



# Low Carbon Manufacturing Programme (LCMP) 2017 Scorecard

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WWF-Hong Kong  
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# Low Carbon Manufacturing Programme (LCMP) objectives

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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 2017



## Platinum

Factory name	Location	Major products	No. of verifications
Dongguan Crystal Knitting and Garment Co., Ltd.	Dongguan	Knitted garments	4
Dongguan Ye Ji Industrial Company Limited	Dongguan	Sweaters	4



## Gold

Changzhou Baolai Garments Co., Ltd.	Changzhou	Garment washing	2
Dongguan Shatin Lake Side Textiles Printing & Dyeing Co., Ltd.	Dongguan	Printed and dyed fabrics	5
Luceco Electrical (Jiaxing) Co.,Ltd.	Jiaxing	LED lightings and wiring devices	3
PY Garment Manufacturing (Rongxian) Company Limited	Rongxian	Womens bras and underwear	1
Yotrio Group Co., Ltd. (Workshop 2)	Linhai	Outdoor furniture	3



## Silver

Jiangmen New Star Hi-Tech Enterprise Ltd.	Jiangmen	Stainless steel kitchen sinks	3
Shenzhen Hong Tao Non-woven Fabric Co., Ltd.	Shenzhen	Non-woven fabrics	4
PPI Xiamen Industry Co., Ltd.	Xiamen	Water taps	4



# Carbon reduction achievements

<b>Year of verification</b>	<b>2016 - 2017</b>
<b>Number of LCMP-accredited companies<sup>(i)</sup></b>	<b>23</b>
<b>Cumulative change in business volume (base year vs. performance year)</b>	Collectively these companies grew by <b>+82.6%</b>
<b>Annual change in carbon intensity<sup>(ii)</sup> per company</b>	<b>-5.8%</b>

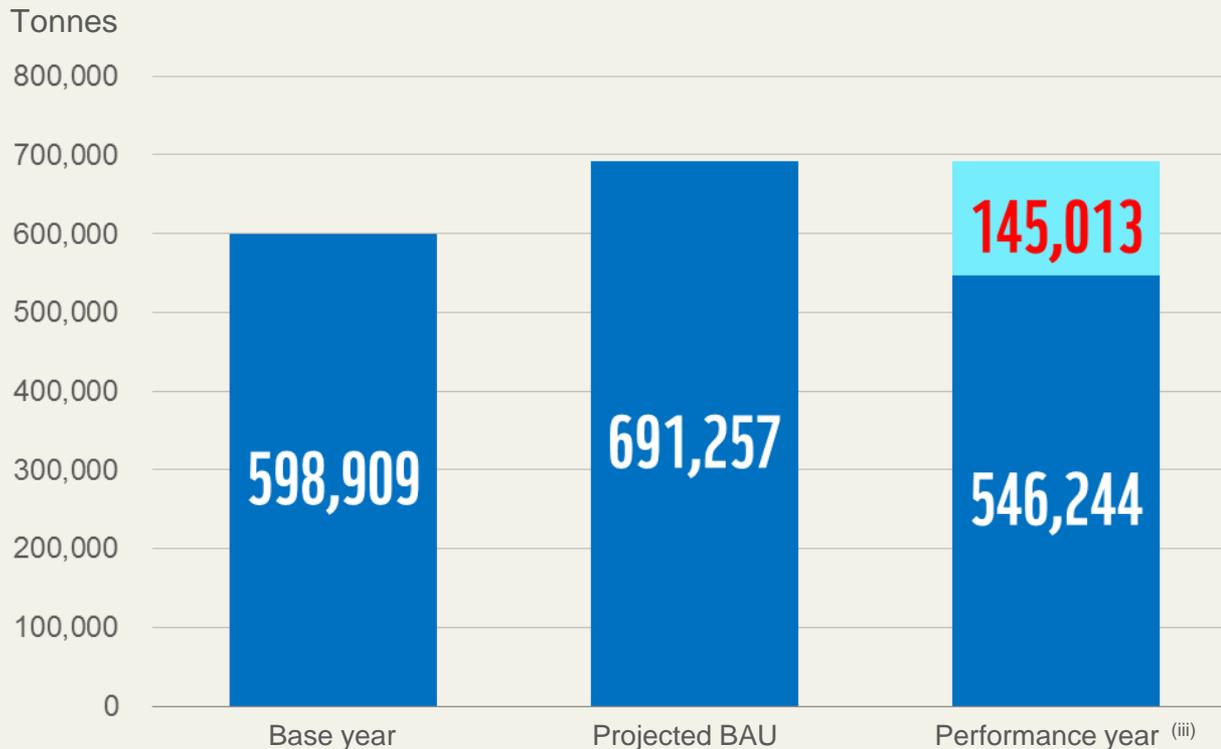
(i) The LCMP requires companies to conduct a verification every two years. Carbon reduction achievements are therefore calculated and reported according to the data available over the respective two-year period.

