

2008 GB Seven Year Statement Update

August 2008

INTRODUCTION

We are pleased to present the May 2008 Update to our 2008 GB Seven Year Statement. The Updates are issued at regular intervals (normally quarterly), each reporting on the main developments since the previous issue and largely reflecting information changes notified to us by our customers. This is the second Update of our 2008 GB Seven Year Statement and reports on changes notified to us up to 31st August 2008.

1. 'GB SYS BACKGROUND' SUMMARY

	2008 GB SYS	May 2008 Update	August 2008 Update
Total Generation Capacity by 2014/15 (GW)	109.6	107.8	107.8
Total CCGT Capacity by 2014/15 (GW)	39.7	38.5	38.5
Unavailable Generating Units by 2014/15 (GW)	2.9	2.9	2.9
Plant Margin – 2008/09 (%)	28.6	28.0	28.1
Plant Margin – 2014/15 (%)	64.3	61.6	61.7

Notes:

1. Generation capacity values are based on station TEC values where possible.
2. Unavailable generating units are given in Table 3.11 of the GB SYS.

2. GENERATION

In the tables in the following sections, data in bold italics indicates differences between this update and the previously published contracted position. The Consents column refers to Section 36 and (where appropriate) Section 14 consents for generation projects.

2.1 Transmission Access

Access to the GB Transmission System is provided through arrangements with NGET, acting as GBSO, under the Connection and Use of System Code (CUSC). The CUSC has applied across the whole of Great Britain since BETTA "go-live" (1 April 2005). Prior to BETTA "go-live", the CUSC applied in England and Wales but different arrangements applied in Scotland. The pre BETTA go-live generation offers and agreements between relevant TOs and Users were converted into GB Offers and Bilateral Agreements under Standard Condition C18 of the Electricity Transmission Licence. The requirements of C18 have now been met and all the relevant Bilateral Agreements are now in place.

2.2 New Transmission Contracted Generation up to 2014/15

This section gives details of new generation projects that have recently signed contracts.

1. MGT Renewable Energy Ltd have signed a contract to connect 299MW of biomass generation at Lackenby 400kV substation in October 2012. The TEC is restricted to 100MW from the connection of Coastal Energy in October 2014 until completion of required reinforcements scheduled for October 2015.

Further details are given in the table below.

Station Name	Capacity (MW)	Completion Date	Company	Plant Type	Licensee	Consents	Under Construction	Type of Agreement
Tees Renewable Energy Plant	299	2012	MGT Renewable Energy Ltd	Biomass	NGET	No	No	BCA
TOTAL	299	MW						

2.3 Planned Transmission Contracted Generation up to 2014/15

This section gives details of future generation projects relevant to this update. The Changes reported are changes relative to the previously reported contracted position, and include:

1. Glendoe Hydro have reduced their TEC to 51.5MW, and brought their completion date forward to 15/08/08.
2. Rothes Bio-power (previously owned by Scottish Biopower Ltd) is now owned by Npower Cogen Ltd.
3. Hearthstones wind farm have delayed their completion date to 08/03/12.
4. Abernedd Power Company Ltd have brought the completion date of stage 1 forward to 31/10/13.
5. A Deed of Novation has been signed to novate Aultmore, Clashindarrach, Edinbane and Kyle wind farms from AMEC Project Investments Limited to AMEC Wind Energy Limited.
6. Barking C CCGT has received its consents.
7. Port Talbot has received its consents.
8. The following onshore wind farms have received their consents: Arecleoch, Clyde, Marks Hill, and Carraig Gheal.

Further details are given in the table below.

