



# WWF Low Carbon Manufacturing Programme (LCMP)

## Quarterly Newsletter

July 2019 Issue

### Success Story

**Martin Emprex Textiles (Zhongshan-China) Ltd.** (“Martin”) is a subsidiary factory of Crystal Martin (Hong Kong) Limited under the Crystal International Group, which specializes in the manufacture and sale of underwear. The company adheres to environmental protection and follows the Group’s policy to develop sustainable projects in order to continuously improve quality, environmental and occupational health and safety management systems. Martin has been participating in the LCMP for 8 years, the factory has just completed the verification and received the Platinum label this year. In recent years, the company has set up a new factory building with different energy saving and carbon reduction measures including:

- The company installed solar PV panels on the rooftop to generate electricity for use in the factory. The system capacity is 210 kWp and generates around 250,000 kWh annually, which helps the company to reduce its annual carbon emissions by 133 tonnes.



Solar PV panels

- By replacing their electric water heaters with heat pumps in the dormitory and solar water heaters in the production workshops, reducing the annual electricity consumptions by 520,000 kWh and 57,000 kWh respectively, lowering carbon emissions by a total 314 tonnes annually.



Heat pump



Solar water heaters

- Optimizing the laminating machine in the material cutting workshop from simultaneous heating of the upper and lower rollers to only heating the lower roller, this not only reduces power consumption by a half but also lowers the workshop temperature near laminating machines. This helps reduce annual electricity consumption by about 47,000 kWh and lowering carbon emissions by about 25 tonnes annually.



Upper & lower rollers of laminating machine

### The UK plans to cut greenhouse-gas emissions to net zero by 2050

The UK government has recently set a new target of “Net Zero Greenhouse Gas (GHG) Emissions” by 2050. In addition to addressing climate change, it can also improve public health, air quality and maintain biodiversity. “Net Zero GHG Emissions” means balancing emissions with carbon removal or carbon offsetting. This target will be introduced into law in the form of amendments to the “The Climate Change Act 2008”, which will be submitted to Parliament for approval. The UK is expected to be the first major economy in the Group of Seven (G7) to legally bind the “Net Zero GHG Emissions” target, and we foresee other major economies will follow. Theresa Mary May, the former prime minister of UK, said that UK led the world’s innovation during the industrial revolution and now is the time to bring the world towards a more cleaner and environmental road. Find out more here: <http://www.takungpao.com.hk/news/232111/2019/0613/302572.html>

### LCMP updates and activities

The LCMP is organizing a series of engagement activities over the coming months:

- TESCO supplier conference and training (June - August)
- Summer school for children 2019 (July - August)
- Factories conducting LCMP verification (July – Sept)
- Participation of LCMP team in “Fashion Summit” (Sept)

Interested parties or more details, please contact the LCMP team!

### Ocean thermal energy conversion (OTEC)

Power generation by renewable energy such as solar energy or wind energy is often seen in media. Have you heard about “Ocean thermal energy conversion”? In the vast oceans, the sun’s radiation is stored in the surface layer in the form of heat, while the temperature at the bottom of the sea is very cold, this temperature difference creates a huge potential for power generation. The principle behind it is to vaporize the low boiling point working fluid while flowing through the warm ocean’s surface; the vaporized steam provides energy to drive turbine blades to generate electricity. The steam will then be conveyed to the seabed and condensed into liquid by the cold water, the liquefied fluid will finally return to the surface layer to repeat another cycle. This continuous loop forms an “Ocean thermal energy conversion system”.

## Best practices: Chow Tai Fook Jewellery Park (Wuhan) Co., Ltd. - Jewellery Industry

**Chow Tai Fook Jewellery Park (Wuhan) Co., Ltd., located in Wuhan City in Hubei Province, is a subsidiary factory of the Chow Tai Fook Jewellery Group Limited, which specializes in the manufacture of jewellery. The company refined their sustainability strategy, embracing economic, environmental and social aspects, including responsible sourcing, craftsmanship, innovation & technology, resource efficiency & carbon reduction, and on being people focused. The company joined the LCMP in 2018, and received a Gold label in its verification in the same year. The company has also adopted numerous carbon reduction measures:**

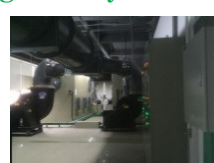
- Adopting solar heating for the natural gas boilers system to produce hot water, reducing boiler’s natural gas consumption.
- Retro-fitting and using energy-saving aluminum alloy compressed air pipelines, shortening pipeline lengths and lowering output pressure, reducing electricity consumption by 20,000 kWh annually.
- Using new style spray nozzles in gold production lines, reducing compressed air maximum pressure from 7MPa to within 5MPa, saving electricity consumption by about 10 per cent annually
- Adopting variable frequency control mode on air blowers’ speed according to exhaust air emissions volume and hence reducing electricity consumption.
- Installing a permanent magnetic variable frequency air compressor and adopting gradually a 2-stage compression model with a higher energy efficiency.



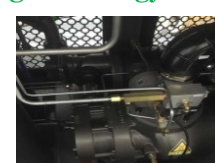
Solar heating & natural gas boiler hot water system



Energy saving compressed air pipelines



Variable frequency air blower



VFD air compressor