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



# Carbon reduction achievements

## Carbon emissions performance of 23 LCMP-accredited companies in 2016-17



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 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!



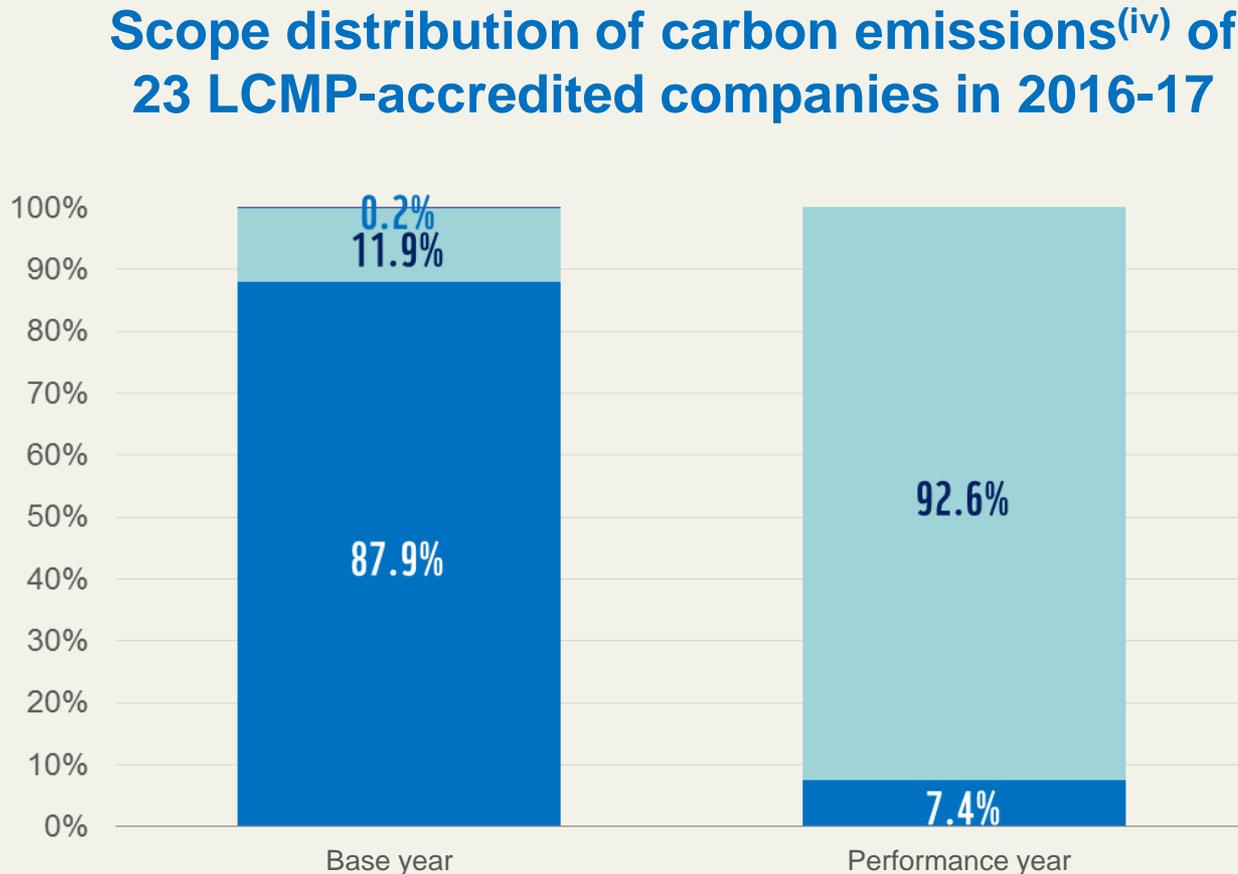
These businesses collectively grew by **82%** from base year to performance year and successfully avoided **145,013** tonnes of carbon emissions, according to a comparison of performance year data with projected business-as-usual scenarios. To put that in perspective, it would take 6,304,900 trees one whole year to absorb that amount of carbon emissions!

