

# National Grid

## How National Grid manages the flow of energy to homes and businesses



**A BALANCING ACT**

Part of our responsibility involves making sure that supply and demand are perfectly matched. So when the country needs more or less energy we call on gas shippers and electricity generators - such as power stations - to make up the difference.

<p>These power stations only produce as much energy as they can sell, so it's up to us to work out where and when more power is needed.</p>	<p>Balancing is sometimes used for other reasons, such as a sudden surge in demand during a televised sporting event, or if a power station suddenly stops generating because of a technical problem.</p>	<p>We use a number of different notifications to keep the market up to date with the latest status, so that it can respond by supplying extra gas and electricity if necessary.</p>	<p>The UK has a diverse gas supply - more than 40% comes from the North Sea. Other sources include Norway, the continent, Liquefied Natural Gas (LNG) and gas from storage.</p>	<p>On a winters day the Gas Transmission System will supply on average 195 million of cubic metres of gas to local networks delivering directly to homes and businesses. To be in balance, the same amount of gas needs to be available for that day.</p>
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### How we let the market know...

<p><b>Capacity Market Notice (CMN)</b></p> <p><i>It's issued...</i> automatically four hours ahead of real time. The Capacity Market Notice threshold set by Government is 500MW above Transmission System Demand (variable) plus Operating Margin.</p>	<p><b>Margins Notice (MN)</b></p> <p><i>It's issued when...</i> Indicates to gas shippers the potential that demand exceeds the supply forecast for the following Gas Day (5am -5am).</p>
<p><b>Electricity Margin Notice (EMN)</b></p> <p><i>It's issued when...</i> Our safety cushion for that time of day isn't as big as we'd expect and we want generators to respond.</p>	<p><b>Gas Deficit Warning (GDW)</b></p> <p><i>It's issued when...</i> When there are concerns about the system being out of balance. This might be because more gas is needed to meet demand or supplies have been interrupted.</p> <p><i>When will a Gas Deficit Warning be issued..?</i> If National Grid can foresee that there is a serious imbalance between supply and demand and that more gas is needed by the end of the day.</p>
<p><b>Negative Reserve Active Power Management notification (NRAPM)</b></p> <p><i>It's issued when...</i> Demand is low and designed to encourage inflexible generation like nuclear and gas to reduce their output where possible.</p>	
<p><b>High Risk of Demand Reduction (HRDR)</b></p> <p><i>It's issued when...</i> There's a high risk of a shortfall in generation. HRDR reduces demand to make existing generation go further.</p>	
<p><b>Demand Control Imminent (DCI)</b></p> <p><i>It's issued when...</i> We might ask the electricity distribution companies to reduce demand across their areas within the next 30 minutes.</p>	

### Key figures

<p><b>10</b></p> <p>In 2005 we issued 10 NISMS (now EMNS) – the largest number in the last 10 years.</p>	<p><b>4</b></p> <p>the number of High Risk of Demand Reduction warnings National Grid has issued since 2004.</p>	<p><b>7650</b></p> <p>No of KM of high pressure gas pipeline in the UK more than enough pipeline to stretch from London, England to Dallas, Texas.</p>
<p><b>2003</b></p> <p>the year when National Grid issued a NISM (now EMN) in the middle of the summer after record temperatures led to people switching on energy-hungry air conditioning units.</p>		<p><b>41</b></p> <p>The number of gas-fired power stations connected to the National Transmission System.</p>
<p><b>52</b></p> <p>Our peak demand in gigawatts. That's more than enough to boil 50 million kettles or light up 500 million Christmas trees.</p>		<p><b>49x</b></p> <p>195mcm of gas could fill Wembley Stadium 49 times.</p>