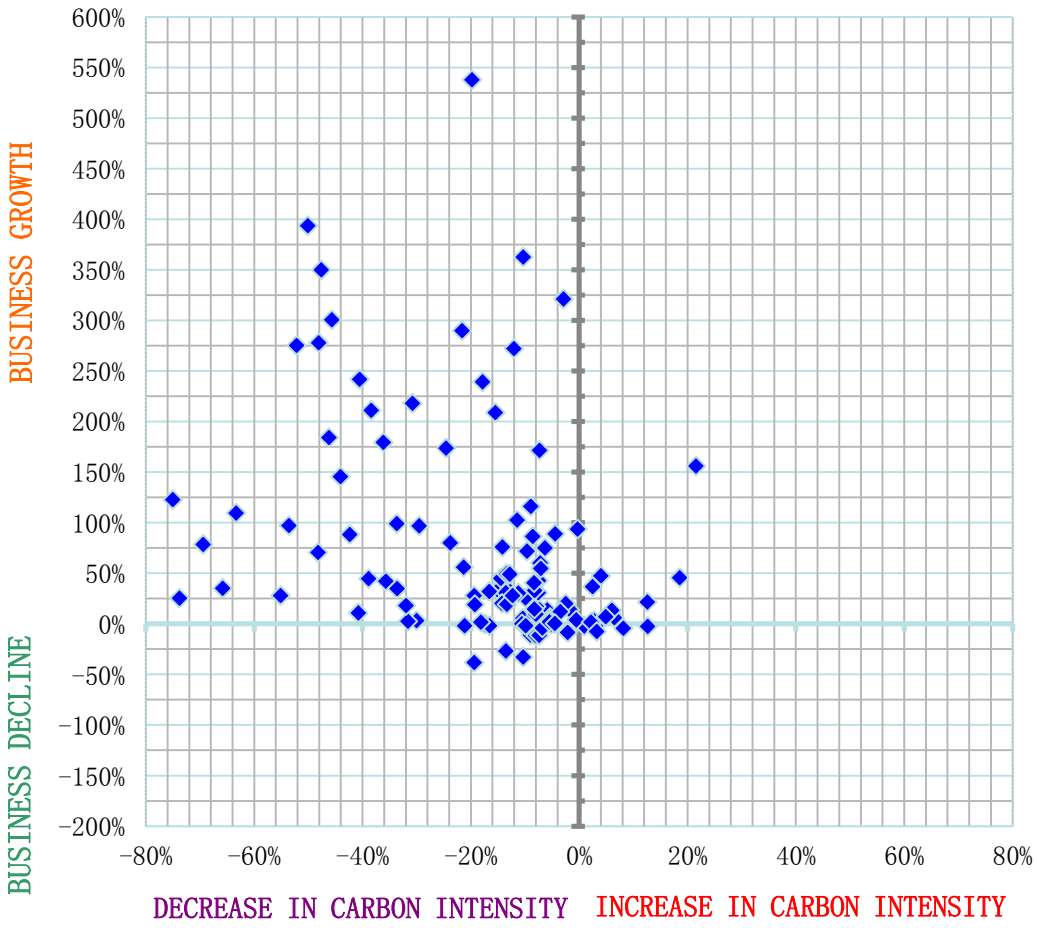
Scope 2: Indirect GHG emissions
Indirect emissions from the generation of purchased electricity, steam or heat. For example, electricity consumed by a factory that is supplied via a local power grid.

Scope 3: Other indirect GHG emissions
Other indirect emissions could include emissions resulting from business travel in non-company owned vehicles as well as third-party 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.