Another LCMP highlight is the absolute reduction of **52,665** tonnes of carbon emissions from base year to performance year relative to the 82% business growth during the same period. Companies either improved the efficiency of their facilities and systems such as boilers or utilized cleaner fuels resulting in absolute emissions reductions.



# Carbon reduction achievements

## Scope distribution of carbon emissions<sup>(iv)</sup> of 23 LCMP-accredited companies in 2016-17



- Scope 3
- Scope 2
- Scope 1

(iv)  
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.

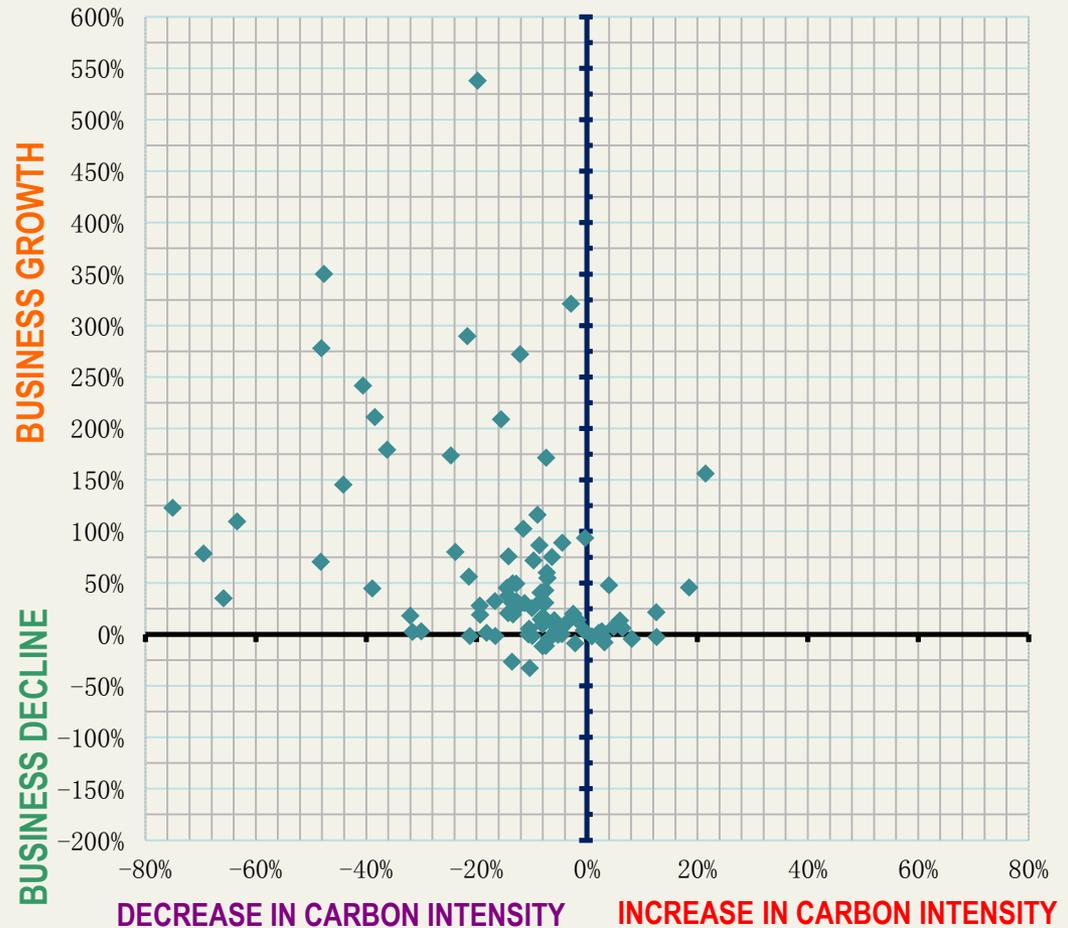
**Scope 2: Indirect GHG emissions**  
Indirect emissions from the generation of purchased electricity, steam or heat. For example, electricity consumed by a factory that is supplied via a local power grid.

**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.



# 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, 73% 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.





# Performance in best practices

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The LCMP handbook lists the best practices for three industrial aspects: greenhouse gas management, energy efficiency of general utilities (such as compressed air systems; electrical systems; heating, ventilation and air-conditioning [HVAC] systems; lighting systems and steam systems) and energy efficiency of manufacturing processes.

