

Winter 2006/07 Seminar

Chris Murray, Network Operations Director

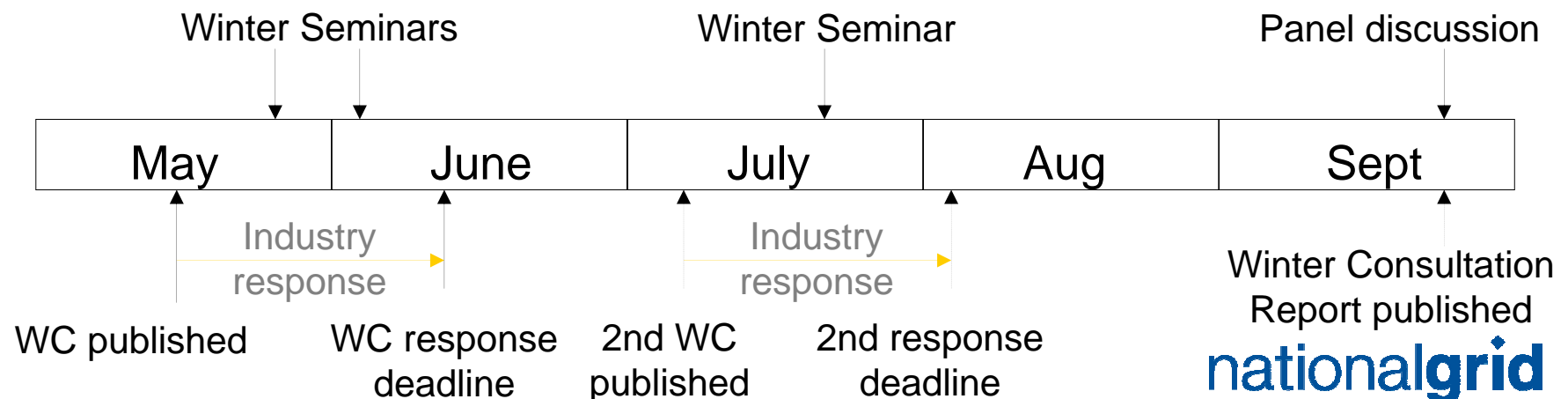
02 June 2006

Contents

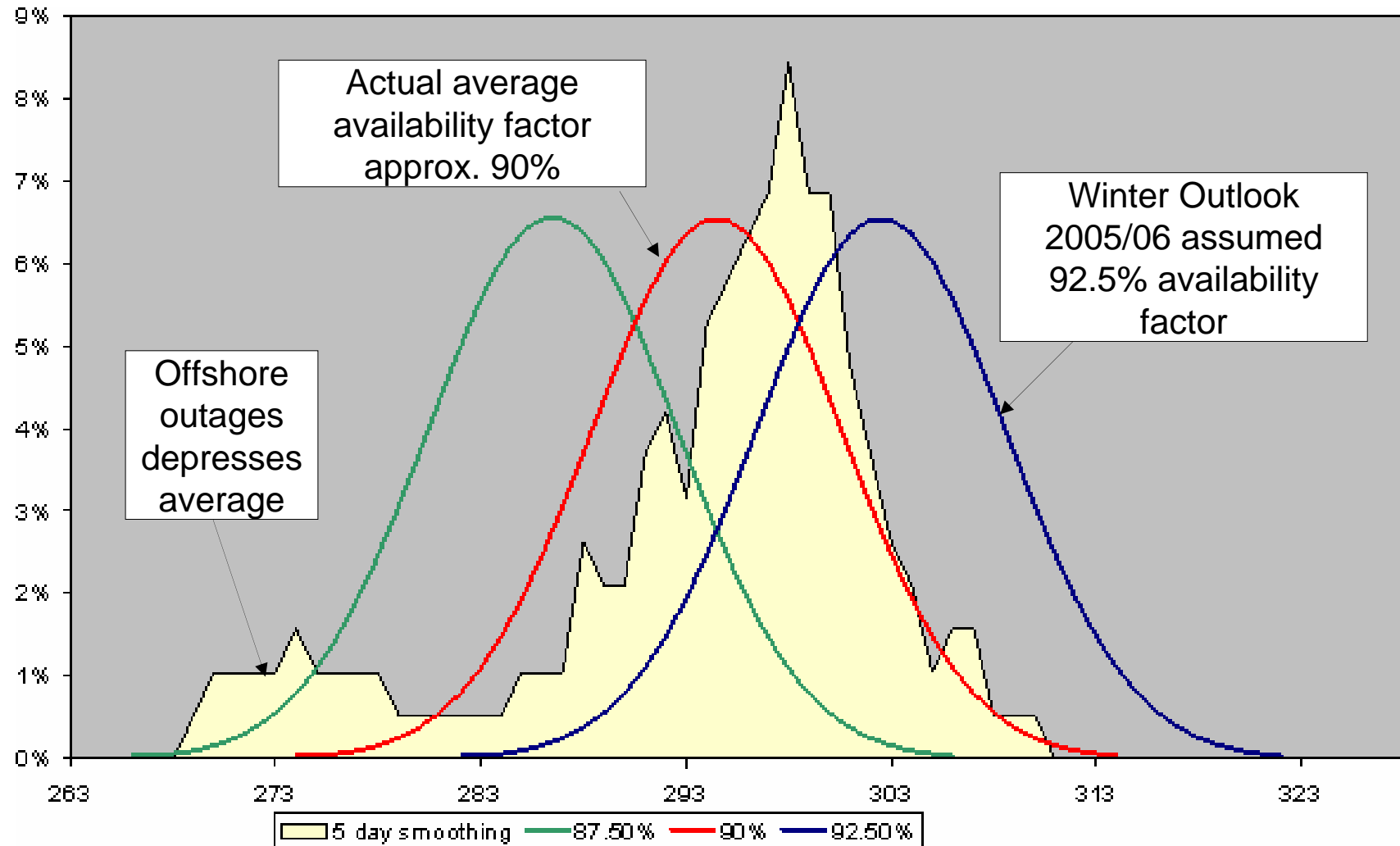
- ◆ Introduction; Winter Consultation process
- ◆ Winter 2005/06 review
- ◆ Winter 2006/07
 - ◆ Consideration of gas supply chain elements
 - ◆ UKCS
 - ◆ Pipeline imports, LNG and storage
 - ◆ Demand side response; interactions with the electricity supply-demand position
- ◆ Key consultation questions

