Electricity System Operator Incentives Update

Paul Auckland, Energy Requirements Manager.

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Agenda

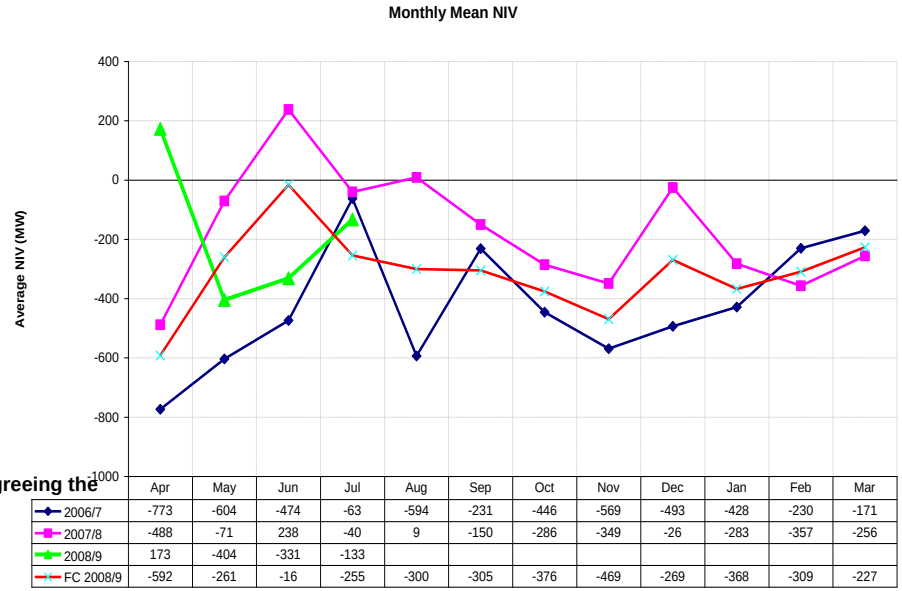
- Indexation overview
- Consultation Reponses
- Incentive development timetable

Indexation Overview

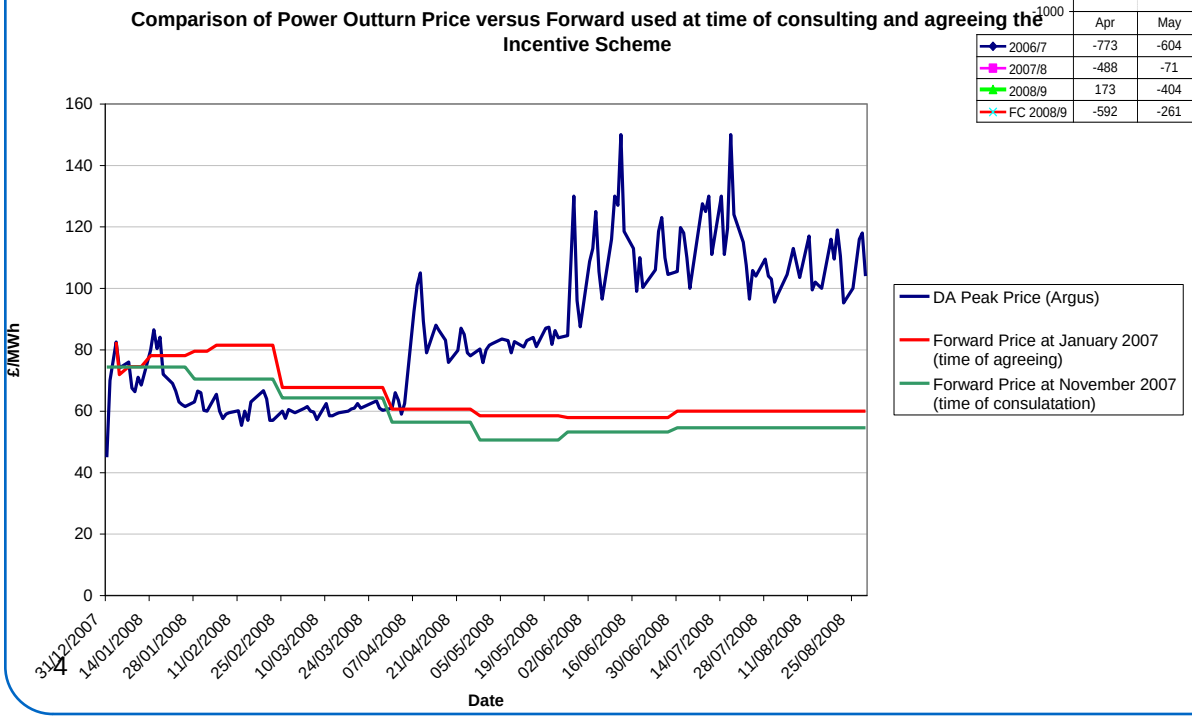
- Aiming to develop a robust methodology to index incentive costs against power price and market length
- Published consultation on the development of an index
- Consultation closed on 3 October

Power price and market length

- Volatility of market length



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2006/7	-773	-604	-474	-63	-594	-231	-446	-569	-493	-428	-230	-171
2007/8	-488	-71	238	-40	9	-150	-286	-349	-26	-283	-357	-256
2008/9	173	-404	-331	-133								
FC 2008/9	-592	-261	-16	-255	-300	-305	-376	-469	-269	-368	-309	-227



