EC-LINK 中欧生态城
Europe-China Eco-Cities Link
中欧低碳生态城市合作项目

CASE STUDY

Case Study

Clean Energy

Shenzhen - World's Largest Waste to Energy Power Plant

B&W Vølund of Denmark has been awarded a $40 million contract, to design the boiler with a capacity of 168MW, for Shenzhen Energy Environmental Engineering Co. Ltd.

The landfills keep piling up all over the world. China has in recent years opened its eyes for the need of better waste management. In the province Guangdong, the local municipality and developer, Shenzhen Energy Group, has decided to build a magnificent 267,000 m2 waste to energy plant. The plant will be surrounded by rich nature which also reminds of the environmental and economic benefits of waste combustion.

The scope. B&W Vølund will supply equipment for the facility, including the DynaGrate® combustion grate system, hydraulics, burners and other boiler components. It is the first time the DynaGrate® technology is deployed in China. B&W Vølund will also provide construction advisors for the combined heat and power project. The plant is scheduled to begin commercial operation in mid-2019 and will then be fuelled by up to 5,600 tons of municipal waste a day, generating 168 MW energy.

Multi-functions and purposes. The Shenzhen power plant is firstly built with sustainability in mind. The roof will be covered with 44,000 m2 solar panels so that the plan will provide energy from two source, combustion and solar panels. Furthermore, it will include a visitor center, observation platform and a surrounding park. Education and transparency of waste management will lay the foundation for a more environmental aware generation in the industrialised China. Visitors at the plant will be able to experience the visitor center, go on an elevated walkway tour, offering a sneak peek into the inner workings of the plant, and of cause be able to enjoy the 1.5 km panoramic view from the rooftop.

The benefits of waste combustion. Modern waste combustion recovers close to 100 per cent of energy, water and metals from waste. In a top modern WtE plant like in Shenzhen, 99 per cent of the energy will be utilised for electricity and heating, 95 per cent of the water is recovered, and if the domestic waste contains, e.g. aluminium packaging, 90 per cent of the metals will also be recovered. The slag is recycled as gravel, the flue gas is 95-99 per cent clean, and unwanted substances are removed from circulation.

Shenzhen - Waste to Energy Power Plant - renders

Source: https://stateofgreen.com/en/profiles/babcock-and-wilcox-voelund/solutions/world-s-largest-waste-to-energy-power-plant?utm_source=State+of+Green+Newsletter&utm_campaign=2152db4ac2-State+of+Green+Newsletter_newsletter&utm_medium=email&utm_term=0_2978beafb9-2152db4ac2-273119813

Shenzhen - Waste to Energy Power Plant - renders

Source: http://www.shl.dk/shenzhen-east-waste-to-energy-plant/

Shenzhen - Waste to Energy Power Plant – under construction

Source: http://www.shl.dk/shenzhen-east-waste-to-energy-plant/

"The project firstly aims to provide a clean, simple and modern technical facility to deal with the city's growing waste," … "At the same time it aims to educate visitors to this growing waste challenge by taking them on an elevated walkway tour of the plant that ends with a 1.5-kilometre panoramic view of both the surrounding mountains and the 66,000-square-metre roofscape that will be geared to producing actual renewable energy,"

References

https://stateofgreen.com/en/profiles/babcock-and-wilcox-voelund/solutions/world-s-largest-waste-to-energy-power-plant?utm_source=State+of+Green+Newsletter&utm_campaign=2152db4ac2-State+of+Green+Newsletter_newsletter&utm_medium=email&utm_term=0_2978beafb9-2152db4ac2-273119813

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Credentials

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