Winter Consultation process

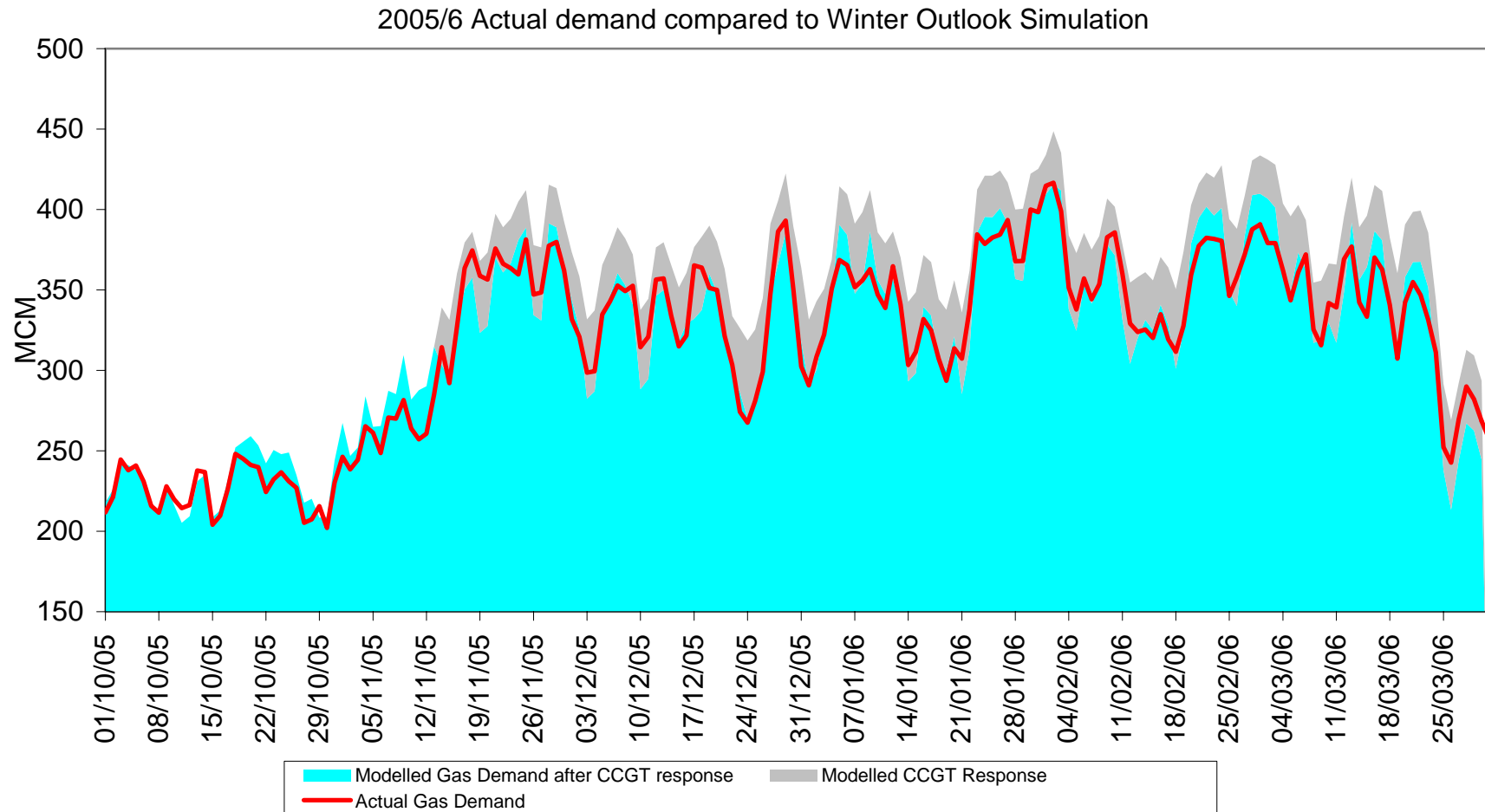
- ◆ National Grid's information necessarily incomplete; **industry feedback crucial**
- ◆ In conjunction with Ofgem enhanced consultation process and industry engagement
- ◆ Scenarios / base case presented to stimulate comment and discussion; they are not our predictions