- Power price volatility

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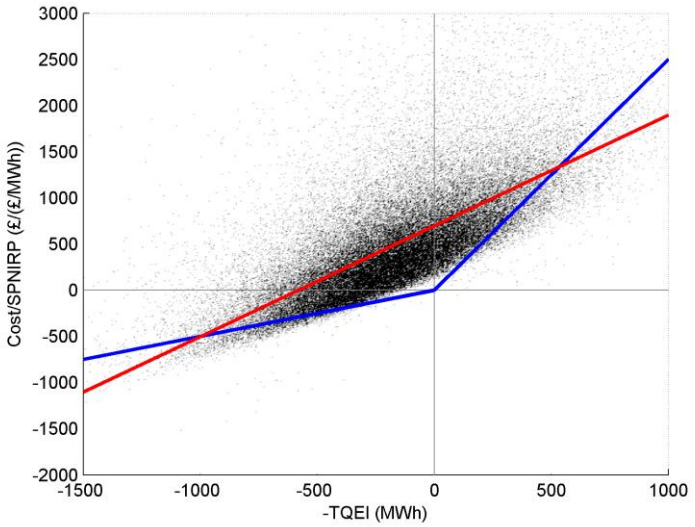
Development of indexation for 2009/10

- A number of potential different indexes proposed
- Energy, reserve and response indexation; reactive index and a response index
- Energy, reserve and response indexation
- Dependant on power price and market length, index would affect costs that were included in the target
- Regression analysis on relationship between BM reserve, energy and response costs (including ancillary response costs) provided the following index:

  (679 x SPNIRP) – (SPNIRP x TQEI)



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Preliminary Consultation Feedback

- There were 4 responses
- The majority of respondents stated that they
  - Agreed with the principles of indexation
  - General agreement with the proposed method of indexation
  - No support for separate energy, reserve or response indices
  - Some concern with the implementation in April 2009
  - Mixed opinion on the potential for unbundling components
  - Concern with multi year deals; robustness of proposed indexation and the potential for IAEs

Preliminary Consultation Feedback

- Some clarification required on:
  - How the index would be applied in practice
  - What the incentive target would look like
  - Effect of index on previous years potential profit / loss

Indicative timetable

26 June 2008	Industry workshop
4 September 2008	Indexation Consultation
November 2008	Fixed Price BSUoS proposals consultation
November 2008	Initial proposals consultation
February 2009	Final proposals - Ofgem
1 April 2009	New incentives go-live

Consultation on Balancing Mechanism (BM) System Replacement

Paul Auckland

DSWG **5th November 2008**

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Background

- Current system approaching end of lifecycle.
- Diminishing reliability and supportability
- Industry perception of system being inflexible
  - Costs and lead times
- Ongoing / future regime changes e.g.
  - Evolving generation mix
  - European legislation

Phased System Replacement Approach

Phase 1

- System replacement internal to National Grid
  - With a global best practice package

✓ In scope

Phase 2

- Potential changes to external interfaces
- Other possible enhancements e.g. Automatic Generation Control (AGC)

✗ Not in scope

Cost and Speed of Future Changes

- Fast pace of industry change
  - Trend likely to continue
- Need a flexible system to accommodate industry changes
  - Quickly
  - At low cost
  - Without impacting reliability
- But without compromising security of transmission system
  - Overriding criterion

Provision of Future Market Information

- Current BM system provides a range of market information, close to and ahead of real-time
  - E.g. forecasts of generation, demand and margin at various timescales

- New IT system should accommodate developments in future market requirements

Indicative Project Timeline - Phase 1

Key Task	'08	2009				2010				2011				2012			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Industry consultation																	
Tendering and SRS*																	
Vendor assessment / contract award																	
Design																	
Implementation																	
Acceptance testing																	
Training																	
Functional integration & E-E testing																	
Transition																	
Go-live																	

* System Requirements Specification

Project duration ≈ 4 yrs

Impact assessment of industry change: cost, time delay, robustness

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Summary of Consultation Questions

- Consultation document available on http://www.nationalgrid.com/uk/Electricity/Balancing/consultations/
- Consultation questions are summarised in a proforma in Appendix 1.
  - A short feedback questionnaire in Appendix 2
- E-mail address for responses
  - balancingservices@uk.ngrid.com