To identify corporate best practices and determine whether companies have made continuous improvement, the performances of LCMP-accredited companies are evaluated by third party verifiers on a biennial basis, using best practice checklists. If accredited companies want to upgrade or maintain the previous LCMP label level then they must improve in the areas of GHG management practices and energy efficiency.

The next page is an analysis of the 17 LCMP-accredited companies that underwent LCMP verification in 2016-17. These companies have completed a minimum of two verifications over the past 8 years. The analysis compares each company's performance, according to the overall verification score, GHG management practices, energy efficiency (including general utilities and manufacturing processes) practices and LCMP label level, from first-time verification to the most recent rating.



# Performance in best practices

Group A includes data from first-time verifications of the 17 LCMP-accredited companies.

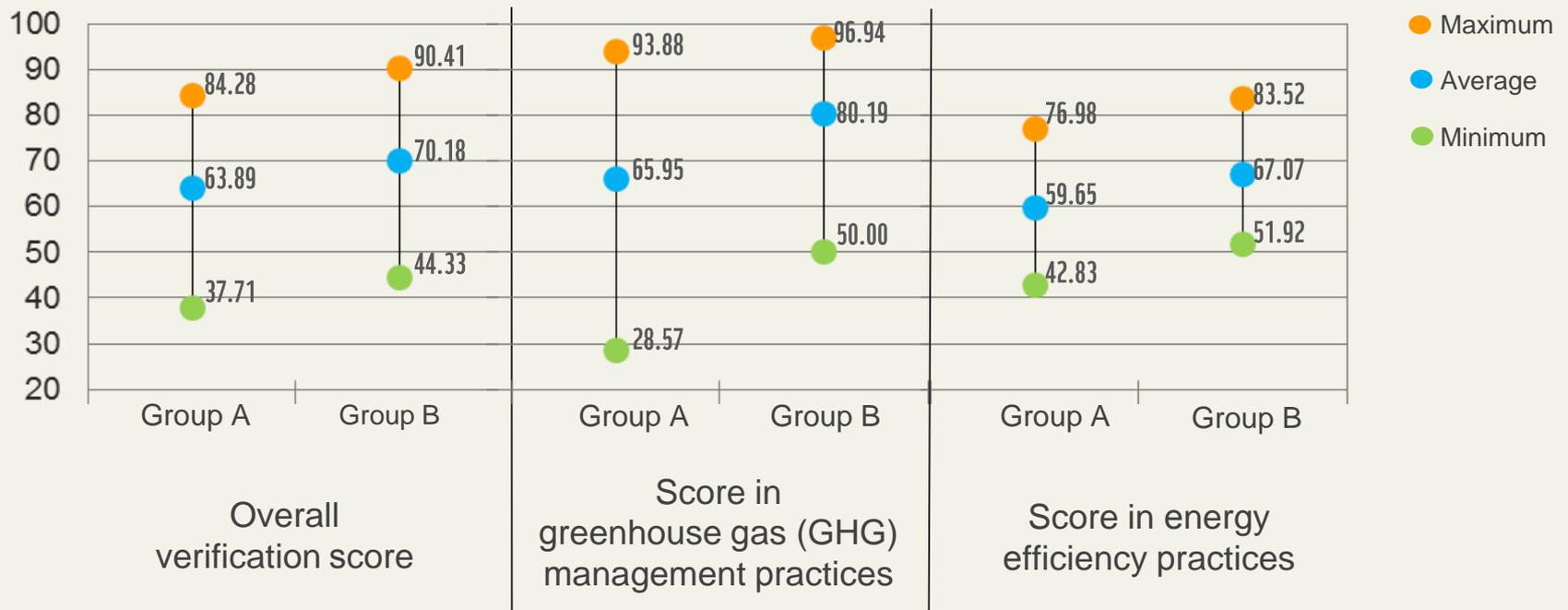
Group B includes data from the 2016-17 verifications of the 17 LCMP-accredited companies.

According to the below diagrams, all of the performance scores – maximum, minimum and average scores in “overall verification score”, “greenhouse gas (GHG) management practices”, “energy efficiency practices” – are higher in Group B than in Group A. Across the three LCMP measurements, the average scores from the Group B dataset are higher than the Group A dataset by 10%, 22% and 12% respectively. Moreover, 14 companies in Group B, about 82% of the overall Group B companies, were able to maintain or upgrade their LCMP label levels. In the 2016-17 verification, one company even exceeded its overall verification score of 90, which is the first such improvement in the history of LCMP. This illustrates that the LCMP can effectively improve a company’s energy efficiency and greenhouse gas management.