Beach performance – 2005/06



2005/06 demand v pre-winter simulation



2005/06 demand response

Overview by market sector

Sector	Comment
NTS Power Stations	Contributed the majority of the demand response: around 20 mcm/d on average, and up to approximately 40 mcm/d when the gas price was at its highest
NTS Industrial Loads	Around 3-4 mcm/d of response evident when the gas price was at its highest
LDZ Daily Metered (DM) Interruptible	Around 5-10 mcm/d was evident when the gas price was at its highest
LDZ Daily Metered (DM) Firm	Around 2 mcm/d of response observed when gas prices were particularly high in March
LDZ Non-daily Metered (NDM)	Demand depressed generally, but (as would be expected) not in response to price spikes

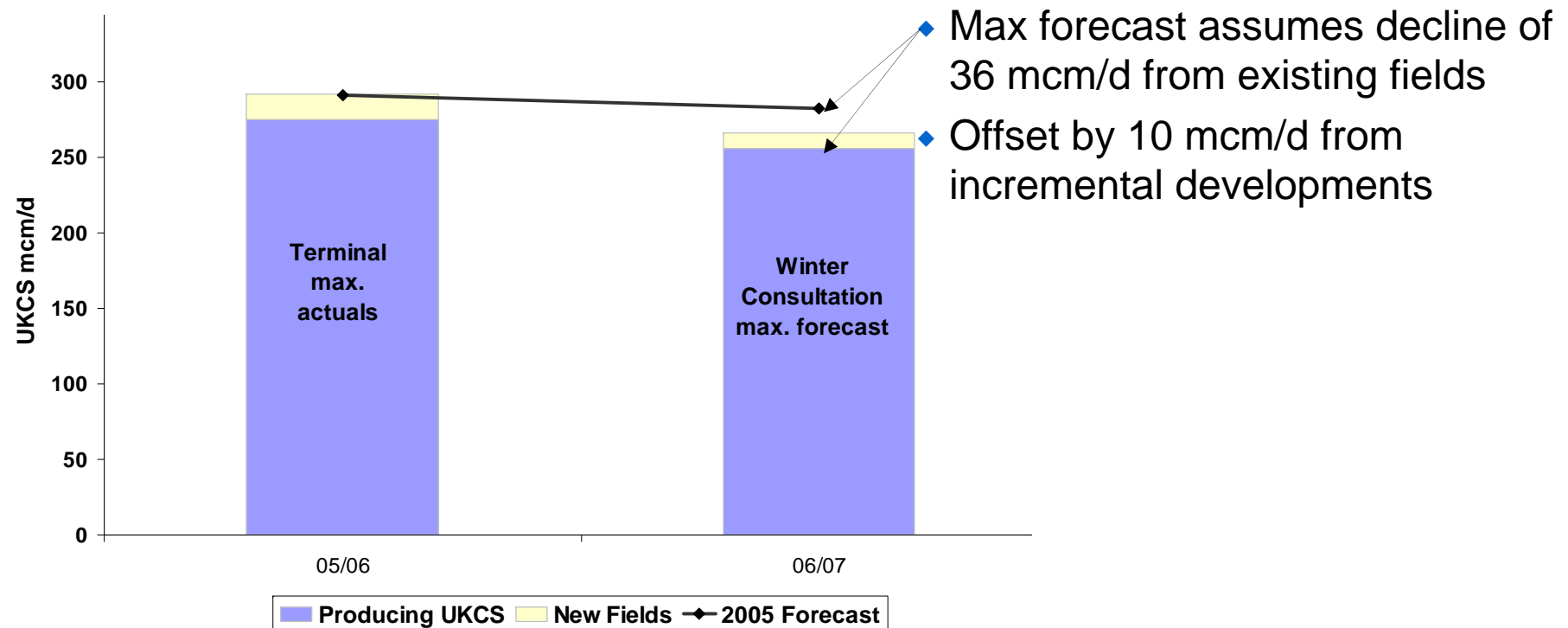
Winter 2006/07 preliminary analysis

- ◆ High level of uncertainty for 2006/07
 - ◆ UKCS decline
 - ◆ Market response; import infrastructure

} Extent / timings uncertain
- ◆ Interaction between demand and supply considered; analysed using a base case and range of sensitivities
- ◆ Analysis identifies and quantifies the level of demand side response required

