

PRESS RELEASE

# China Environment Launches the First Megawatt Class Transcritical Carbon Dioxide Heat Pump System in China

**SINGAPORE, 28 APRIL 2015** – China Environment Ltd. (the "Company" and together with its subsidiaries, the "Group"), a major provider of industrial waste gas treatment solutions in the People's Republic of China (PRC), is pleased to announce the successful launch of the **first megawatt class** transcritical carbon dioxide heat pump system ("MW CO<sup>2</sup> heat pump") in China by its subsidiary, Xiamen Gongyuan Environmental Protection Technology Co., Ltd. ("Xiamen Gongyuan").

Spear-headed by the joint-venture with Peking University, Beijing Gongdao Environmental Protection Technology Co., Ltd, Xiamen Gongyuan has successfully completed the pilot project for a calcium carbonate processing plant in Fujian Province in 2015. The project has effectively enabled the **reduction of the use of approximately 3,365 tonnes or 34% of standard coal per annum**. Professor Zhang Xinrong from College of Engineering, School of Energy and Resources Engineering of Peking University, is the technical advisor for the technology implementation.

# **Technical Merits and Verification**

From the technical parameters verification tests performed by Xi'an Thermal Power Research Institute Co., Ltd. ("TPRI"), the MW CO<sup>2</sup> heat pump has demonstrated that it is not only environmental friendly, but also can significantly reduce electricity costs, coal usage and air pollution. It has far superior performance as compared to the Freon heat pump, lithium bromide heat pump and other conventional heat pumps in terms of:

# More environmental-friendly

The use of carbon dioxide as the refrigerant medium is more environmentalfriendly compared to the use of Freon, which causes deterioration of the ozone layer.

## • Higher efficiency

The MW CO<sup>2</sup> heat pump is more efficient as it generates higher coefficient of performance (COP) of 6.3 units or more (based on TPRI report). It is far more efficient than the Freon heat pump, lithium bromide heat pump and other conventional heat pumps which generate COP of approximately 1.8 units to 2.0 units.

### More economical

MW CO<sup>2</sup> heat pump requires much lower operating costs to generate a higher COP as compared to other heat pumps.

# • Longer product lifespan

MW CO<sup>2</sup> heat pump can last for 15 years or more while conventional heat pump and lithium bromide heat pump have less than 10 years and 5 years of product lifespan respectively. TPRI is the authoritative state-owned national institution for thermal power research and technology development. It is owned by the top five state-owned power generation companies in China, namely, China Huaneng Group Holding Co., Ltd, China Datang Group, China Huadian Group, China Guodian Group and China Electricity Investment Group Co., Ltd. TPRI is currently a member of the National Technical Standards Committee in China. The technical parameters verification report issued by TPRI is authoritative.

Mr Huang Min, Executive Chairman of China Environment Ltd, commented, "The MW CO<sup>2</sup> heat pump technology solution can meet the demand of heating and cooling requirements for industrial and commercial uses. It has extensive applications for urban development, thermal power plants, steel mills, chemical plants, cement plants as well as urban complexes such as large shopping malls and airports. We are confident in the successful commercialisation of the megawatt class transcritical carbon dioxide heat pump system as its compelling advantages in cost, energy efficiency and environmental conservation are significant. This is also a bold step for China Environment Ltd in our progress towards broadening our product and technology portfolio for environmental protection solutions."

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#### About China Environment Ltd. (Bloomberg: CENV.SP; Reuters: CHEN.SI)

China Environment Ltd. (中国环保有限公司) is a major provider of industrial waste gas treatment solutions in the People's Republic of China (PRC), headquartered in Longyan City, Fujian Province. The Group designs and constructs industrial waste gas treatment systems. Its key products include Electrostatic Precipitators or ESPs, including Electrostatic Lentoid Precipitators or ESLPs, baghouses and hybrid dust collectors.

The Group conforms strictly to international quality standards. China Environment's commitment to excellence has won it many awards and accreditations including the ISO9001:2000 Quality Management System certification, ISO14001:2004 Environment Management System certification and OHSAS18001:1999 Occupational Health and Safety Management System authentication.

The Group is currently certified and included in the manufacturer recommended list for supplying ESPs for 200mw, 300mw and 600mw thermal power projects. The Group's wholly owned subsidiary – Fujian Dongyuan Environmental Protection Co., Ltd. is accredited as "High/New Technology Enterprise", it enjoys preferential income tax rate of 15% instead of standard income tax rate of 25%. The Group was upgraded to a listing on the Singapore Exchange (SGX) Mainboard on 27 August 2009 via a reverse takeover of Gates Electronics Limited.

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