Station Name	Capacity (MW)		Completion Date		Consents Status	Under Construction Status	Company	Plant Type	Licensee	Agreement Type
	Previous	New	Previous	New						
Glendoe	100	51.5	2012	2008	Yes	Yes	SSE Generation Ltd	Hydro	SHETL	BCA
Aultmore	60	60	2013	2013	No	No	AMEC Wind Energy Ltd	Onshore Wind	SHETL	BCA
Carraig Gheal	60	60	2010	2010	Yes	No	Greenpower (Carraig Gheal) Ltd	Onshore Wind	SHETL	BCA
Clashindarroch	112.7	112.7	2013	2013	No	No	AMEC Wind Energy Ltd	Onshore Wind	SHETL	BEGA
Edinbane	42	42	2009	2009	Yes	No	AMEC Wind Energy Ltd	Onshore Wind	SHETL	BCA
Roths Bio-power	52	52	2010	2010	No	No	Npower Cogen Ltd	Biomass	SPT	BEGA
Arecleoch	150	150	2009	2009	Yes	No	CRE Energy Ltd	Onshore Wind	SPT	BCA
Clyde	519	519	2009	2009	Yes	No	Airtricity Developments (Scotland) Ltd	Onshore Wind	SPT	BCA
Hearthstanes	81	81	2010	2012	No	No	Wind Energy (Hearthstanes) Ltd	Onshore Wind	SPT	BCA
Kyle	300	300	2011	2011	No	No	AMEC Wind Energy Ltd	Onshore Wind	SPT	BCA
Marks Hill	99	99	2008	2008	Yes	No	Catamount Energy Ltd	Onshore Wind	SPT	BCA
Baglan Bay 2 Stage 1	435	435	2014	2013	No	No	Abernedd Power Company Ltd	CCGT	NGET	BCA

2.4 Existing Transmission Contracted Generation

The following table lists existing stations that are relevant to this update. Changes to the contracted position include:

1. British Energy Generation Ltd have signed a Temporary TEC Exchange Offer for the period of 14/07/08 to 29/03/09. The Donor User is Hunterston B, and the Recipient User is Torness. The amount exchanged is 25 MW. After 29/03/09, the TEC values will revert to their previous values.
2. Keadby Generation Ltd have signed an agreement for a permanent fixed TEC of an extra 5MW for unit 4 at Ferrybridge.

The following table gives further details.

Station Name	Capacity (MW)		Company	Plant Type	Licensee	Agreement Type
	Previous	New				
Hunterston	1089	1064	British Energy Generation Ltd	Nuclear AGR	SPT	BCA
Torness	1200	1225	British Energy Generation Ltd	Nuclear AGR	SPT	BCA
Ferrybridge	1981	1986	Keadby Generation Ltd	Large Unit Coal + AGT	NGET	BCA
TOTAL	4270	4275	MW			

2.5 Transmission Contracted Generation beyond 2014/15

The following table lists generation projects with commissioning dates beyond 2014/15. Changes to the contracted position include:

1. Novera Energy plc have signed a contract to connect 49.9MW of new wind generation (A'Chruach).
2. The plant type has been amended for Beatrice Offshore Wind Farm.
3. The plant type has been amended for Carnedd Wen, Llanbrynmair and Mid Wales West onshore wind farms.
4. Scottish Power (DCL) Ltd have signed a contract to connect 493MW of new CCGT capacity at Damhead Creek in 2019, followed by a further 493MW in 2022.

The following table gives further details.

Station Name	Capacity (MW)	Company	Plant Type	Licensee	Completion Date
A'Chruach	49.9	Novera Energy plc	Onshore Wind	SHETL	-
Beatrice Offshore Wind Farm, Dunbeath	1000	SSE Generation Ltd	<i>Offshore Wind</i>	SHETL	-
Mid Wales West	408.4	SP Manweb	<i>Onshore Wind</i>	NGET	2015
Carnedd Wen Wind Farm	191	Npower Renewables Ltd	<i>Onshore Wind</i>	NGET	2015
Llanbrynmair South	110	Renewable Energy Systems UK Ltd	<i>Onshore Wind</i>	NGET	2015
Damhead Creek 2 Stage 1	493	Scottish Power (DCL) Ltd	CCGT	NGET	2019
Damhead Creek 2 Stage 2	493	Scottish Power (DCL) Ltd	CCGT	NGET	2022
TOTAL	2745.3	MW			

3. CAPACITY TOTALS, PEAK DEMANDS AND PLANT MARGINS

3.1 Generation Capacities

This table gives information on capacity totals for all directly-connected and Large Power Stations, and include the capacity and background changes reported in Section 2. The winter peak demands are customer-based forecasts in MW and are used to calculate plant margins in section 3.2. Capacity values are based on station TEC values where possible.

