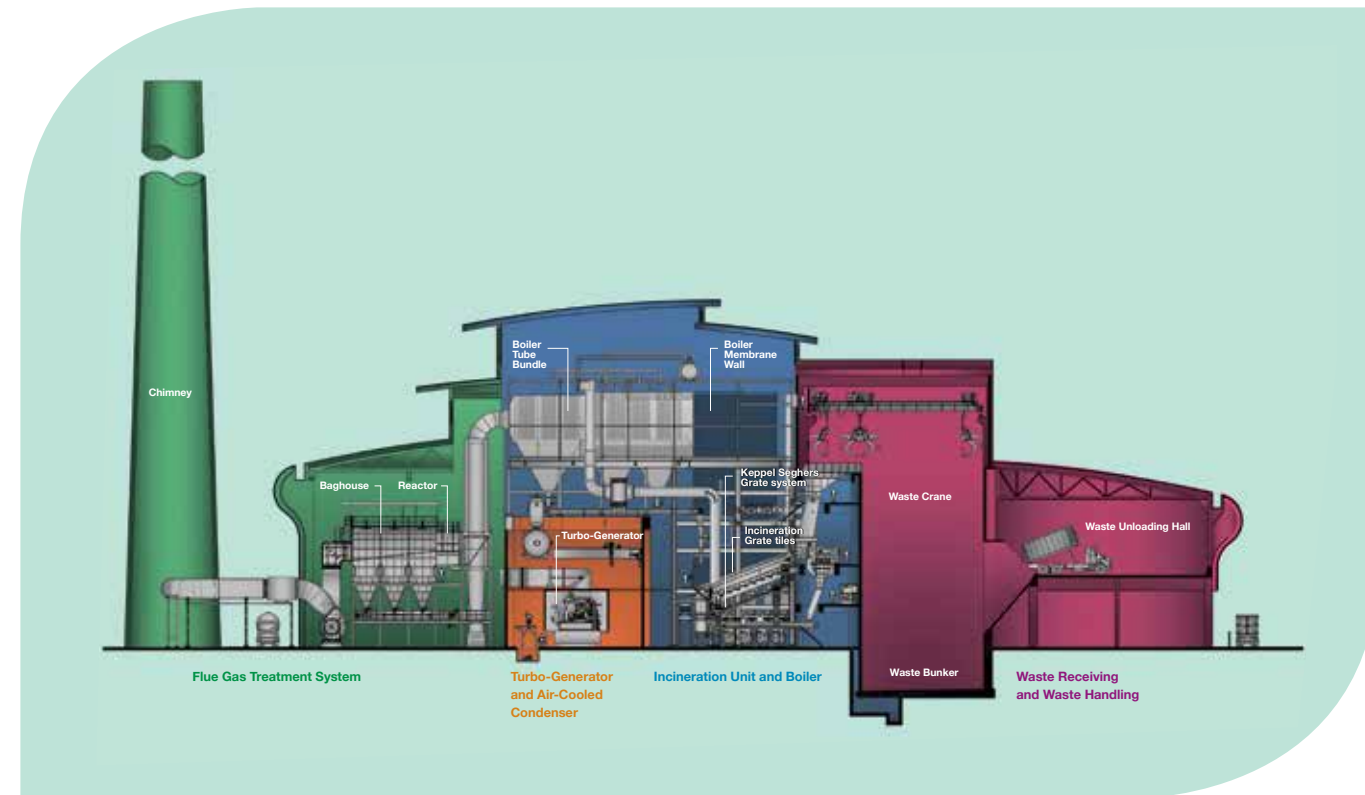


## Cross section diagram of the Keppel Seghers Tuas WTE Plant



### Technical data

PLANT DESIGN DATA		
	KEPPEL SEGHERS TUAS WTE PLANT	SENOKO WTE PLANT
Plant capacity per day (contracted)	800 tonnes /day	2100 tonnes /day
Number of Incinerator Units	2	6
Steam Generation per Boiler	54.4 tonnes / hour	51 tonnes / hour
Live Steam Pressure	41 bar(a)	35 bar(a)
Live Steam Temperature	400°C	370°C
Turbine Rated Capacity	22 MW*	36 MW*

## Keppel Seghers

Keppel Seghers is a leading provider of comprehensive environmental solutions, and provides consultancy, design and engineering, technology development, construction, operation and maintenance of plants and facilities, as well as investments in large-scale environmental projects.

Keppel Seghers' advanced technology solutions address a wide spectrum of environmental issues for both solid waste and water.

To date, Keppel Seghers has executed more than 100 waste-to-energy projects and more than 350 water and wastewater projects in more than 25 countries worldwide.