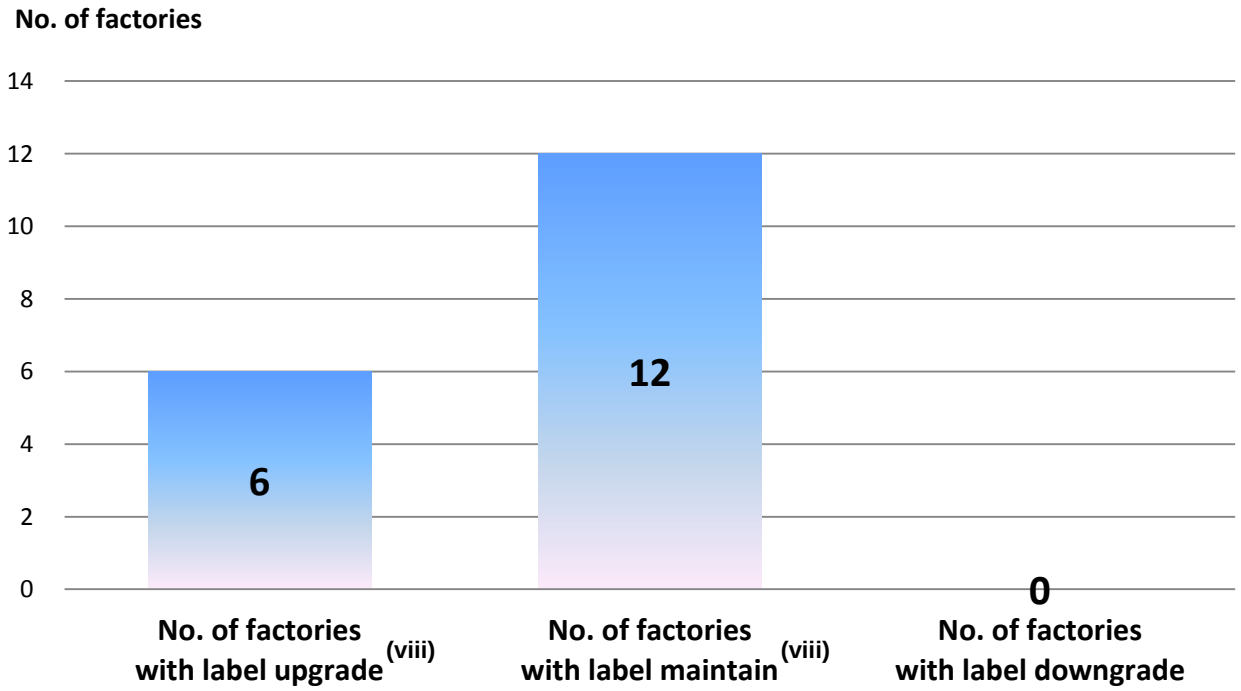
Carbon reduction and business growth

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, **74%** of the data points lie in the upper left hand quadrant, 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 or resource usage. Increased efficiency is a source of competitive advantage, and could lead to further business growth.



LCMP label level change

LCMP label level change of 18[vii] LCMP-accredited companies in 2018-19

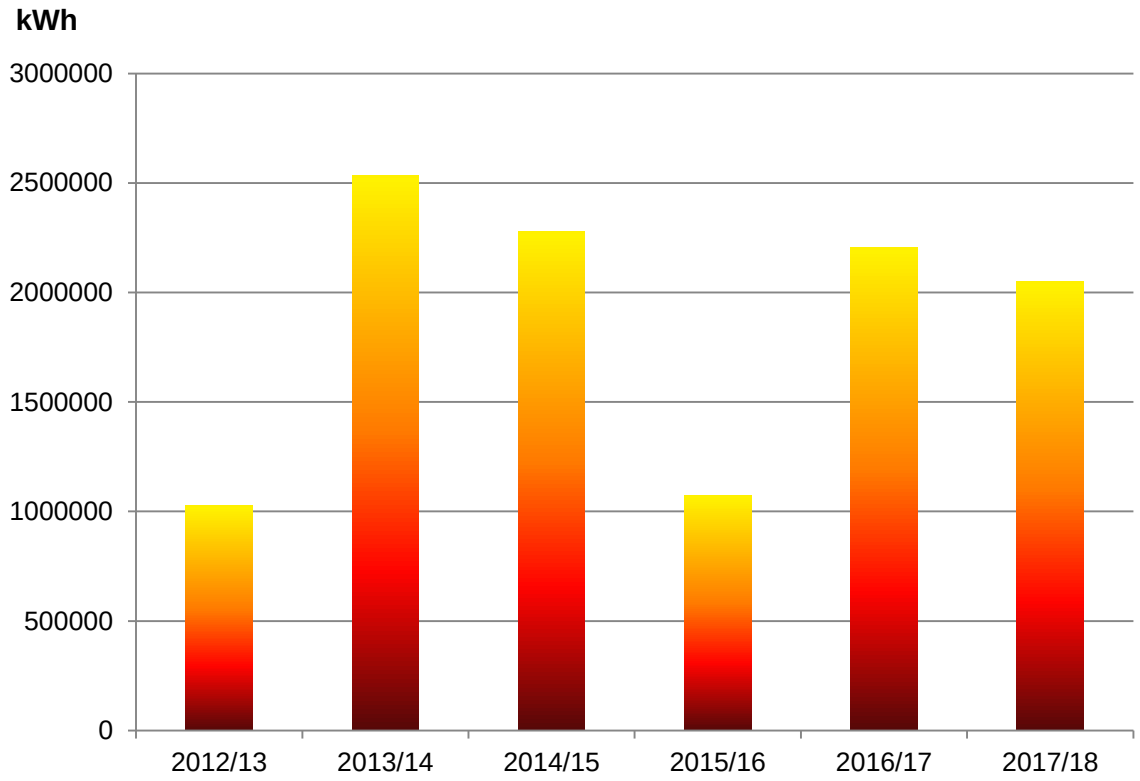


(vii)
In 2018-19, 18 LCMP-accredited companies that underwent LCMP verification completed a minimum of two verifications, while 3 LCMP-accredited companies conducted their first-time LCMP verification and therefore no label level change can be shown.

