

Great Expansion of Environmental Management and Recycling Business in Thailand

DOWA ECO-SYSTEM CO., LTD. (Headquarters : 14-1 Sotokanda 4-chome, Chiyoda-ku, Tokyo; Capital 1 billion yen; President: Minoru Tobita), a subsidiary of DOWA HOLDINGS CO., LTD. (Same location; Capital: 36.4 billion yen; President: Akira Sekiguchi), hereby announces that it will expand the incineration treatment of hazardous waste and start the recycling of waste batteries for hybrid vehicles and electric vehicles (hereinafter, "HV/EV") at three subsidiaries in Thailand (Waste Management Siam (hereinafter, "WMS"), Bangpoo Environmental Complex (hereinafter, "BPEC"), and Eastern Seaboard Environmental Complex (hereinafter, "ESBEC")). They will also start the supply of Waste to Energy fuel. With these, the company will greatly expand their environmental management and recycling business in Thailand and respond to diversifying waste treatment and recycling needs.

(1) Expansion of hazardous waste incineration treatment

BPEC possesses a fluidized-bed incineration and power generation system and has mainly executed incineration treatment, heat recovery, and power generation for non-hazardous waste. In 2017, BPEC obtained a limited approval for hazardous waste treatment, which limits CFCs and air bags and have started the incineration treatment of those items. Now, BPEC has obtained approval for the expansion of their hazardous waste incineration treatment (Solid: 30 tons/day, Liquid: 60 tons/day) from the Thai authorities. With this, BPEC will greatly increase the acceptance and treatment of hazardous waste from October 2019. BPEC will continue to increase acceptance of hazardous liquid waste and sludge mainly from chemical industries, which are expected to develop in the future.

(2) Start of recycling of waste batteries for HV/EV

The number of HV/EV has been increased in Thailand, and the local production of batteries for HV/EV is expected to increase. Along with those changes, the construction of an appropriate treatment system for waste batteries has been becoming an important issue. Therefore, the Thai government is promoting the development of various recycling systems, such as automobile recycling and the recycling of waste electrical and electronic equipment (WEEE).

On the sidelines of the obtainment of the aforementioned approval for the expansion of hazardous waste incineration treatment, BPEC introduced a new dedicated incinerator and will start the heat treatment and recycling of waste batteries for HV/EV, such as lithium ion batteries, from October 2019. Through the increased treatment capacity of waste batteries and other hazardous wastes, BPEC will contribute to the development of appropriate treatment and resource circulation systems in Thailand.

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(3) Start of fuel supply to waste power generation facilities

In Thailand, much of the waste material has been disposed in landfills. Due to the efforts by the Thai government to promote an electric power feed-in tariff (FiT) program and amended regulatory framework for renewable energy sources, the introduction of power plants that use waste material as fuel is progressing at a rapid pace.

Chonburi Clean Energy (hereinafter "CCE"), a joint venture company established by WHA Utilities and Power plc, Glow Energy Plc and SUEZ, is constructing an 8.63 MW power plant in Chonburi Province, in eastern Thailand, and is scheduled to start commercial operations at the end of 2019. The facility will dispose of non-hazardous industrial waste using the latest waste-to-energy technologies that comply with the highest regulation standards.

WMS has multiple transportation sites in Thailand and handles approximately 220,000 t/y of waste material shipped to BPEC and ESBE. WMS will use its network to supply approximately 100,000 t/y of waste material to CCE for use as electric power generation fuel and plan to expand services to meet "zero landfill".

WMS will work in collaboration with BPEC and ESBE, as well as CCE, to ensure that these processing sites will be able to backup one another working towards the seamless acceptance and treatment of waste material, bringing a greater convenience to customers.

The DOWA Group will continue to promote the enhancement of its environmental management and recycling business including appropriate waste treatment and recycling services and contribute to the development of sustainable society.

[Overview of WMS]

1. Headquarters: 25th Floor, Central City Tower 1 Building, 589/142 Debaratana Road, Kwang North Bangna, Khet Bangna, Bangkok, Thailand
2. Established: 1999
3. Capital: 635 million Thai Baht
4. Number of employees: Approx. 140
5. Shareholders: DOWA ECO-SYSTEM CO., LTD. (100%)
6. Business: Environmental management and recycling business
(Sales, collection, and transportation)

[Overview of BPEC]

1. Headquarters: 966 moo 2 Soi 3, Bangpoo Industrial Estate, Sukhumvit Rd, Bangpoo Mai, Muang Samutprakarn, Samutprakarn, Thailand
2. Established: 2002
3. Capital: 420 million Thai Baht
4. Number of employees: Approx. 140
5. Shareholders: DOWA ECO-SYSTEM CO., LTD. (100%)

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6. Business: Environmental management and recycling business
(Incineration, thermal recovery, conversion to fuel)

[Overview of ESPEC]

1. Headquarters: 88 moo 8 Tamborn Bowin, Amphur Sriracha, Chonburi, Thailand,
2. Established: 1999
3. Capital: 275 million Thai Baht
4. Number of employees: Approx. 300
5. Shareholders: DOWA ECO-SYSTEM CO., LTD. (100%)
6. Business: Environmental management and recycling business
(Landfill, treatment of liquid waste, conversion to fuel, sorting, and recycling)