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

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#### Keppel Seghers Tuas Waste-to-Energy Plant

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#### Senoko Waste-to-Energy Plant

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 Singapore 759907

## Keppel Seghers Tuas and Senoko Waste-to-Energy Plants

Answering Singapore's Waste Management Needs





## A waste management solution for the future

Across the globe, growing volumes of waste and soaring energy prices are making Waste-to-Energy (WTE) a leading solution for a cleaner future.

WTE plants not only help in landfill diversion through as much as 90% reduction in the volume of waste disposed. Using proven technology, the incinerator-boiler also captures the energy embedded in materials such as paper, leather, wood scraps and food scraps, and use that energy to generate steam and electricity.

The use of WTE plants for the generation of electricity and steam reduces dependence on fossil fuel for the same purpose. As an alternative solution to landfilling of unsorted waste, WTE plants contribute to greenhouse gas reduction by minimising methane release from organic waste decomposition in landfills. WTE plants can also be implemented as part of a holistic waste management strategy to treat residual waste that cannot be recycled or reused.

First WTE plant built under the Public-Private Partnership initiative to effectively meet the needs of the public

## Keppel Seghers Tuas WTE Plant at a glance

Keppel Seghers Tuas Waste-to-Energy Plant is Singapore's fifth incineration plant to be built, and the first to be done so under National Environment Agency (NEA)'s Public-Private Partnership (PPP) initiative.

Keppel Seghers, the environmental engineering arm of Keppel Infrastructure, designed and built

the plant, and has a 25-year contract to operate the plant starting from 4Q 2009. This contract was awarded by NEA under the PPP initiative, which aims to bring together resources, skills and experiences of both the public and private sectors. Keppel Seghers is currently the only private operator of incineration plants treating domestic waste in Singapore.

## One of the most compact in the world

Built on a land space of only 1.6 hectares, Keppel Seghers Tuas WTE Plant is one of the most compact WTE plants in the world. It has the capacity to treat 800 tonnes of solid waste a day to generate 22 MW\* of green energy, contributing to Singapore's energy supply with the electricity that is in excess of plant consumption.

Designed by a team of experienced engineers, the plant utilises Keppel Seghers' in-house technology in critical components such as the:

- **Air-cooled Tumbling Grates** which can withstand high temperature and abrasion, as well as ensure thorough mixing and even burning of the waste
- **Boiler** which ensures that high heat recovery is achieved from the combustion of waste
- **Flue Gas Treatment System** which effectively removes harmful and acidic gases, dust and particulates so that only clean flue gas, compliant with international standards, is emitted.

\* Actual energy produced depends on the calorific value of the waste.



## Senoko WTE Plant

Apart from Keppel Seghers Tuas WTE Plant, Keppel Seghers also operates Senoko WTE which was the third incineration plant to be built in Singapore.

Keppel Seghers provides Operations and Maintenance (O&M) services to the plant which has the contracted capacity to treat 2,100 tonnes of solid waste a day. To achieve the latest emission requirement of the plant, which was completed in 1992, Senoko WTE Plant has been retrofitted with Keppel Seghers' flue gas treatment technology for better performance.

Keppel Seghers, the only private operator of incineration plants treating domestic waste in Singapore, is a significant contributor to the nation's waste management strategy and sustainable development. With the combined capacities of Keppel Seghers Tuas WTE Plant and Senoko WTE Plant, Keppel Seghers has the capacity to treat close to half of Singapore's total volume of municipal waste sent for incineration.

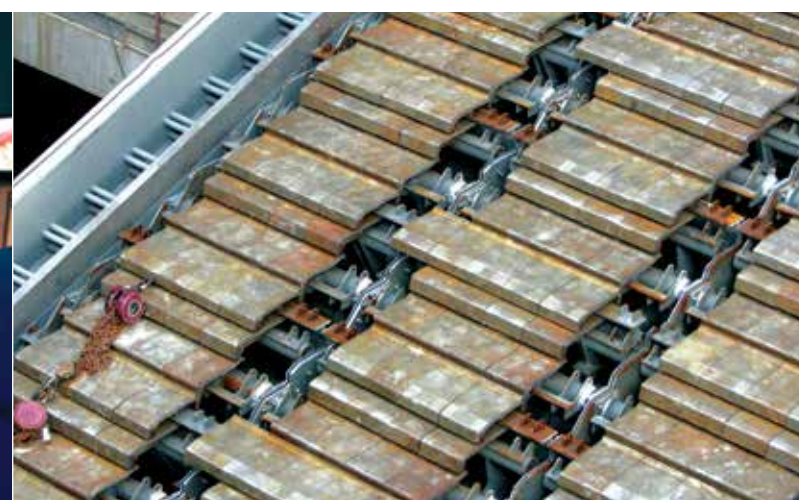
Together with Senoko WTE Plant, Keppel Seghers Tuas WTE Plant has the capacity to treat close to half of Singapore's municipal waste sent for incineration



Waste Reception



Waste Crane



Incineration Grates



Flue Gas Treatment