GREAT YARMOUTH POWER STATION

An RWE company

FLEXIBLE POWER FROM NATURAL GAS

Great Yarmouth is a gas-fired power station, owned and operated by RWE npower. It was commissioned in 2002 and at the time was one of the UK's most efficient power stations. At full power, Great Yarmouth generates 400MW of electricity: enough to meet the needs of some 400,000 people – about half the population of Norfolk.

Great Yarmouth is a Combined Cycle Gas Turbine (CCGT) station, and is well located, highly efficient and flexible, with the ability to start up and shut down quickly and reliably in response to changing demand. The station has a dedicated pipeline connecting it to the National Gas Transportation System just outside the Bacton gas terminal.

RWE npower, part of the RWE Group, is a leading integrated UK energy company. We operate and manage a diverse portfolio of flexible coal-, oil-, biomass- and gas-fired power stations, with the capacity to produce over 11,000MW of electricity.

npower, one of the UK's leading energy suppliers serves around 6.5 million residential and business customers.

We are also committed to developing innovative products which allow our customers to improve their energy efficiency and make sustainable energy choices.

RWE npower renewables is the UK subsidiary of RWE Innogy and is one of the UK's leading renewable energy developers and operators, committed to developing and operating wind farms and hydro plant to produce sustainable electricity.

NPOWER BRIGHTER FUTURES

The aim of our npower Brighter Futures programme is to inspire young people, from their first day at school to their first day at work. We develop their skills and knowledge to help make their own choices, and empower them to reach their vision of a 'brighter future' for themselves and for the environment.

npower Brighter Futures brings together npower's education programmes – from primary schools through to universities. This includes our Power Technician Traineeship and Graduate recruitment schemes.

Our programmes focus on environmental education – energy generation, energy efficiency, climate change and sustainability – and includes our award winning npower Climate Cops programme.

We are committed to increasing the pool of Science, Technology, Engineering and Maths talent and meeting the recruitment challenges we face in the energy industry. To find out more about our education commitment and initiatives visit www.npower.com/education. Young children can visit www.npower.com/climatecops to play our interactive energy saving games.

CARING FOR THE COMMUNITY AND THE ENVIRONMENT

RWE npower plays an active part in the life of communities close to our power stations through links with local authorities, schools and colleges, conservation and other interest groups.

We support local education initiatives and environmental projects and encourage visits to the site from schools and other groups. The station is also proud of its excellent health and safety record and has been certified to international ISO14000 standard, along with the British Safety Council 5 star award and a ROSPA Gold Medal for its consistently strong record in Occupational Health and Safety.

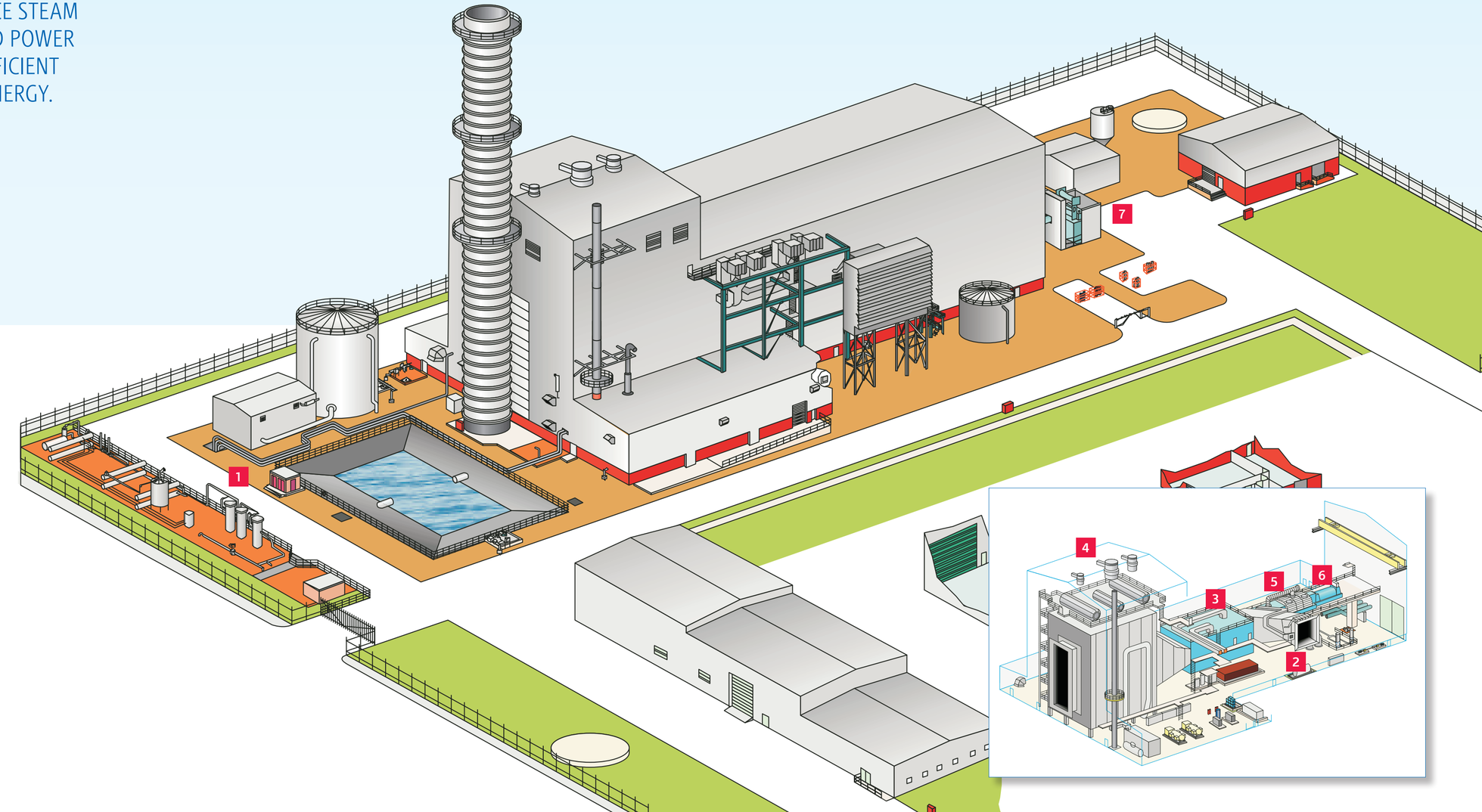
Great Yarmouth has strong environmental credentials. Its combined cycle gas turbine (CCGT) technology is the cleanest form of fossil-fuel power generation. It is located within a brownfield site, previously occupied by a much larger oil-fired station (which produced 40% less electricity). Compared with the previous station, Great Yarmouth has effectively eliminated sulphur emissions, and dramatically reduced the release of carbon dioxide and nitrogen oxides.

