



WWF Low Carbon Manufacturing Programme (LCMP)

Quarterly Newsletter

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Success Story

Dongguan Crystal Knitting and Garment Co., Ltd. (DCKG) is a subsidiary factory of Hong Kong's Crystal Group, was established in 1993. It specializes in the manufacture of knitted garments. DCKG plays a great deal of importance on sustainable development. Since joining LCMP in 2010, the factory has adopted numerous carbon reduction measures and achieved impressive results. In 2017, DCKG received its 4th consecutive LCMP Platinum label. The company's accomplishments include:

- The application of nanotechnology in its washing machines to soften apparel and evaporate water during the drying process, resulting in a 97 per cent reduction in water usage (with zero wastewater), an 88 per cent reduction in chemical usage, a 43 per cent reduction in steam, and a 21 per cent reduction in electricity consumption. In total, this allowed the company to avoid 155 tonnes of carbon emissions annually.

Washing machine with nanotechnology



- By reducing the number curing lamps controlled by each switch used in printing from 4 to 1 (and only turning on the necessary lamps) the company achieved a 22 per cent (or 240,000 kWh) annual reduction in electricity usage. This equates to 163 tonnes of avoided carbon emissions.

Switch structure of drying lamp tubes in printing section



- Changing the LPG delivery method saved 290,000 kWh of electricity consumption and reduced LPG usage by 2,775 m³ annually. This was achieved by replacing bottled LPG delivery with a gasification system with centralized piping. This also solved the LPG residue loss and storage safety issues that occur with bottle delivery.

Centralized LPG piping system



Launch of the National Carbon Trading Market in China

China's President Xi Jinping announced in 2015 that the country would launch an emissions trading system by the end of 2017. As of September 2017, while the carbon emissions and the corresponding intensity continue to fall, the carbon trading pilot market has received intense interest since its launch in 2013, providing a reference point for establishing the national carbon trading market. In 2013, at least one LCMP factory was selected to join the carbon trading pilot market. The factory achieved the targets on carbon emissions reduction proposed by the government.

Find out more here:

<http://en.people.cn/n3/2017/1130/c90000-9299020.html>

LCMP updates and activities

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

- Launch of the 2017 LCMP report (Dec 2017)
- LCMP verifications of LCMP factories (Jan-Feb 2018)
- Webinar on energy efficiency and carbon emissions (Mar 2018)

For more details, please contact the LCMP team!

Nanotechnology reflectors

Nanotechnology refers to the study of substances at the nanoscale. In lighting systems, reflectors direct light to the area that requires illumination. By coating a reflector with nanotechnology, the light intensity can be enhanced and the distribution of light can be more uniform. After installing the reflectors, energy saving can be achieved by reducing the number of lamps or using lamps with lower power. In fact, the application of nanotechnology is widespread. Washing machines are a typical example of equipment in the apparel industry utilizing nanotechnology to save energy.

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

PY Garment Manufacturing (Rongxian) Company Limited, a subsidiary factory of Hong Kong-based P.H. Garment Manufacturing Company Limited, specializes in the design and manufacture of woman's bras and underwear. The factory joined LCMP in 2017 and received a Gold Label the same year for a series of carbon reduction measures, including:

- Adopting a solar water heater and heat pump for employee showers in the dormitory, lowering annual carbon emissions by 49 tonnes
- Installing energy saving servo motors in sewing machines, reducing electricity consumption and lowering carbon emissions by 112 tonnes annually
- Installing LED lamps in most of the factory's production area, lowering carbon emissions by 24 tonnes annually
- Installing solar street lights in its outdoor areas and occupancy sensors in corridors to reduce electricity consumption
- Large-scale greening in the factory and providing an area on the rooftop for a staff garden, indirectly lowering carbon emissions and enhancing staff environmental awareness



Solar heater panels



Heat pump



Sewing machine servo motor



Solar street light



Green area in factory