(viii).
For LCMP-accredited companies to upgrade or maintain the previous LCMP label level, they must improve in the areas of GHG management practices and energy efficiency.

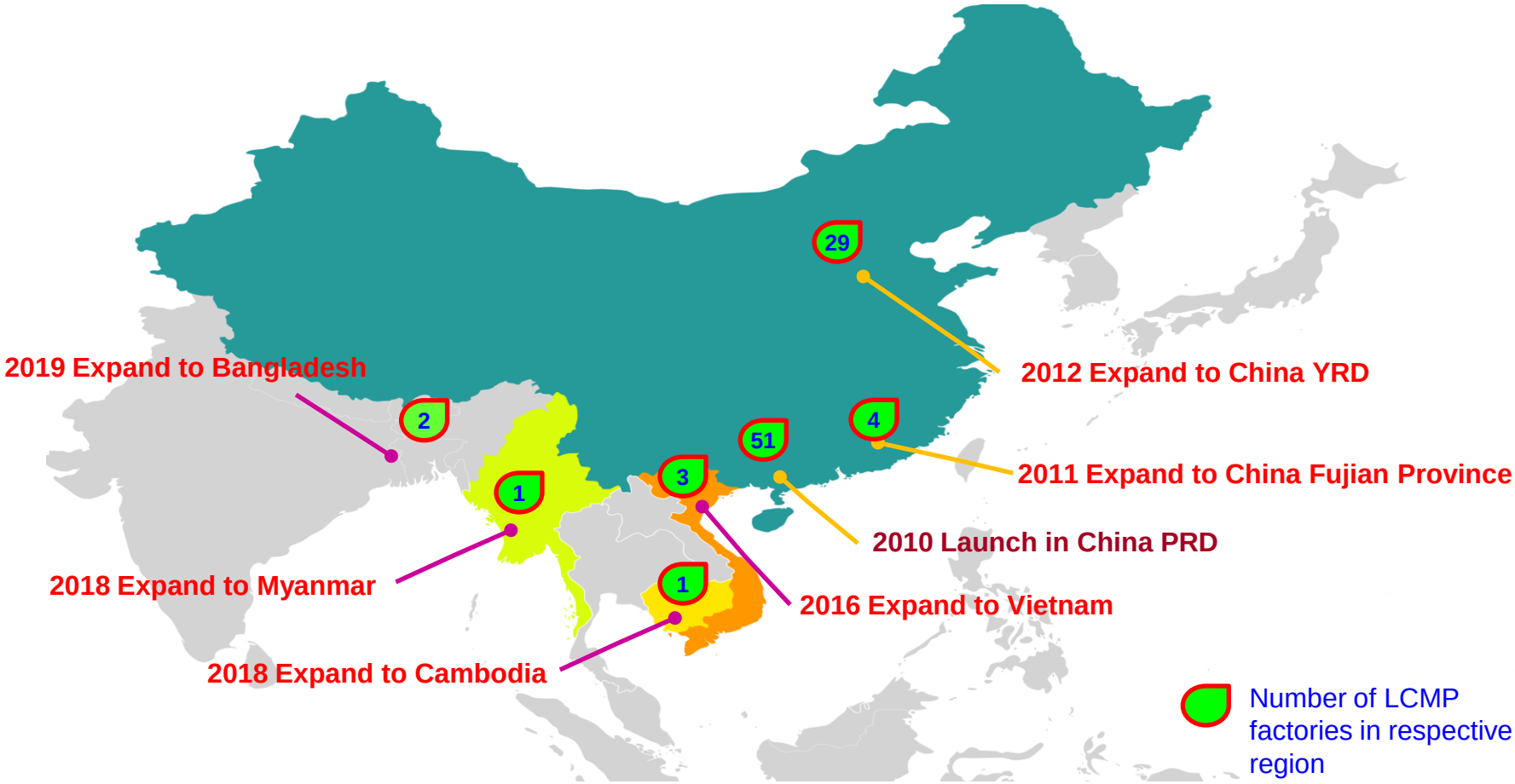
Saving Electricity

Annual saving of electricity consumption of each LCMP-accredited company in 2018-19[ix]



(ix)
Analysis on the electricity consumption of the 21 LCMP-accredited companies, measure their performance years' average annual saving on electricity consumption compared to business as usual (BAU) situation