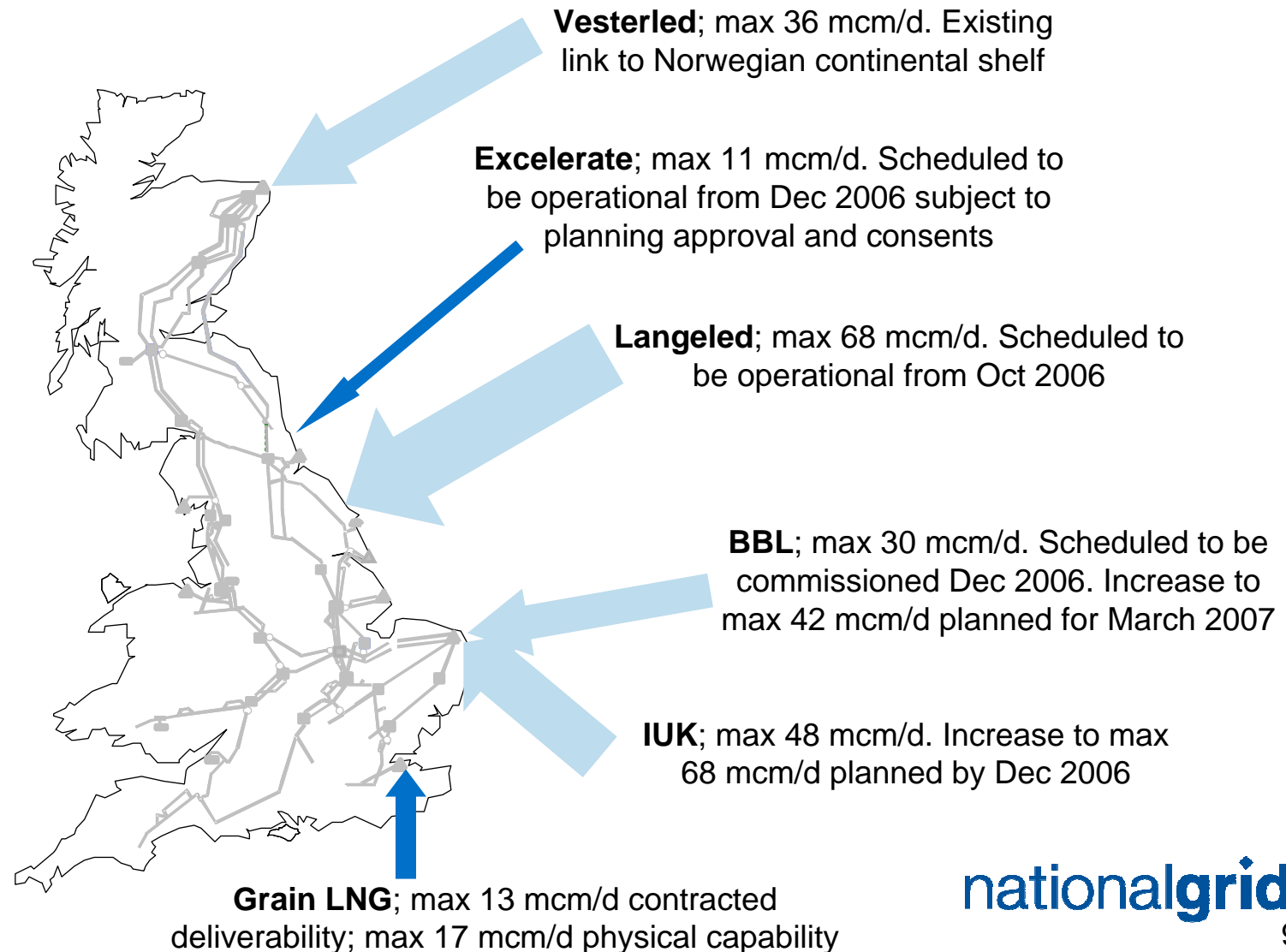
Winter 2006/07 base case - UKCS

Preliminary figures based on 2005 TBE forecasts



- ◆ Peak forecast 266 mcm/d
- ◆ Base case incorporates 90% average availability (240 mcm/d)

