



# WWF Low Carbon Manufacturing Programme (LCMP)

## Quarterly Newsletter

October 2019 Issue

### Success Story - Luceco Electrical (Jiaxing) Co., Ltd.

**Luceco Electrical (Jiaxing) Co., Ltd.**, located in Jiaxing, Zhejiang Province, specializes in developing and manufacturing LED lamps, wall switches, electrical switch boxes and TV racks. Luceco (Jiaxing) follows the good practices of social responsibility in accordance with its UK headquarters Luceco PLC; adheres to the standards of environmental management and low-carbon manufacturing, and pays attention to energy savings and carbon-emissions reduction during product design and development stages. The company is committed to strictly monitoring all energy usage in product design, manufacture and sales activities, and adopts constructive measures and continuous improvement in order to reduce carbon emissions. Luceco (Jiaxing) has just completed its fourth verification this year and received the Gold label after achieving a 4.39% reduction in annual carbon intensity. The company has also implemented several carbon-reduction measures including:

- Adopting a continuous operation approach for stamping dies, transforming manual operation of single-station molds into continuous operation of multi-stations molds with robotic arm automatic loading, reducing the number of stamping work stations and running time, improving productivity and saving about 2 million RMB annually.



**Single-station molding**



**Multi-stations molding**

- Optimising the spray painting process parameters, reducing spray powder coating thickness and workpiece heating time, increasing transmission chain cycling frequency and the plastic powder recycling rate, saving about \$500,000 RMB annually.



**Spray painting workshop**

- Reforming testing equipment combinations, combining product safety testing, mechanical function testing, code-spurting and other related processes at the same facility, reducing running time and increasing productivity, saving about \$500,000 RMB annually.



**Reformation of testing equipment**

### Be more ambitious in combating climate change

According to the World Meteorological Organization (WMO) report "The Global Climate 2015-2019", global average temperature and greenhouse gas emissions in the past five years have reached record levels, with the average sea level rate rising dramatically and the sea ice extent in the Arctic and Antarctic repeatedly hitting record lows. Global average temperatures during the 2015 to 2019 period increased by 1.1° C since the pre-industrial period, and by 0.2° C, compared to 2011-2015. The CO<sub>2</sub> growth rate from 2015 to 2019 is nearly 20 per cent higher than the previous five years and global CO<sub>2</sub> concentrations are on track to reach or even exceed 410 ppm by the end of 2019. In addition, over the five-year period from 2014 -2019, the rate of the mean rise of global sea-levels totalled 5 mm per year, and has already exceeded the rate by 4 mm per year in the 2007-2016 period. The WMO Secretary-General said that to stop the global average temperature from increasing by more than 1.5 degrees Celsius above pre-industrial levels, the level of ambition needs to be multiplied by five. Find out more here: <https://bit.ly/34crRm1>

### LCMP updates and activities

The LCMP is organising the following engagement activities over the coming months:

- WWF-Hong Kong Corporate Sustainability Summit and Award Presentation 2019 (Nov.)
- 2019 LCMP report on accredited factories (Nov.)
- Walk for Nature 2019 (Nov.)
- Kingfisher Group Supplier Conference (Nov.)

For interested parties or for more details, please contact the LCMP team!

### Waste heat recovery from "Organic Rankine Cycle (ORC)"

Factory waste heat does not only provide heat energy to workshops and dormitories, it also generates electricity. "Organic Rankine Cycle (ORC)" technology uses low-temperature waste heat to generate electricity. The low boiling point working fluid absorbs heat energy from waste heat and through the evaporator forms pressurised vapor, which then enters the turbines providing energy to generate electricity. Through the condenser, the vapor discharged from the turbines releases heat energy and condenses into liquid, which is then transferred back to the evaporator through the working fluid pump. This continuous loop forms an ORC system to generate electricity. Since this system is characterised by the use of a low boiling point working fluid, it is therefore beneficial to recover the low temperature waste heat.

### Best practices: PY Garment Manufacturing (Rongxian) Company Limited - Textile Industry

**Established in 1988, PY Garment Manufacturing (Rongxian) Company Limited is a subsidiary factory of Hong Kong-based P.H. Garment Manufacturing Company Limited, specialising in the design and manufacture of lingerie. The company operates under the mission: "People-oriented, excellent quality, constant innovation, sustainable development". The factory recently completed its second verification and received the Gold label this year for a series of carbon-reduction measures, including:**

- Adopting an air compressor with variable frequency drive (VFD) to provide workshop compressed air to save energy and cost
- Replacing traditional fans with a water-curtain HVAC system to lower the temperature and reduce electricity consumption inside the workshops and canteen
- Using electric induction cookers in the canteen, reducing annual electricity consumption by 50 per cent and lowering carbon emissions by 16 tonnes annually
- Storing quality inspection records in a computerised system instead of paper records and reports, reducing paper consumption and facilitating data storage
- Enhancing employees' energy-saving and carbon emissions reduction knowledge by displaying related information on bulletin boards in the workshop area



**VFD air compressor**



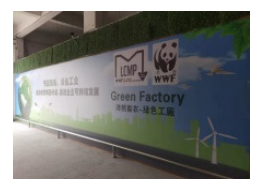
**Water-curtain HVAC system**



**Electric induction cooker**



**Computerized inspection record**



**LCMP on bulletin board**