WWF Low Carbon Manufacturing Programme (LCMP)

Quarterly Newsletter

October 2015 Issue

Success Story

Dongguan Yeji Industrial Company Ltd. ("Yeji") is a subsidiary factory of Hong Kong's Crystal Group and specializes in the manufacture of sweaters. Yeji is located in Dongguan City in Guangdong Province, with clients based in the US, Europe and Japan. Yeji joined the LCMP in 2010, and received a Platinum label in its 2013 and 2015 verifications. Over the years, the factory has adopted numerous carbon reduction measures with the following results:

- An "ice-cooling storage air conditioning" system was installed, whereby the cooling unit produces ice at night, which is then stored and used to chill water for the air conditioning system during the day, which then cools the workshop and office space. This system does not only reduce electricity costs, it also cuts electricity consumption when the system loading is optimal. The system has a payback period of 36 months, has reduced annual electricity consumption by more than one million kWh, and has lowered Yeji's carbon emissions by more than 30 per cent.

Ice-cooling storage system's pipes

Ice storage tank

- DC energy saving servo motors were installed in the linking machine, enhancing the utilization of electricity to more than 90 per cent. These servo motors have a payback period of 18 months and have reduced annual electricity consumption by more than 460,000 kWh and have lowered carbon emissions by more than 50 per cent.

Linking machine

Energy saving motor

- Closed-loop high-efficiency dryers with multiple energy saving features were installed. These features include microcomputer controllers and heat recovery installations, and have reduced drying time by 50 per cent and increased energy savings by 34 per cent. These dryers have a payback period of 12 months and save more than 1,800 tonnes of steam annually.

Closed-loop high-efficiency dryers

Environmental news

World's first 100% solar-powered airport takes flight

In the wake of the first fully solar-powered airplane comes another sustainable landmark: the first airport in the world to operate completely on solar power has just been born! Writing a new chapter in aviation history, Cochin International Airport in India generates all its electricity needs solely from solar power. Operating since August 2015, 46,150 solar PV panels, with a capacity of 12MWp, have been installed across 45 acres near the airport's cargo complex. The many panels allow about 50,000 to 60,000 kWh of electricity to be generated daily, meeting the electricity demands of the entire airport. Any unused electricity from the solar plant will be fed back into the city's power grid. Over the next 25 years, this project will reduce carbon emissions by 300,000 tonnes, the equivalent of planting three million trees. Find out more here: *http://www.enn.com/business/article/48973*

LCMP updates and activities

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

- The production of an LCMP promotional video and education materials (Oct to Dec)
- The Sixth LCMP Labelling Award Ceremony (Dec)
- The 2015 LCMP report on accredited factories (Dec)
- Webinar on energy efficiency and carbon emissions (Dec)

For more details, please contact the LCMP team at any time!

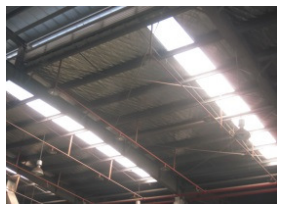
Low Carbon Tip: Active Daylighting System

Active Daylighting Systems effectively collect sunlight and "redistribute" it to indoor areas. These systems can be installed in rooftop areas, automatically tracking the direction of the sun via different means such as GPS devices, programming and light sensors. The systems will rotate the movable mirrors into optimal positions to reflect and collect the maximum amount of sunlight. The light is then transferred to designated indoor locations through optical fibers. Active Daylighting Systems can reduce an indoor lighting system's electricity consumption, something which is particularly useful for factories and offices that mainly operate during the daytime.

Best practices: Ningbo Helong New Material Co., Ltd. .- Wood Plastic Composite Manufacturing Industry

Ningbo Helong has implemented several carbon reduction measures in their general utility and production facilities. Steps taken by the company include:

- Installing LED lights in the factory area, adopting natural lighting in the workshop and controlling light zones at night, reducing carbon emissions by more than 20 tonnes annually;
- Installing a solar water heater and heat pump in the dormitory, reducing carbon emissions by more than 30 tonnes annually;
- Adopting an energy saving water-curtain cooler, reducing the electricity consumption of the factory area;
- Installing a capacitance compensation device in the power distribution room to increase the power factor, and adopting variable-frequency drives (VFD) in motors, which have reduced electricity consumption by more than 20 per cent;
- Replacing electro-resistance heating with electro-magnetic induction on extrusion machines, reducing energy use by more than 35 per cent.



Natural lighting

Solar water heater

Heat pump

VFD

Capacitance compensation device

Extrusion machine

Website: wwf.org.hk/lcmp Email: lcmp@wwf.org.hk Telephone: (852) 2161-9655 Fax: (852) 2845-2764