Winter 2006/07; import infrastructure



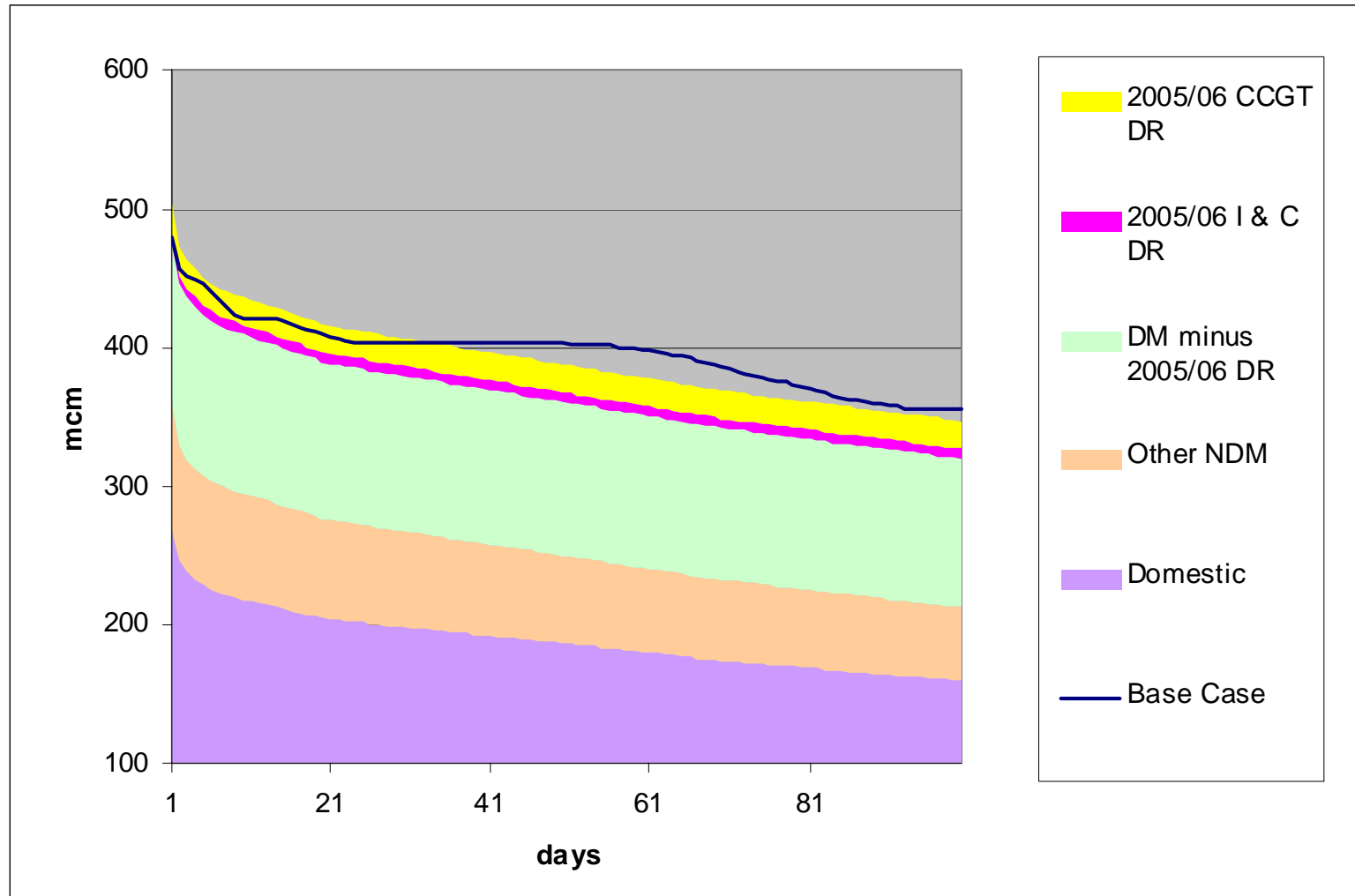
Base case supply assumptions

- ◆ Wide range of potential supply availability
- ◆ Base case created to provide reference point for comment

	2005/06 Base Case Assumption	May 2006 Base Case for consultation purposes only
UKCS	269 (291 @ 92.5%)	240
Norway	33 (36 @ 92.5%)	48
IUK	42 (revised to 30)	35
BBL	N/A	20
LNG imports	13	13
Total	357	356

