

At a glance

Location

North Sea

Commissioned

2002

Fuel

Wellhead gas conditioned onboard the platform

Technologies

- 4 C65 Capstone microturbines
- Capstone Advanced Power Server (APS) that controls cycling of the microturbines

Results

- First microturbine installation on a new North Sea platform.
- Since the microturbines run on wellhead gas, Wintershall does not transport fuel to the remote platform, thus reducing fuel and transportation costs.
- 2 C65s run continuously supplying 100–120kW of reliable prime power.
- Remaining C65s provide backup power if needed.

Q4C Oil Platform

The high reliability of Capstone MicroTurbines® inspired a leading oil and gas producer in 2002 to build the world's first North Sea platform designed specifically for microturbines.

The four Capstone C65 microturbines onboard the Wintershall Q4C platform provide all the prime power to the manned platform. They are upgrades from the original C60 microturbines installed in 2002.

The C65 microturbines are installed in a specially designed non-hazardous area engine room. The units run on wellhead gas conditioned onboard, saving Wintershall the cost of transporting fuel to the platform. Even greater cost savings come from the microturbines' low maintenance requirements. Unlike reciprocating engines, which traditionally require at least four oil changes a year, the microturbines onboard the Q4C platform need just one annual filter change and periodic routine inspections.

In addition, reciprocating engines on platforms require operators to pay a maintenance crew, fly them to the platform on a helicopter, and send a ship to haul the used oil to shore. Since the microturbines do not use any oil, lubricants, or cooling, there is no extra cost to haul away used materials.

Two of the four C65 microturbines run continuously and supply 100–120kW of power to the platform. The remaining two microturbines provide backup power if needed. The four microturbines are cycled. Every two weeks, the backup microturbines become the prime power source, while the others provide backup power if needed. A Capstone APS controls cycling of the microturbines.

The success of the Q4C microturbines caught the attention of other platform operators. Today, microturbine-powered platforms are operating throughout the North Sea, providing non-stop, reliable power. ■