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Winter Outlook 2008/9

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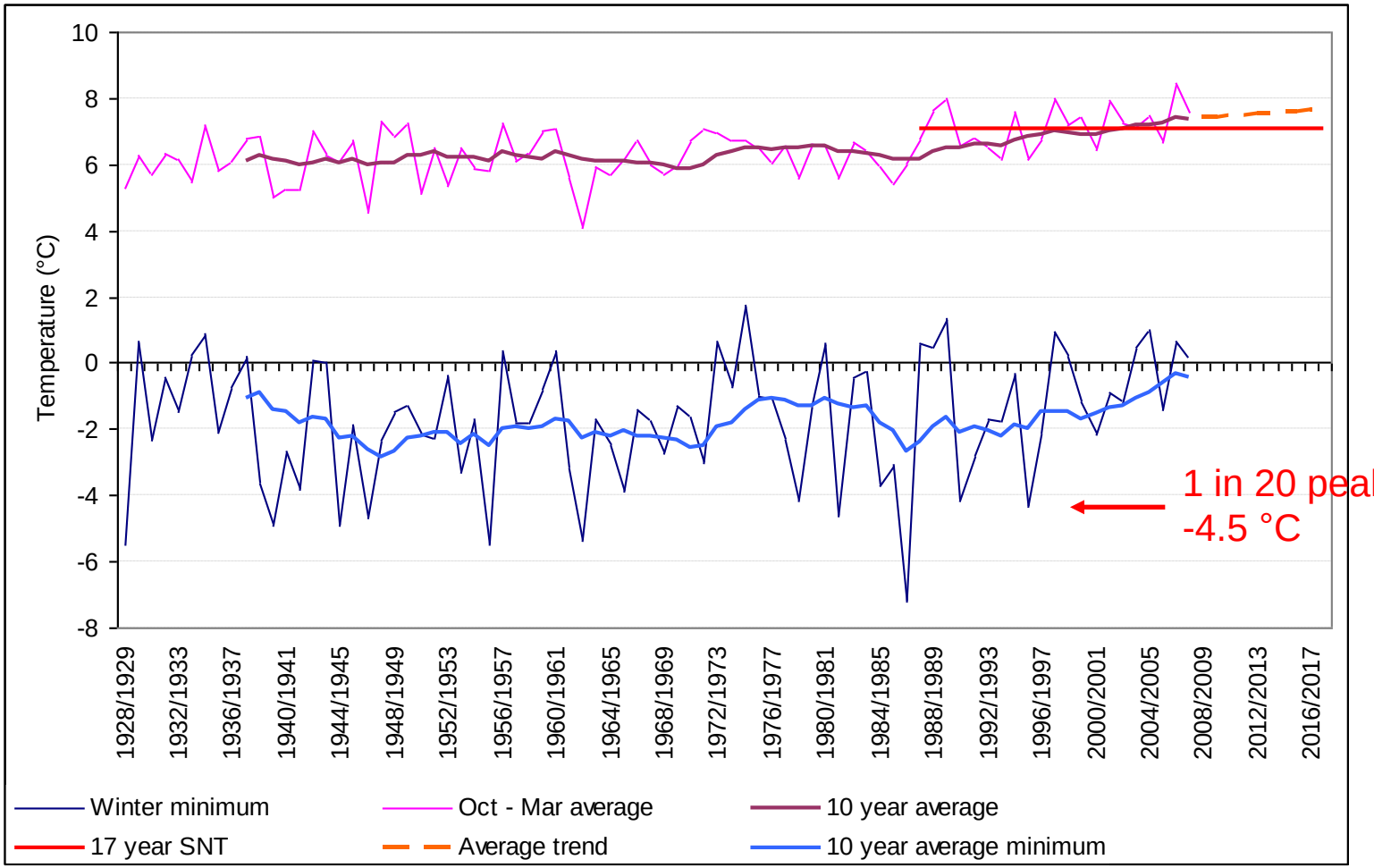
Met Office winter weather forecast (issued 25th Sept 2008)

Milder than average, colder than last year, drier than last year



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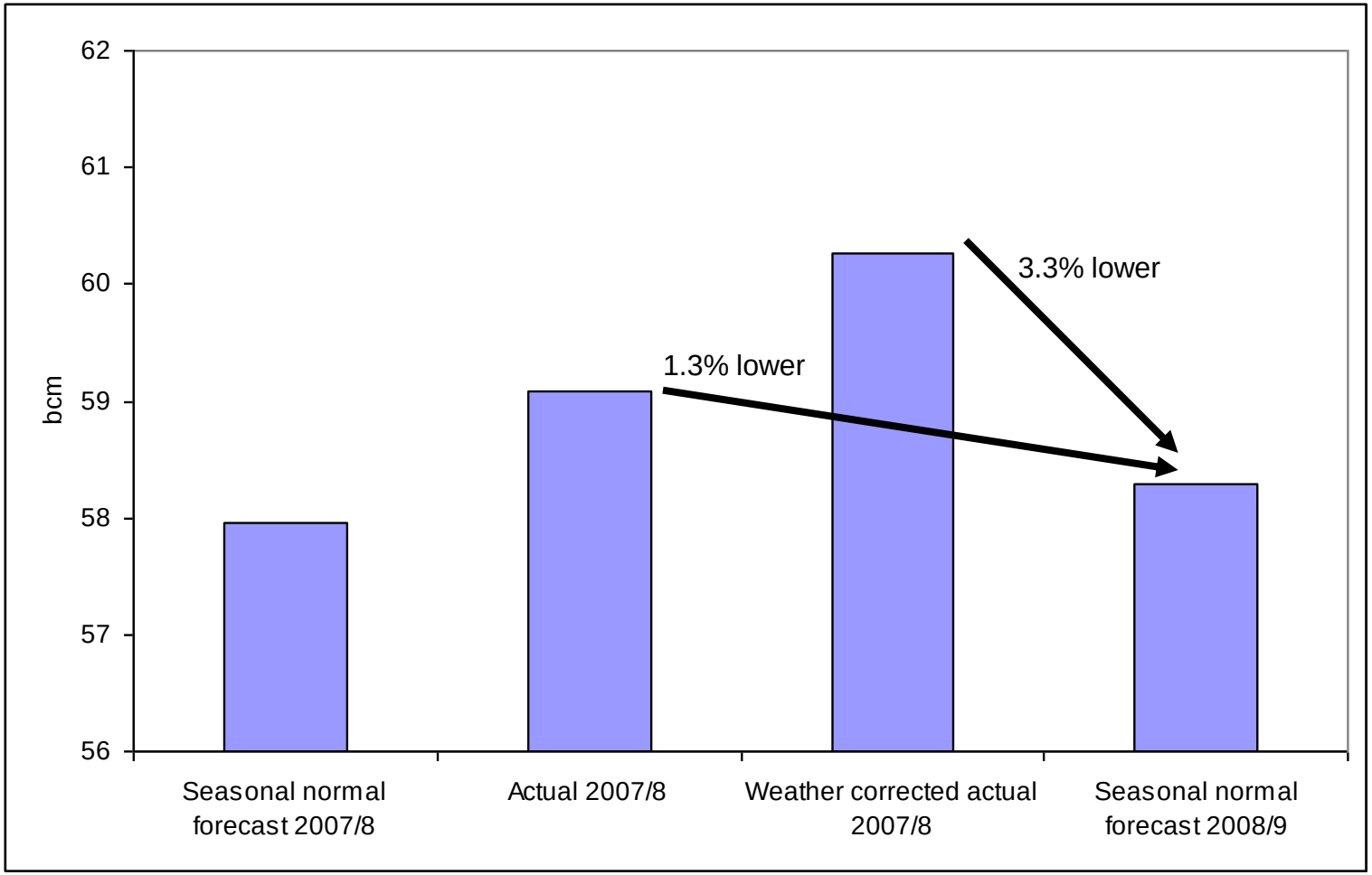
Total Winter Demand (October to March)