	Overall verification score		Score in greenhouse gas (GHG) management practices		Score in energy efficiency practices	
	Group A	Group B	Group A	Group B	Group A	Group B
Maximum score	84.28	90.41	93.88	96.94	76.98	83.52
Average score	63.89	70.18	65.95	80.19	59.65	67.07
Minimum score	37.71	44.33	28.57	50.00	42.83	51.92



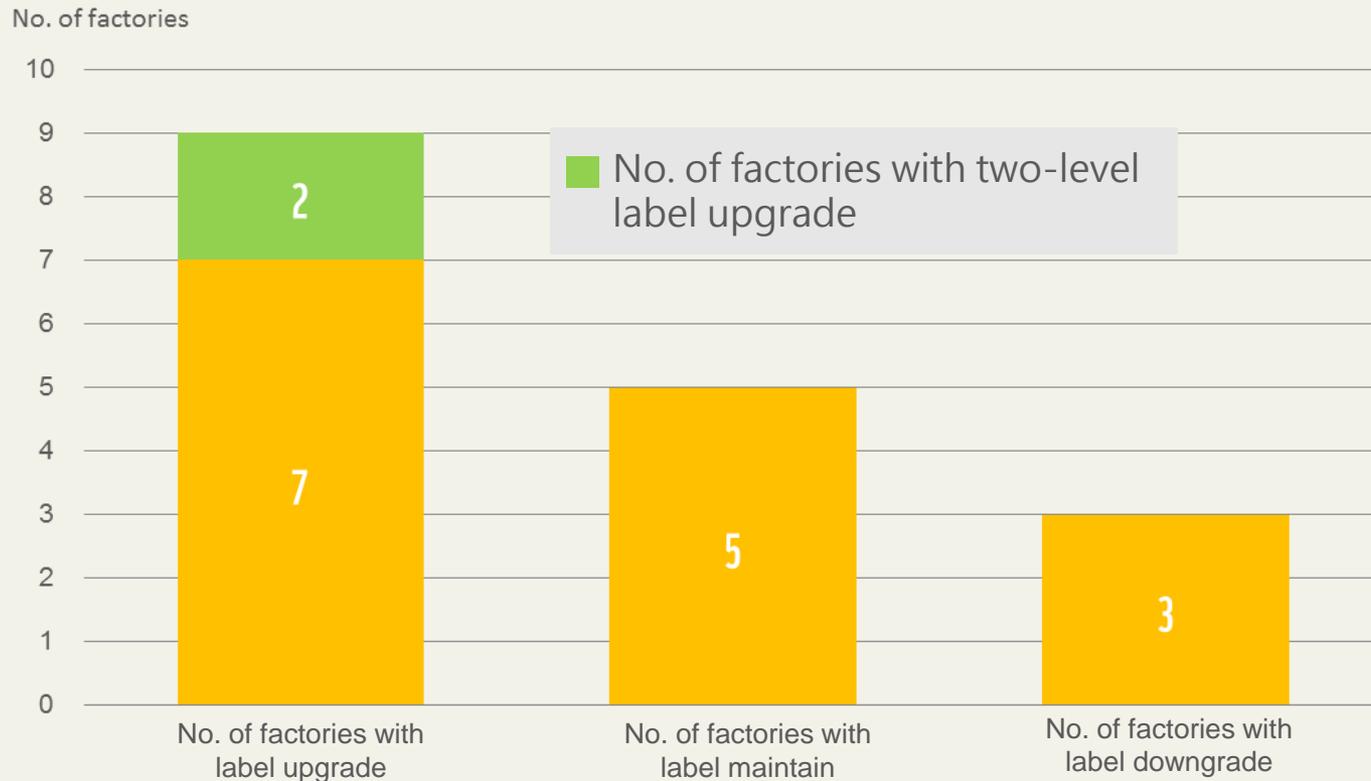
# Performance in best practices





# Performance in best practices

## LCMP label level change of 17 LCMP-accredited companies in 2016-17





# ABOUT LCMP

76

factories are enrolled in LCMP\*

145,013

tonnes of carbon emissions were avoided by 23 LCMP-accredited companies\* versus the "business-as-usual" scenario

2010

The year LCMP was launched



\*As of 31 Oct 2017

-5.8%

Annual change in carbon intensity of 23 LCMP-accredited companies\*