

## CASE STUDY

# Vertical access for extreme conditions at the Great Island Power Station in Ireland

The SSE Great Island Power Station in Wexford replaced the old oil-fired station in 2015 with a new modern gas-fired station, which is among the cleanest and most efficient in Ireland, generating enough electricity to power half a million Irish homes.

In addition to providing their markets with the power they need, SSE Thermal is also committed to working towards a net-zero future with flexible and efficient thermal energy playing a crucial role in the security of power supply alongside renewable generation technologies.

A vital part of the infrastructure at the Great Island Power Station is the Heat Recovery Steam Generator (HRSG). The generator improves overall efficiency by recovering exhaust heat from the power generation plant which would otherwise be wasted. A HRSG can be used to create steam which drives turbines and produces even more electricity. In some cases, this can bring overall efficiency up to 85%–90% while reducing environmental impacts.

Considering the extreme temperatures and pressures involved in the process and the large, complex HRSG machinery, reliable vertical access for regular inspections and maintenance work is vital. As the industry leader in vertical access solutions and an existing partner of SSE Thermal, an Alimak industrial elevator built on tried and trusted rack and pinion technology was the obvious choice for this project. In this case an Alimak SE industrial elevator engineered to withstand the most challenging environments was chosen.



SSE Great Island Power Station, Ireland

The Alimak SE's rack and pinion design does not require a lift shaft or a separate machine room. Neither are extensive support structures needed for the guide rail. This advanced design made the interface with the existing system at Great Island much more straightforward than the traction elevator alternative. Access space around the HSRG was extremely tight. Still, the Alimak SE 500 design allowed for an installation process whereby the elevator could be laid on its back and transported under the building steelwork. From there, it was lifted and turned using overhead beams and securely installed onto the mast. Landing door interface steelwork and mast tie in interfaces had already been prepared using intermediate scaffolds.

The flexible and innovative design delivered a smooth installation process for an existing building with tight space requirements, all without sacrificing any required functionality in operation.

### ELEVATOR DETAILS

Location:	Ireland, County Wexford
Application:	Power Station HRSG
Elevator type:	Rack and pinion
Elevator model:	Alimak SE 500 FC
Capacity:	500kg/6 passengers
Elevator car size:	1.04 m x 1.3 m x 2.08 m (W x L x H)
Speed:	0.6 m/s
Lifting height:	28.16 m
No. of landings:	3
Installation year:	2020

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