WWF Low Carbon Manufacturing Programme (LCMP)

Quarterly Newsletter

August 2015 Issue

Success Story

Putian Xinfeitian Footwear Co., Ltd. specializes in the manufacture of footwear for women and children. Their factory is located in Putian city in Fujian Province, with their clients mainly in the US. Xinfeitian joined the LCMP in 2014 and was awarded the LCMP Gold label this year. The factory has adopted numerous carbon reduction measures and achieved impressive results, including:

- Replacing the traditional 24KW clutch motor with a 12KW energy saving servo motor in some of the machines in outsole production area. Adopting advanced energy-saving DC inverter technology which reduces the motor power by half, these servo motors have reduced electricity consumption by more than 50 per cent and lowered carbon emissions by more than 101 tonnes annually.

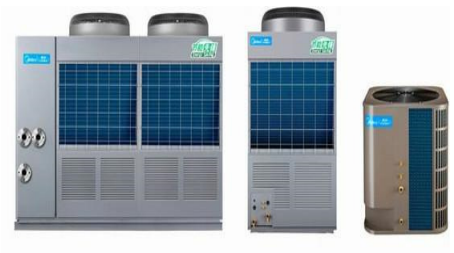
24KW clutch motor

12KW servo motor

- Adopting boiler with an organic heat carrying agent which replaces steam with thermally-conductive oil as transmission medium to provide heat energy for production lines. The oil is reheated after returning to the boiler. This change has lowered carbon emissions by more than five per cent or 57 tonnes annually.

Boiler with organic heat carrying agent

- Replacing the dormitory's boiler with a heat pump hot water system which provides hot water for staff's showers. This system has reduced carbon emissions by more than 15 per cent or 19 tonnes annually .



Heat pump hot water system

Environmental news

"Solar Impulse 2" breaks world record with 118-hour flight

Taking off from Abu Dhabi in March for its "round-the-world" journey, the solar-powered plane "Solar Impulse 2" arrived in Hawaii on 3 July after a five-day non-stop flight over the Pacific Ocean. The 118-hour, 8,200 km-long flight from Nagoya to Honolulu broke three world records: the longest non-stop flight duration, the longest solo flight duration and the longest flight distance without refueling. The plane will then fly through the US, the Atlantic Ocean and Africa before returning to Abu Dhabi. Find out more at:
http://news.hexun.com/2015-07-07/177324853.html

LCMP updates and activities

The LCMP is organizing a series of engagement activities in the following months:

- Kingfisher supplier conference (July)
- Production of LCMP promotional video & education materials (July-Sept)
- LCMP verifications (July-Sept)
- Webinar on energy efficiency / carbon emissions (Sept)

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

Low Carbon Tip: Thermal energy storage system

Thermal energy storage HVAC system incorporates technologies which store energy in a thermal tank for later use. In general, the cooling unit is operated in factory during night time to create ice or cold water which is stored in a large tank and then released during daytime to cool down the workshops and offices. As both temperature and electricity cost are relatively lower at night, this practice not only reduces electricity cost but also cuts electricity consumption when the system loading condition is optimal. The cooling efficiency can be further improved when appropriate phase change materials (PCM) are used as the energy storage medium.

Best practices: Changzhou Baolai Garments Co., Ltd.- Wearing Apparel Manufacturing Industry

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

- Adopting energy saving drying machines which double the drying capacity and reduce the drying time by half, lowering steam usage by 7.8 per cent;
- Using intelligent washing machines which precisely reduce the bath ratio from 1:20-22 to 1:16-18, reducing water usage by 39 per cent;
- Installing a hanging system on drying machines which uses waste heat to preheat washed jeans. The system greatly reduces the jean's water content and lowers steam usage of drying machines by 50 per cent;
- Using waste heat from drying machines' ducts to preheat water in the enzyme wash, bleaching and dyeing processes;
- Replacing T5 tubes with LED lightings, reducing the number of tubes and lowering light troughs' level, installing independent control switches and using natural light;
- Posting the LCMP posters and newsletters on notice boards to educate staff with low carbon knowledge

Energy saving drying machine

Intelligent washing machine

Hanging system on drying machines

LED lightings

LCMP posters & newsletters

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