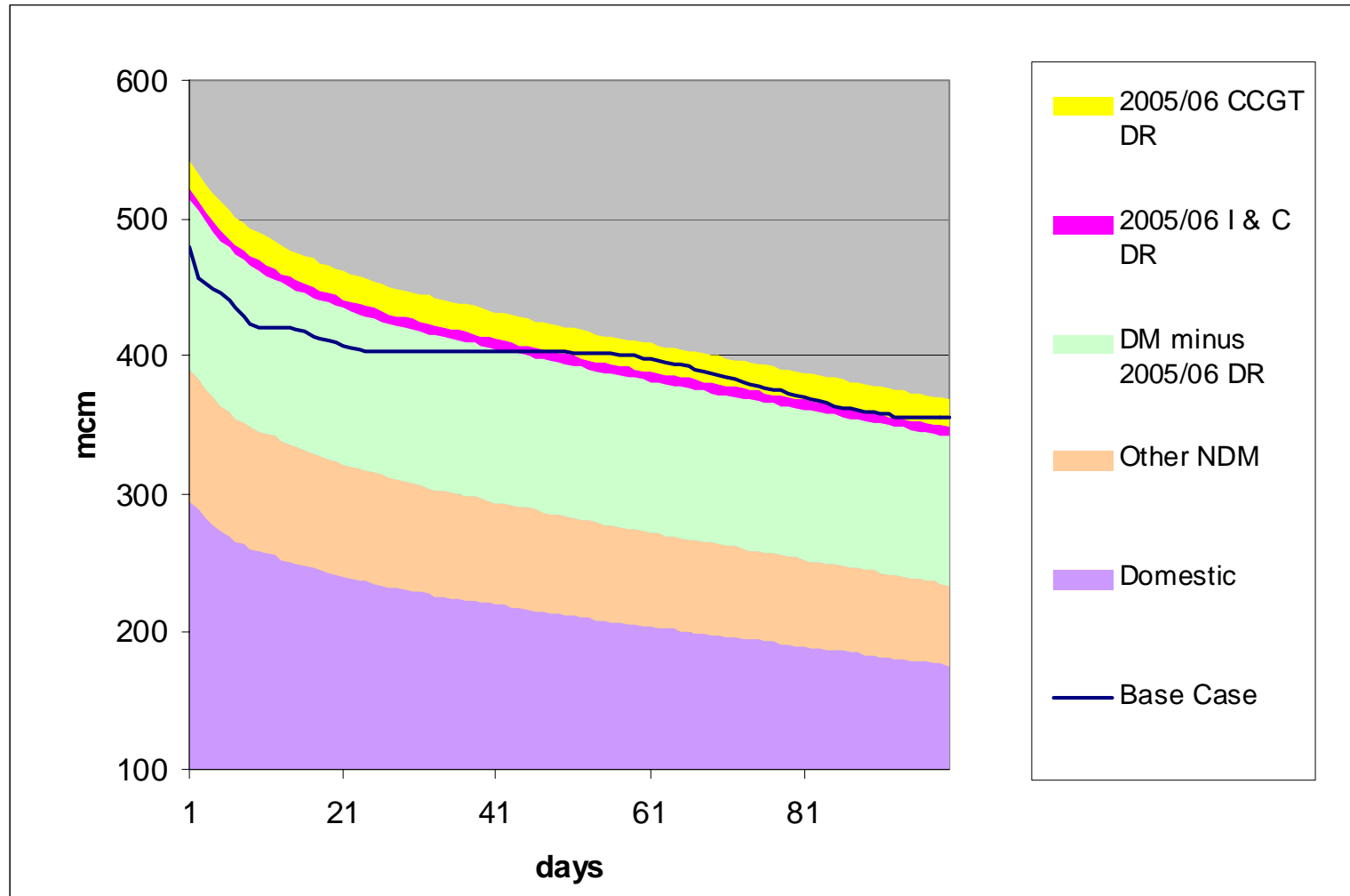
Illustrative supply-demand position

Average load duration curve for winter 2006/07



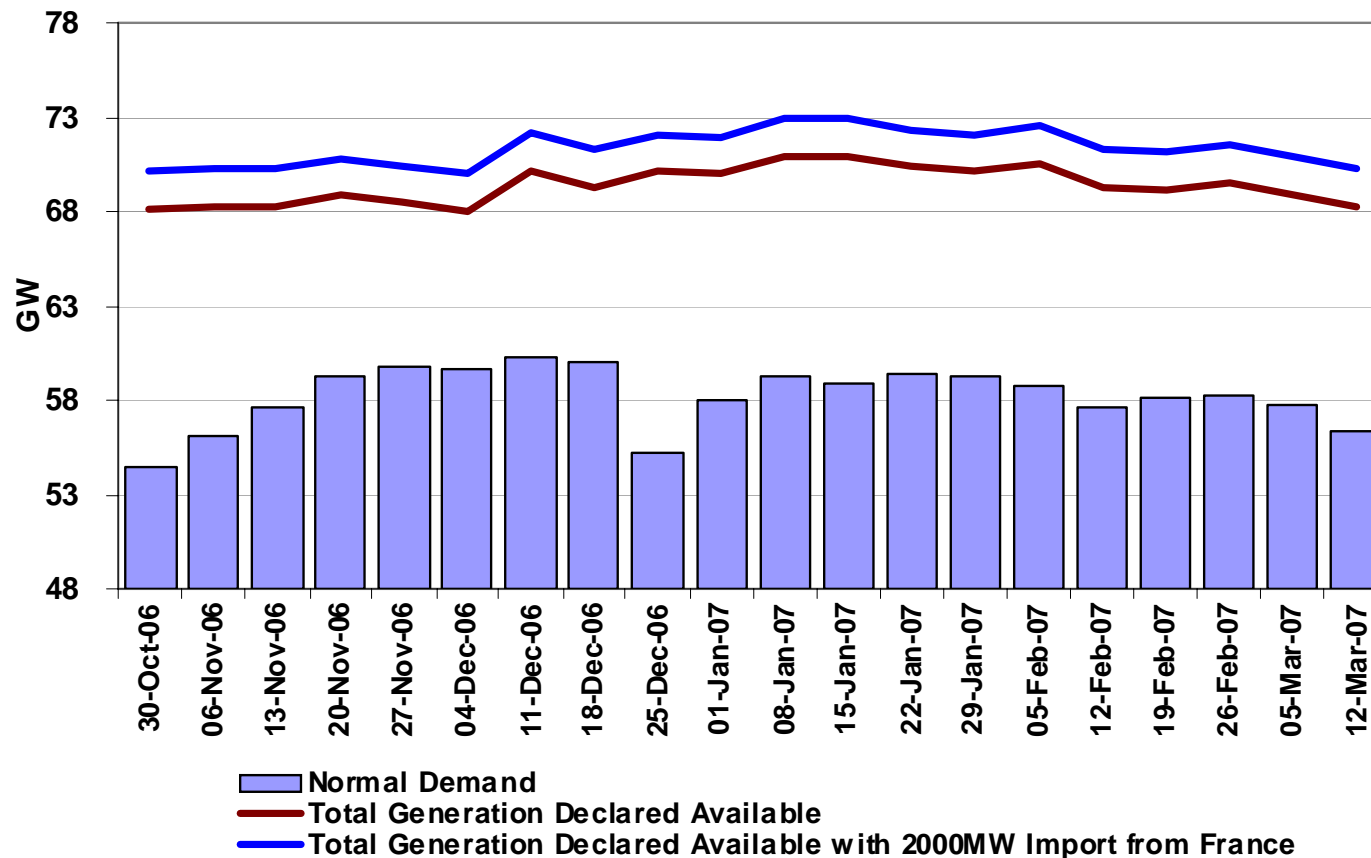
Illustrative supply-demand position