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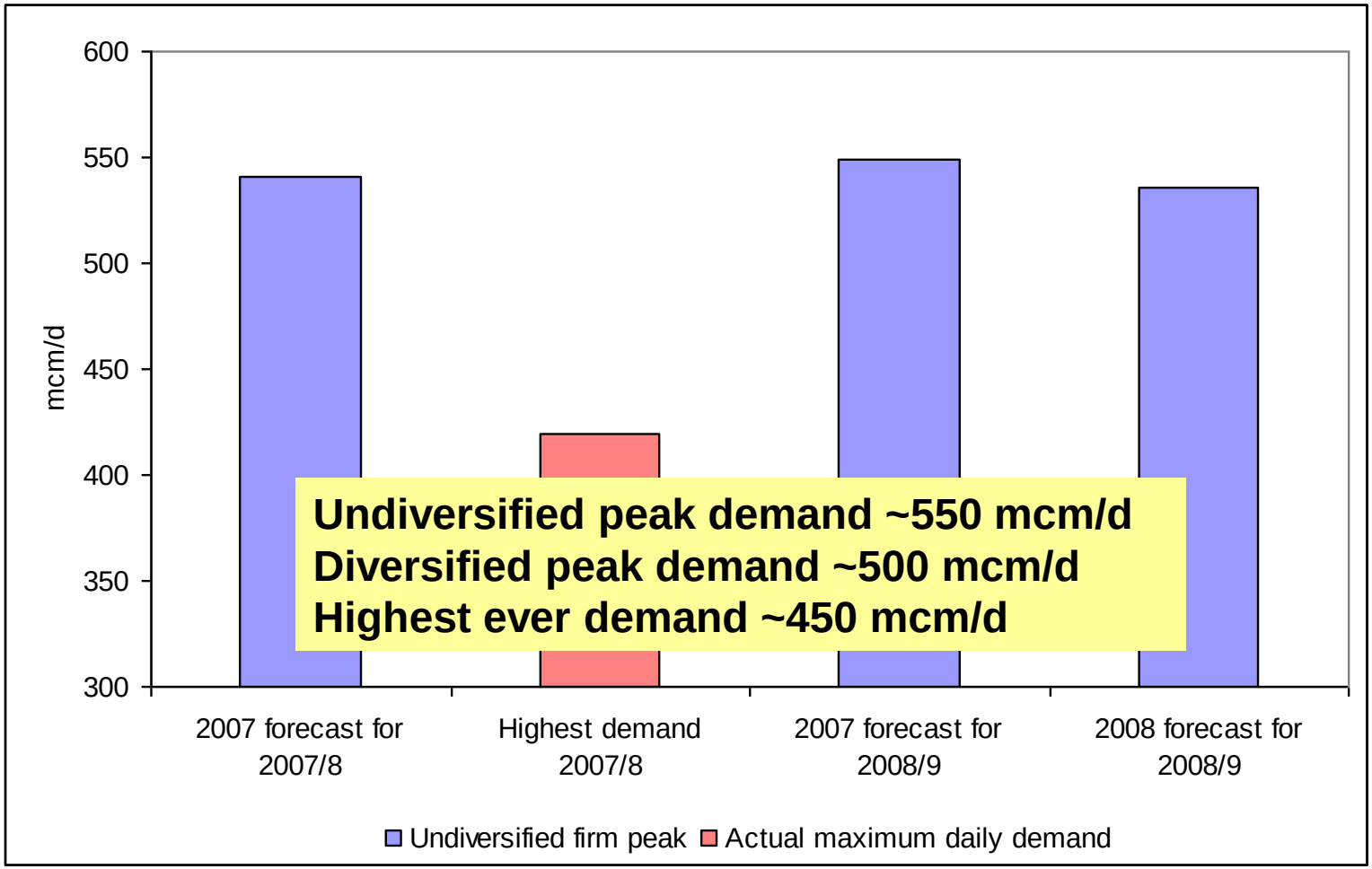
Peak winter demand