Expansion of the LCMP to Bangladesh



Expansion of the LCMP to Bangladesh

Bangladesh is the world's second-largest apparel exporter behind China. However, with low elevation, high population density and inadequate infrastructure, Bangladesh is exceptionally vulnerable to climate change. About two-thirds of Bangladesh is less than five metres above sea level, sea levels rise and floods are increasingly destroying homes, croplands and damaging infrastructure, home migration occurs frequently as a result of climate change. It has been estimated that by 2050, one in every seven people in Bangladesh will be displaced by climate change**.** According to “Global Climate Risk Index 2019”, which analyses to what extent countries and regions have been affected by impacts of weather-related loss events, Bangladesh is one of the top ten most affected countries.

Expansion of the LCMP to Bangladesh

To combat climate change, the Bangladesh government has established:

- the target to reduce GHG emissions in power, transport and industry unconditionally by 5% and conditionally with international support by 15% in 2030 compared to business-as-usual (BAU) scenario, according to “Nationally Determined Contributions (NDC)” of UNFCCC,
- the “Bangladesh Climate Change Strategy and Action Plan (BCCSAP)” which targets on the six pillars - food security, social protection and health ; comprehensive disaster management; infrastructure; research and knowledge management; mitigation and low carbon development; capacity building and institutional strengthening,
- the Bangladesh Delta Plan 2100 (BDP 2100) with the aspiration of achieving ”Safe, Climate Resilient and Prosperous Delta” by 2100,
- the “Net Metering System” to encourage the adoption of renewable solar PV panels

In addition to China, the LCMP has in fact been implemented in Vietnam, Cambodia and Myanmar. This year, we extended the programme to Bangladesh. Factories participating in the LCMP in these Southeast Asian countries can also effectively use the tools provided by the programme, and the performance of their carbon emissions reduction shows encouraging results. The LCMP can be implemented wherever factories are located, different geographies do not constrain the programme’s effectiveness.

Bangladesh factory joined the LCMP in 2019

Factory introduction:

Crystal Martin Apparel Bangladesh Limited (CMABL) is a subsidiary factory of Crystal International Group Limited, specialising in the manufacture of ladies intimate garments. "ONE TEAM ONE GOAL" is the motto of CMABL. CMABL has set up an eco-factory team and has committed to low carbon production since its establishment in 2008.

Sustainability targets and achievements:

- Energy saving target of 26% reduction per production piece by 2020 against 2015 base year.
- As of 2019, a 21% reduction in energy consumption per production piece compared with 2015 base year.

Reasons for joining the LCMP:

- Enhance the energy and carbon management framework
- Identify carbon emissions reduction opportunities
- Save cost in the long run
- Demonstrate the efforts in combating climate change to customers and stakeholders
- Stand out amongst the keen competitive industry

Major carbon reduction measures:

- Solar PV system
- Solar hot water heater
- Waste heat recovery from boiler
- VFD inverters in air compressor
- Combustion optimiser in back up electricity generator
- Waste water purification system and recycle

Bangladesh factory joined the LCMP in 2019

Factory introduction:

Hop Yick Bangladesh Limited (HY) is a subsidiary factory of Hop Lun (Hong Kong) Limited, specialising in the manufacture of lingerie and swimwear products. Protecting the planet and reducing unnecessary environmental harm have been guiding principles since its establishment in 2010.

Sustainability targets and achievements:

- Target set in 2015 : Reducing energy consumption by 22% and GHG emissions by 23% per production piece by FY18/19 against FY13/14 base year.
- As of 2018 end, a reduction of 31% in energy consumption and 25% in GHG emissions per production piece compared with FY13/14 base year.
- New target set in FY18/19: Reducing energy consumption by 20% and GHG emissions by 18% per production piece by FY23/24 against FY18/19 base year.

Reasons for joining the LCMP:

- Reduce carbon emissions
- Take full responsibility for it's environmental footprint
- Reduce unnecessary negative impact from the operations
- Run a successful and sustainable business in Bangladesh
- Help expand the LCMP in Bangladesh

Major carbon reduction measures:

- Solar PV system
- Servo motors in sewing machines
- VFD in water pumps
- Air distribution system improvement and operating parameters optimisation in air compressor
- LED lightings

ABOUT THE LCMP

305,591

Tonnes of carbon emissions that were avoided by 21 LCMP-accredited companies* versus the "business-as-usual" scenario

100

Number of factories in the LCMP*: 91
Number of factories in the LCMP Starter*: 9

2010 / 2018

The LCMP was launched in 2010
The LCMP Starter was launched in 2018

*As of 31 Oct 2019

-8.2%

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