The combined cycle gas turbine (CCGT) operates at 57% efficiency, amongst the most efficient in Europe.

Great Yarmouth power station generates enough electricity to meet the needs of 400,000 people

CCGTs are one of the cleanest forms of fossil fuel power generation. Great Yarmouth has no large cooling towers; water from the River Yare is used instead.

GREAT YARMOUTH HAS A SINGLE COMBINED CYCLE GAS TURBINE (CCGT). THE CCGT USES THE EXHAUST GAS FROM THE INITIAL COMBUSTION TO PRODUCE STEAM THAT DRIVES A SECOND TURBINE. THIS TWOFOLD POWER GENERATION MAKES CCGT ONE OF THE MOST EFFICIENT WAYS OF CONVERTING FUEL INTO ELECTRICAL ENERGY.



1 Gas supply
Natural gas from the North Sea is brought ashore at Bacton Refinery where it is blended with gas supplied from mainland Europe through the UK Interconnector pipeline. The gas is then supplied to the power station along a 27 mile, 30cm diameter underground pipeline. At full load, the power station uses 840,000m³ of gas per day.

2 Air intake
The gas is filtered, heated and pre-mixed with air drawn in through the air intake. The mixture is fired at very high temperatures to minimise emissions of nitrogen oxides.

3 Gas combustion turbine
The burning air/gas mixture passes through the blades of the turbine, driving the turbine shaft at 3,000rpm (revolutions per minute). The turbine is rated at 265MW.

4 Heat recovery steam generator (HRSG)
The heat from exhaust gas in the combustion turbine is used in the HRSG to produce steam from mineralised water. The steam is produced in three separate stages: at high, intermediate and low pressures.

5 Steam turbine
The steam drives a three-stage turbine to produce an additional 150MW of power. Once it has passed through the turbine, the steam is captured in a condenser and returned to the HRSG for reuse. To condense the steam, the condenser uses approximately 9 tonnes of water per second – drawn from the River Yare. This water is then piped to an outfall 650 metres offshore in the North Sea.

6 Generator
The energy from the gas turbine and steam turbine drives a hydrogen-cooled generator rated at 400MW. The gas turbine, steam turbine and generator are all on a single shaft, enabling the compact design and construction of the power station.

7 Power transformer
For distribution into the National Grid system, the voltage is stepped up from 19KV to 132KV by the station transformer. It then feeds the local distribution network supplying Great Yarmouth and the surrounding areas as far as Lowestoft and Norwich. The current is carried from the power station through underground cables along a tunnel under the River Yare.

HOW TO FIND US

Great Yarmouth Power Station is located on South Denes Road, just south of the town centre.

By rail

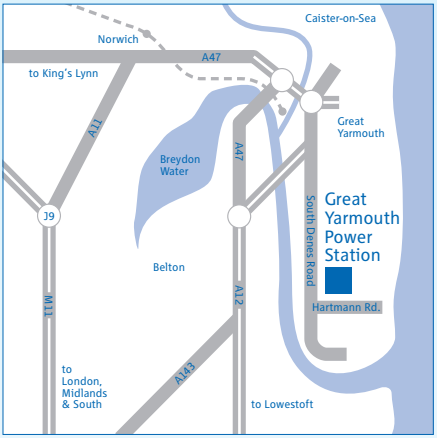
There are frequent intercity services from London Liverpool Street to Norwich. Change at Norwich for local services to Great Yarmouth.

By road from London, Midlands and the South

Leave the M11 at Junction 9 to join the A11 to Norwich. Outside Norwich join the A47 to Great Yarmouth.

By road from the North

From the A17 to King's Lynn follow signposts to join the A47 to Great Yarmouth.



RWE npower

Great Yarmouth Power Station
South Denes Road
Great Yarmouth
NR30 3PY

T +44 (0)1493 847300
F +44 (0)1493 847336
I www.rwenpower.com

npm9718 v2 11/11