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2008/9 winter supply

UKCS - continues to decline, but continues to under pin supply (~60% of non storage supply)

Imports – all subject to some uncertainty

Norway

- Priority to Continental contracts over UK (UK is marginal source of supply)
- Increase through Ormen Lange offset by loss of Kvitebjorn
- Expectation that flows to Continent may be used to preserve Continental storage

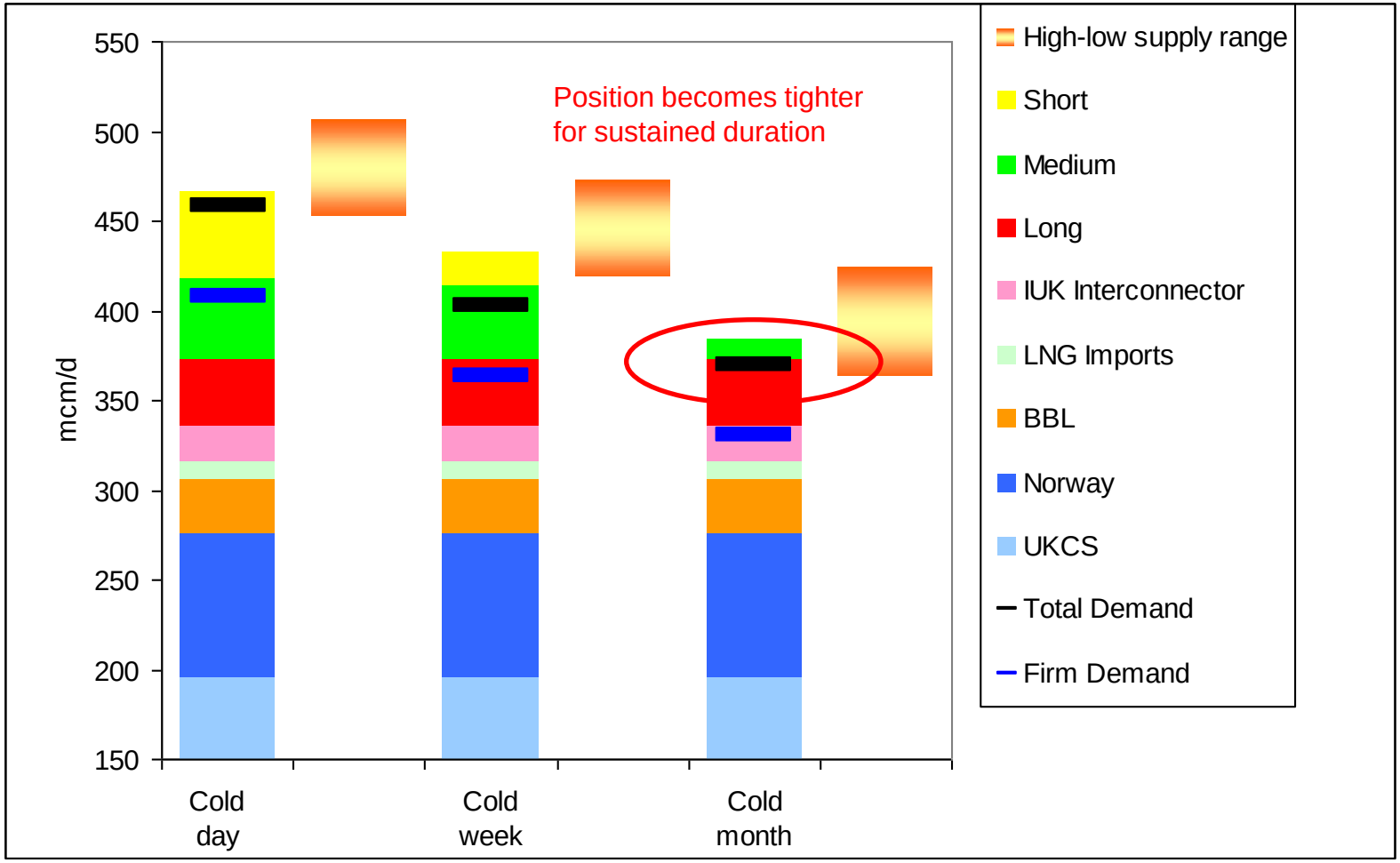
Continent

- Lower BBL? through possibility of non-physical reverse flows
- IUK subject to market differentials and access to gas / storage / transmission capacity

LNG – cargoes subject to global LNG market, concerns over commissioning of new plant continue

