A leading global provider of Waste-to-Energy solutions

Keppel Seghers offers proprietary designs for the entire Waste-to-Energy (WTE) process and has successfully completed more than 100 WTE projects in 18 countries worldwide.

As a leading sustainable waste management solutions provider with over 30 years’ experience in environmental technology and services, Keppel Seghers is a recognised specialist in the development of state-of-the-art WTE systems and solutions.

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About Keppel Seghers

Keppel Seghers is a wholly-owned subsidiary of the Keppel Infrastructure group, which is a division of Keppel Corporation, a leading multinational conglomerate listed on the Mainboard of the Singapore Exchange.

Keppel Infrastructure is built around three business verticals, supported by Infrastructure Services, which houses the technical support and Operations & Maintenance capabilities within the group.

Waste-to-Energy

Leading specialist in waste-to-energy technologies and solutions

Gas-to-Power

Providing competitive energy across the Gas-to-Power value chain

Waste-to-Energy

Providing competitive energy across the Gas-to-Power value chain

X-to-Energy

Seeking out efficiencies and values in the energy sector

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Infrastructure Services

Providing reliable support for asset management, development, operations and maintenance

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Keppel Seghers

Solutions for a Cleaner Future

Advanced technologies and services for sustainable waste management
Waste-to-Energy
A sustainable waste management solution

WTE is a sustainable solution for residual waste disposal, with up to 90% reduction in volume of waste disposed.

Key Benefits of WTE
- Complementary to resource reuse and recycling.
- Sustainable solution for residual waste disposal, with up to 90% reduction in volume of waste disposed compared to landfill.
- Reliable source of renewable energy in the form of electricity and steam generated, reducing carbon footprint and dependence on fossil fuels.

Waste-to-Energy
Keppel Seghers boiler system
Keppel Seghers air-cooled grate
Keppel Seghers flue gas cleaning system

Global Project Footprint

1. **Runcorn Energy-from-Waste Combined Heat & Power Facility Phase 1 and 2, UK**
   - Project Type: EPC
   - Capacity: 2,600 TPD of Refuse Derived Fuel
   - Largest waste-to-energy plant in UK, and among the largest in Europe.

2. **Beo An Waste-to-Energy Plant, Shenzhen, China**
   - Project Type: Technology Package
   - Capacity: 4,200 TPD
   - One of the largest operating waste-to-energy plants in China.

3. **Domestic Solid Waste Management Centre, Doha, Qatar**
   - Project Type: DBO
   - Capacity: 3,300 TPD
   - Largest waste-to-energy plant in the Middle East.

4. **Koppel Seghers Tuas and Senoko Waste-to-Energy Plants, Singapore**
   - Project Type: DBOO
   - Capacity: 800 TPD
   - One of the largest operating waste-to-energy plants, largest in Europe.

5. **Bao An Waste-to-Energy Plant, Shenzhen, China**
   - Project Type: Technology Package
   - Capacity: 2,100 TPD
   - One of the largest operating waste-to-energy plants in China.

Other Projects

- **Keppel Seghers Tuas and Senoko Waste-to-Energy Plants, Singapore**
  - Project Type: Technology Package
  - Capacity: 2,100 TPD
  - First private operator of waste-to-energy plants, treating close to 50% of municipal waste in Singapore.

- **Doha, Qatar**
  - Project Type: DBO
  - Capacity: 3,300 TPD
  - One of the largest operating waste-to-energy plants, largest in Europe.

- **Bao An Waste-to-Energy Plant, Shenzhen, China**
  - Project Type: DBOO
  - Capacity: 800 TPD
  - One of the largest operating waste-to-energy plants, largest in China.

- **Singapore**
  - Project Type: Technology Package
  - Capacity: 2,100 TPD
  - First private operator of waste-to-energy plants, treating close to 50% of municipal waste in Singapore.

Proprietary Technology

1. **1. Heat recovery boiler**
   - Primary air supply through dedicated fan and independent tile movement control for each of the furnace zones result in optimal combustion regulation.

3. **3. Heat recovery boiler**
   - Tailored design by in-house computational fluid dynamics modelling ensures optimal performance.
   - Boiler design provides superior combustion air injection, reducing overall boiler fouling and corrosion.
   - Refractory design, protective cladding and on-line cleaning improve boiler availability and performance.

4. **4. Flue gas cleaning system**
   - Semi-wet flue gas cleaning system comprises atomised lime injection technology without gearbox, ensuring easy maintenance and long operating lifespan.
   - Dry flue gas cleaning system with residue recirculation technology, used together with high energy recovery boilers, increases thermal efficiency and reduces chemical consumption.

- **Keppel Seghers**
  - **Furnace**
    - Furnace for untreated municipal solid waste with low calorific value
    - Combustion grate with fixed and sliding tiles.
    - The tumbling tiles ensure more efficient combustion of wet untreated municipal solid waste through increased agitation of the waste.
    - All grate designs allow for containerised shipment.
    - The site installation of prefabricated and factory-tested modules is short and hassle-free, even for high throughput grates.

- **Combustion control**
  - Segamina control system regulates stable steam production while maximising waste throughput and improving combustion efficiency.

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