Generation Background	Total Capacity (MW)						
	08/09	09/10	10/11	11/12	12/13	13/14	14/15
GB SYS background (SYS)	79558	85217	91176	96859	99218	102863	107839
Consents (C)	79558	84712	88104	88891	88978	89448	89487
Existing or Under Construction (E,UC)	79459	81705	84200	84630	84630	84630	84638
Winter Peak Demand	62100	63000	63700	65000	65600	66200	66700

Notes:

1. The figures are based on the assumed year of commissioning or decommissioning.
2. The SYS background includes all planned generation with or without Section 36 and/or Section 14 consent.
3. The Consents background includes all planned generation with Section 36 and/or Section 14 consent.
4. The Existing or Under Construction background includes all generation projects currently under construction and all planned closures of generation.
5. The capacity totals above do not include the importing TEC values for the Moyle Interconnector (80MW) or the East-West Interconnector (500MW from 2011/12 onwards), as the interconnectors are assumed to be exporting to Northern Ireland and the Republic of Ireland at the time of winter peak.
6. The winter peak demands (customer-based forecast) are used in section 3.2 to calculate plant margins for each of the above backgrounds; these demands exclude station demand, but include the export to Northern Ireland (300MW) and the export to the Republic of Ireland (500MW from 2011/12 onwards).
7. Plant contracted for 2008/09 and under construction includes the following: Immingham Stage 2, Langage, Marchwood, Aikengall, Whitelee Stage 2, Glendoe Hydro, An Suidhe, Ardinglas and Millennium Stage 2.
8. Projects assumed to be under construction in 2008/09 (for connection beyond 2008/09) include Staythorpe Stages 1, 2 and 3, Netherlands Interconnector Stages 1, 2 and 3, Grain Stages 1 & 2, Severn Power Stages 1 & 2, West Burton B Stages 1, 2 and 3, Dun Law extension, Whitelee Stage 3, Kilbraur Stage 2, Millenium Stage 3, Tulló and Fasnakyle Hydro Extension.

3.2 Plant Margins

The following projected margins are based on the capacity totals for the three generation backgrounds and the customer-based demand forecasts given in section 3.1 above.

Generation Background	Plant Margin (%)						
	08/09	09/10	10/11	11/12	12/13	13/14	14/15
GB SYS background (SYS)	28.1	35.3	43.1	49.0	51.2	55.4	61.7
Consents (C)	28.1	34.5	38.3	36.8	35.6	35.1	34.2
Existing or Under Construction (E,UC)	28.0	29.7	32.2	30.2	29.0	27.8	26.9

4. TRANSMISSION SYSTEM

This section reports on significant changes to the planned transmission system, or revisions to construction programmes. Table 6.2 of the main statement gives further details of contracted transmission schemes.

Elstree (by 2010)

Connect a new 400/25kV 80MVA traction supply transformer at Elstree 400kV substation, teed into the Elstree-Sundon no.2 circuit. Install 25kV cable disconnectors and circuit breakers on each of +25kV, -25kV and neutral winding connections brought out.

Iver (2012)

Remove a 180MVA SGT and replace it with a new 240MVA (275/132kV) unit, by 31/10/12.

Lackenby (2012)

Extend the GIS substation and busbars at Lackenby to provide a new skeleton switch bay.

Overhead Line Works (2012)

Reconductor the Lackenby-Norton 400kV L2 section to 2x570mm² conductor at 90°C up to Brine Field, and hotwire the L8/2 section to 2x500mm² for operation at 90°C. Replace/add cable sections between Lackenby and Norton to match the overhead line rating (from Lackenby to Brine Field).

Reconductor the Lackenby-Norton 400kV ZZA route with GZTACSR (GAP) from the point of connection to Norton 400kV substation for operation at 170°C. Replace and reinforce tower infrastructure as required.

Overhead Line Works (2012)

Extend Saltholme 400kV Substation with an additional circuit and associated switchgear to facilitate the reconnection of the Saltholme-Norton circuit at 400kV. Extend the Norton 400kV substation with one additional circuit bay to facilitate the reconnection of the Saltholme-Norton overhead line at 400kV. Install 3x45MVAr MSCDN at Norton 132kV substation. Uprate the Saltholme-Norton 12.38km 275kV overhead line to 400kV.