Storage – higher space and deliverability if Aldbrough becomes operational

Cold spell analysis – average conditions



-2°C 1°C 3°C

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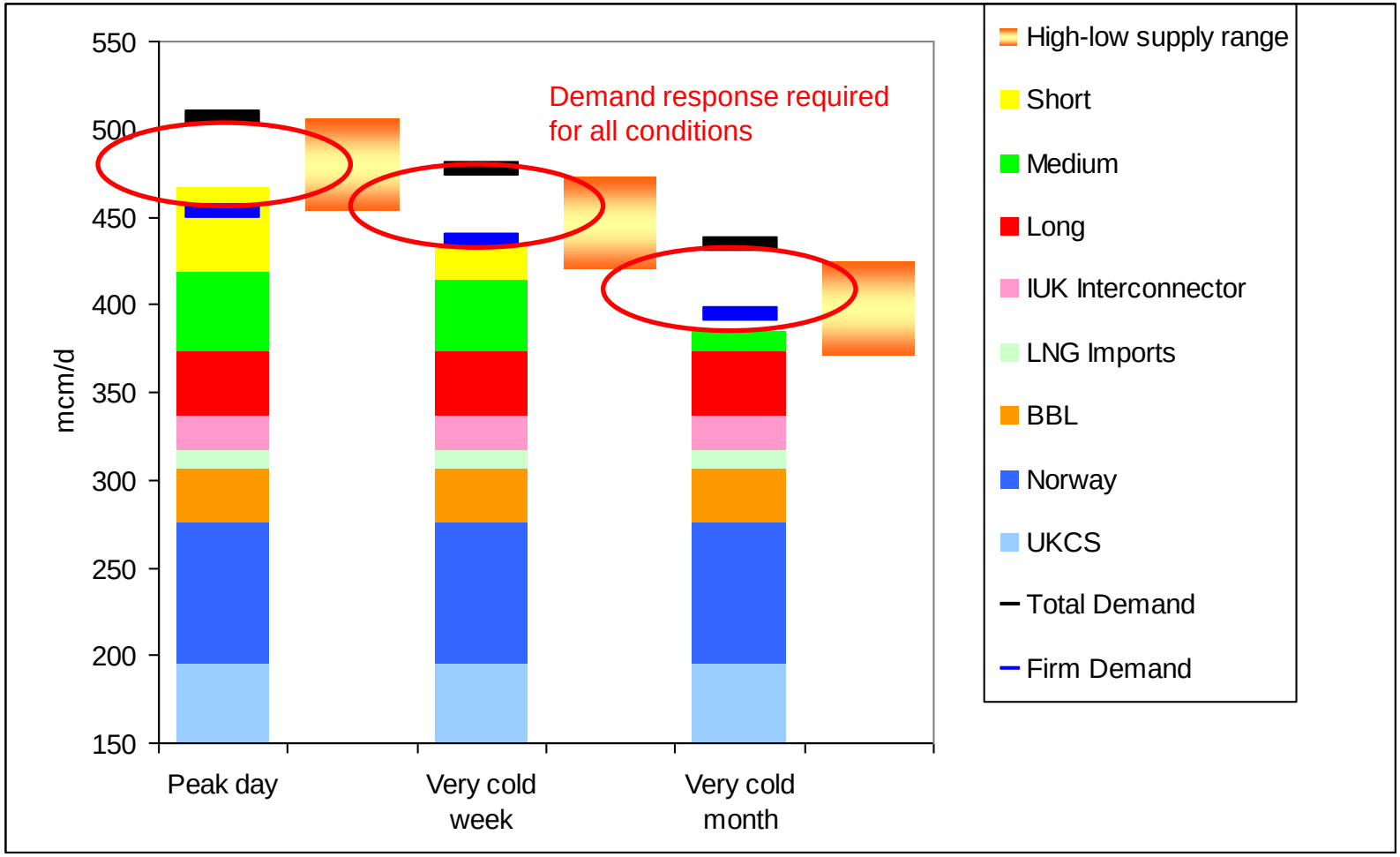
Cold spell analysis – severe conditions



-4.5°C -3°C -1°C

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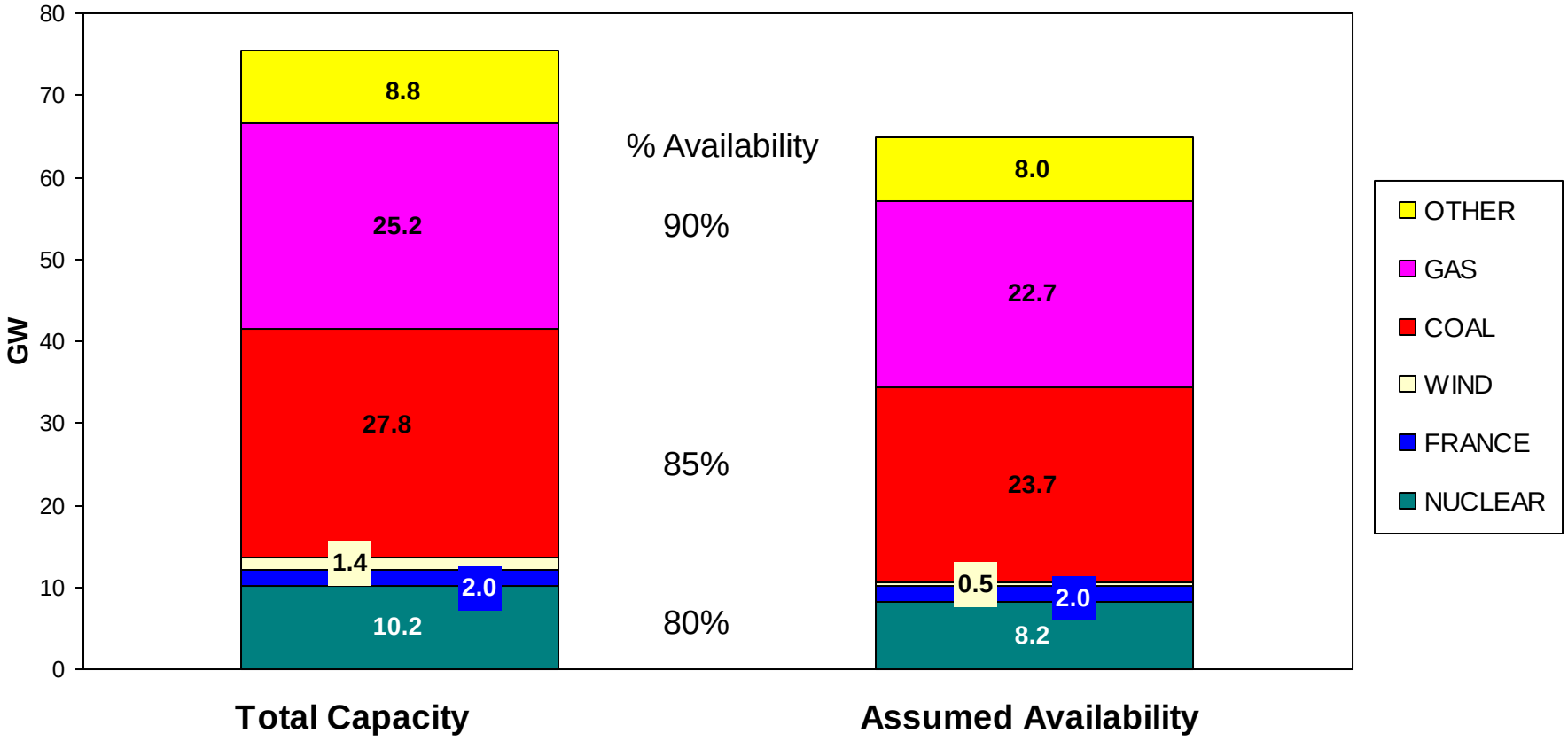
Generation Capacity & Assumed Availability – Base Case

