NOx emissions, your business and your environmental responsibility

Your business has a duty to calculate and reduce emissions.
Here's how it's done.

Emissions of gases associated with the generation of energy are becoming increasingly subject to regulation in a bid to reduce environmental pollution. Nitrous oxide (NOx) emissions are one such example.

Measuring and regulating your NOx emissions

It is widely accepted that reduced NOx emissions are one of the many benefits available from Combined Heat and Power, also known as cogeneration. It can be challenging to calculate the savings, but using a recognised formula can help.

NOx from mains electricity displaced + NOx from boiler heat displaced – CHP unit NOx output = Net NOx saving

According to BREAAM this is the assessment criteria:

The plant installed to meet a building's delivered heating and hot water demand has, under normal operating conditions, a dry NOx emission level (measured at 0% excess O_2) as follows:

	Nominal Heat input ≤ 70kW		Nominal Heat input > 70kW	
Credits	Dry NOx level (mg/kWh)	Boiler class (EN297:1994 & EN483:1999)	Dry NOx level (mg/kWh)	Boiler class (EN677:2003)
1	100	4	120	2
2	70	5	80	3
3	40	–	50	–

The direct and indirect NOx emissions in mg/kWh and energy consumption in kWh/m2/yr from meeting a building's heating, cooling and hot water demand must be reported via the BREEAM scoring and reporting tool.

How does planning affect NOx emissions and measurement?

BREEAM is the principle NOx emission guideline for planning permission applications. The new design construction supplementary planning guidance (SPG) has prioritised the importance of reducing NOx emissions – particularly in Greater London. Developers and planners are now required to meet a much lower emission rating – potentially as low as 95 mg/Nm3. Note that the SPG uses different NOx measurement units (mg/Nm3) to those used in BREEAM approval.

Many manufacturers are now reassessing their product lines in order to assist with reducing NOx emissions. As the new planning guidelines are implemented, expect to see manufacturers employing more NOx abatement technologies to assist. To keep up to date with future changes, we strongly suggest building close relationships with your CHP manufacturers.