

# Accurate and reliable emissions monitoring

## Measuring emissions in real time ensures compliance for RWE

# RWE

RWE is the leading power generator in the UK, producing enough energy to power the equivalent of around 12 million homes each year. The company generates electricity from a diverse operational portfolio of onshore and offshore wind, hydro, biomass and gas. Between 2021 and 2023, RWE invested €3 billion into the country to deliver new clean energy infrastructure, and its footprint is set to grow even further with 15 generation sites currently under construction.

"The support's been great from day one."

Ewen Kindness  
Control and Instrumentation Maintenance  
Engineer  
RWE



Ewen Kindness



RWE Didcot

**The challenge** RWE's Didcot B is an efficient combined cycle gas power plant in Oxfordshire powered by natural gas. With a net capacity of 1,440 MW, Didcot B can generate enough power to meet the needs of 1 million households. As for all power plants, reducing emissions via efficient processes and cleaner technologies is of central importance to RWE due to steadily mounting competitive pressure and growing requirements regarding environmental and climate protection. Gas measurement and analysis has a key role to play in dealing effectively with these challenges.

To ensure compliance with environmental regulations and demonstrate adherence to emissions limits set by the Environment Agency, RWE relies on a continuous emissions monitoring system (CEMS) from Endress+Hauser. CEMS provide continuous, real-time data on key pollutants like nitrogen oxides (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>). Beyond regulatory compliance,

CEMS support environmental protection by enabling accurate tracking and reduction of harmful emissions, while also improving plant efficiency and reliability through operational monitoring. Additionally, CEMS data supports transparent environmental reporting and can play a role in carbon trading schemes aligned with the UK's net zero targets.

**The solution** Thanks to a strategic partnership with the German sensor technology specialist SICK, Endress+Hauser now exclusively markets SICK's gas analysis and flow measurement technology worldwide. This includes the PowerCEMS100 cold-dry extractive gas analyser used at the Didcot plant. It was commissioned in early 2024 as a replacement for an older system from another supplier. As Control and Instrumentation Maintenance Engineer Ewen Kindness explains, reliability is key: "It's critical to record the environmental data – without this, we would not be compliant and could risk power generation. The new CEMS has made a big difference."



RWE's Ewen Kindness in discussion with Rhodri Jones of Endress+Hauser

The PowerCEMS100 system has been designed to be user-friendly, low maintenance and cost-effective. It meets all the relevant standards and legal requirements for continuous emissions monitoring, including certification according to EN-15267 and MCERTS. With minimal spatial requirements, it can be installed anywhere and is easily integrated into existing analyser rooms. Secure access to the CEMS network is also available for remote diagnostics and monitoring.

**The benefits** For RWE, the accuracy and reliability of the CEMS are essential. The PowerCEMS100 provides the assurance needed to

remain grid-ready, ensuring the power station can generate electricity whenever demand arises. At the same time, it enables full compliance with Environment Agency regulations by verifying that measured emissions accurately reflect actual output.

Ewen Kindness also emphasised the value of the technical assistance from the Endress+Hauser team: "The support's been great. From day one when we installed it right through to the contact and maintenance period, it's been really good. We've been given documentation on how to check the system and interrogate the data but if we're in any doubt we can just call them and they respond straight away."



#### PowerCEMS100: benefits

- Streamlined maintenance through clear separation of the electrical system and analyser component
- Hassle-free commissioning for faster startup
- Rapid module replacement enabled by CAN bus technology for maximum system uptime
- Future-ready design allows seamless adaptation to evolving requirements
- High measurement accuracy ensures reliable emissions data for compliance and reporting
- Regulatory compliance to meet Environment Agency requirements with certified performance

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