2008/9 generation capacity = 75 GW, assumed availability = 65 GW, ACS demand = 60 GW



Wind availability 35%, French interconnector assumed to import when required to meet demand
Markets react to meet demand
LCPD restrictions do not limit availability at peak
Availability of gas is not constrained, periodic use of distillate available

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Normal Demand and "Low" Generation Availability Assumption Scenario

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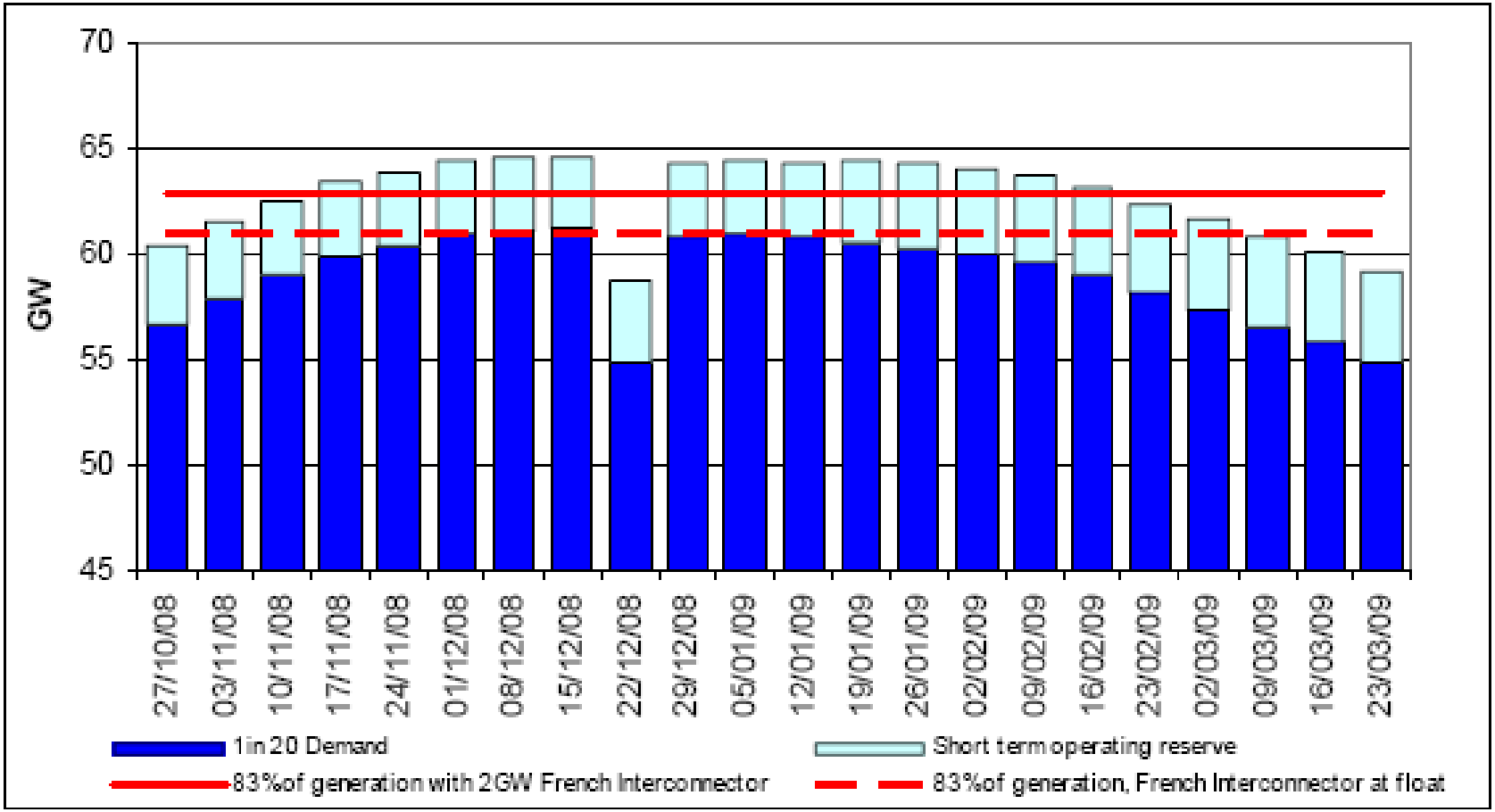
1 in 20 High Demand and "Low" Generation Availability Scenario