Mid Wales West (2015)

Construct a new 6 bay 400kV double busbar AIS substation to be designated Mid Wales West 400kV substation. The substation will comprise 2 feeder bays, a bus coupler bay, and 3 400/132kV SGT bays. The exact location of the substation has yet to be confirmed.

Construction of new 4 bay 132kV double busbar AIS substation to be designated Mid Wales West 132kV substation. The substation will comprise 3 SGT bays, a bus coupler bay, and space to allow connection of the wind farm HV generator circuit. The exact location of the substation has yet to be confirmed.

Construct a new 400kV double circuit OHL route from the existing Legacy-Shrewsbury-Ironbridge and Legacy-Ironbridge 400kV circuits to the new Mid Wales West 400kV substation. The connection of the new double circuit OHL route to the existing Legacy-Shrewsbury-Ironbridge and Legacy-Ironbridge 400kV circuits will be via a double tee arrangement. The location of the tee point has yet to be confirmed.

Construct a new 400 kV cable sealing end compound to allow connection of the new 400kV circuit to the existing Legacy-Ironbridge 400kV circuit by establishing a cable duck under.

Shrewsbury (2015)

Convert the existing Shrewsbury 400kV substation to a single switch mesh substation.

King's Lynn (2016)

Construct a new 400kV GIS substation at King's Lynn, consisting of two 400kV feeder circuits (Walpole and Norwich legs), three 400kV generator skeletal bays, and one bus coupler bay. Turn in the existing Walpole-Norwich 400kV overhead line into the new substation. Construct a new 2.5km double-circuit overhead line from the turn-in to the new substation.

Damhead Creek (2019)

Construct a new 14 bay 400kV Damhead Creek GIS substation, consisting of a Tilbury feeder circuit, a Grain feeder circuit, a Northfleet East feeder circuit, 2 x 3000MVA rated interbus connections to a single interconnector between the existing Kingsnorth substation and the new Damhead Creek substation, 2 series reactor bays, 2 bus section bays, 2 bus coupler bays and 3 skeleton generator bays. Divert the Grain-Tilbury overhead line route into the new substation such that the above GIS substation is looped into the Grain-Tilbury circuit. Install two new skeletal generation bays for the Damhead Creek 2 power station generation connections at the above Damhead Creek 400kV substation. Divert the Northfleet East-Kingsnorth 400kV route into the new Damhead Creek 400kV substation described above. Install an interconnector between Kingsnorth 400kV substation and the new 400kV substation at Damhead Creek. Relocate the Kingsnorth series reactor 2 to the new 400kV substation at Damhead Creek.

Transmission Works (2019)

Install two 2750MVA quadrature boosters on the Kingsnorth-Tilbury and Damhead-Tilbury circuits. Install a 7 bay 400kV double busbar AIS substation at Warley. Install a 14 bay 400kV GIS double busbar substation at Waltham Cross. Install 2 feeder bays and 1 skeleton section at Elstree 400kV. Install 2 feeder bays and 1 interbus transformer bay at Tilbury 400kV. Upgrade one of the two 275kV Tilbury to Elstree circuits (ZB route) to 400kV and reconductor with 2x620mm² GZTACSR "GAP" conductor, looping this route into the new Warley and Waltham Cross 400kV substations. Replace two out of the 3 x 275/132kV transformers at Warley with 400/132kV transformers.

Transmission Works (2022)

Install a third 400/132kV transformer at Warley 400kV substation. Reconductor the Barking-Northfleet East (ZR route) with GAP conductor, including the Thames Crossings. Upgrade the 2nd 275kV Tilbury to Elstree circuit (ZB route) to 400kV and reconductor with GAP conductor, looping into Warley and Waltham cross 400kV substations. Upgrade the Waltham Cross to Tottenham (ZBC route) to 400kV and reconductor with GAP conductor. Upgrade the Tottenham-Hackney (VC route) to 400kV and reconductor with GAP conductor. Replace two 275/132kV transformers at Brimsdown (on ZBC route) with 2x400/132 transformers tee connected to the new Waltham Cross-Hackney overhead line circuits. Replace the 2 x 400/66kV transformers at Hackney with 2 x 400/66kV SGTs tee connected into the Waltham Cross-Hackney route.

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