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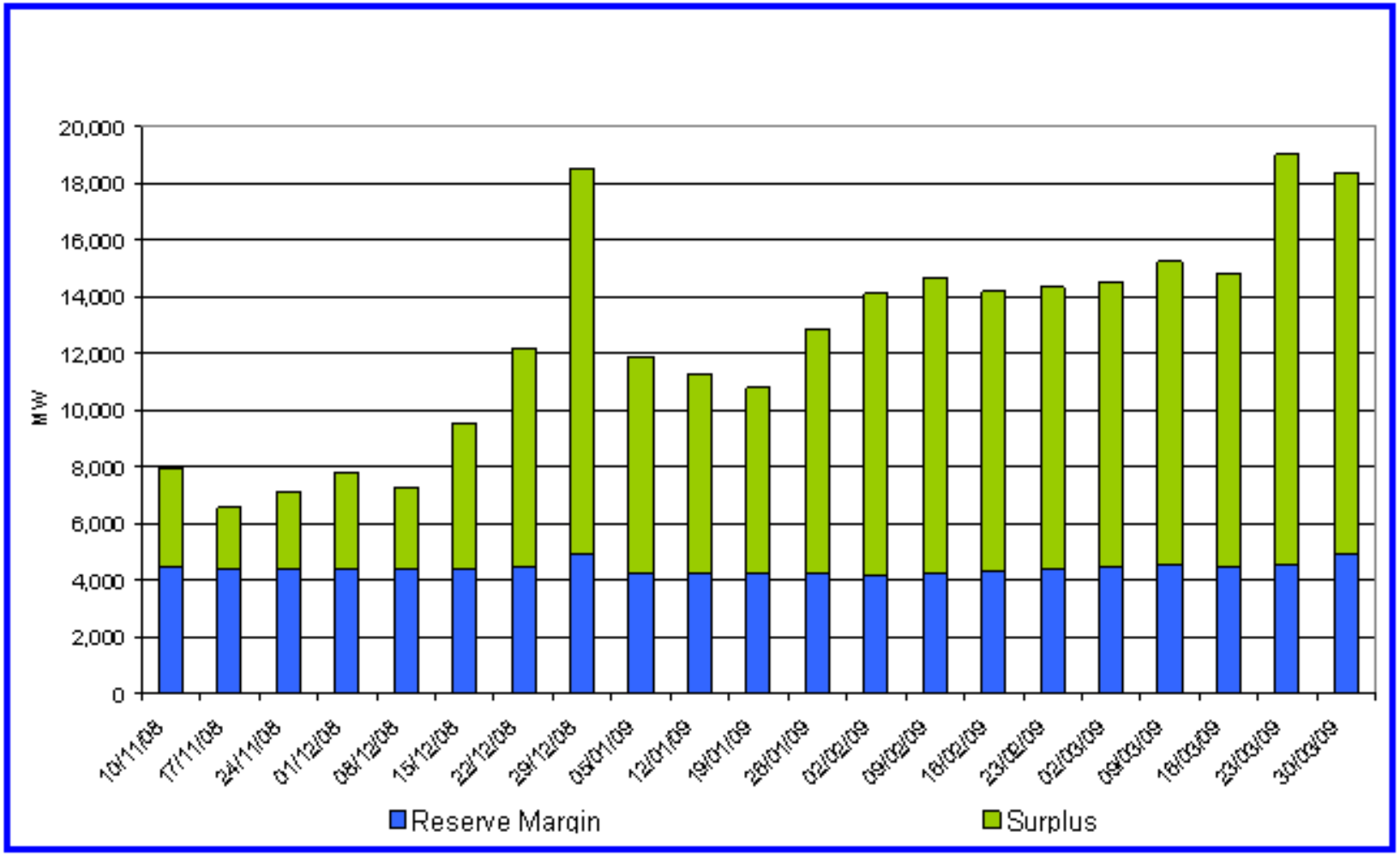
Winter 08/09 Published Reserve Margin & Surplus (3rd Nov 2998 status)



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Conclusions

Basis for gas and electricity demand similar to that experienced last winter. High dependency on weather for gas

Gas demand uncertainties continue, notably impact of gas prices, efficiency measures, LCPD, availability of generating plant

Gas supply position provides biggest uncertainty, notably all imports:

- Norway – Continental priorities
- LNG – global market competition and commissioning of new plant

Severe or prolonged period of cold weather could necessitate a demand response. Numerous gas / electricity interactions possible

Power generation subject to plant availability and LCPD

Coal assumed to be base load but could switch on fuel prices

Should be adequate generation to meet demand, even given delays to repairs to nuclear generation recently announced by BE

'Events' for both gas and electricity happen!!