1 in 10 load duration curve for winter 2006/07



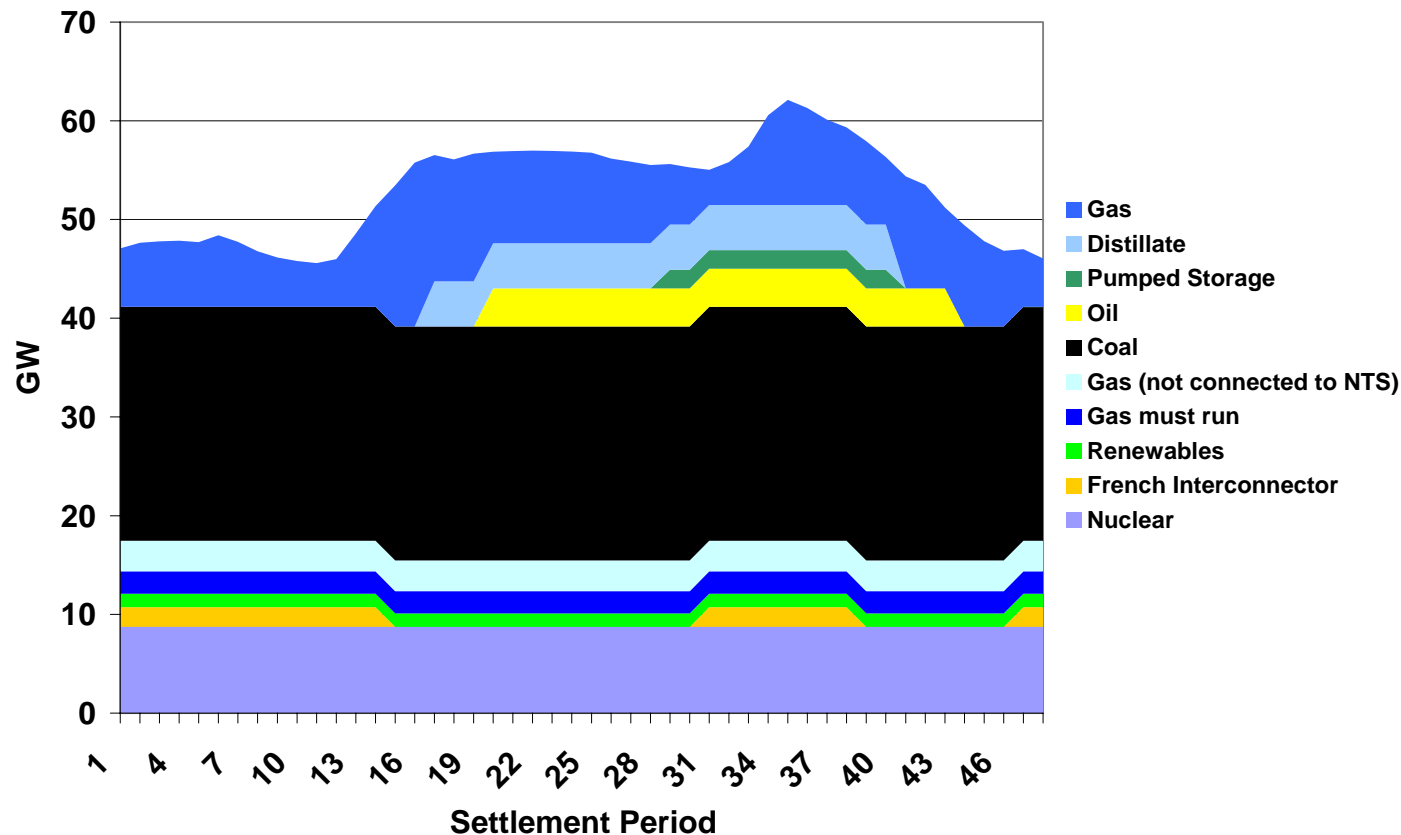
Demand and notified generator availability

- ◆ With full imports from France the excess generation over average weekly peak demand would be around 12-14 GW



Potential demand response

Simulated generation profile



Potential demand response

Required response and potential CCGT contribution

- ♦ All figures in bcm

	Average	1 in 10	Severe
Required	0.3	3.1	5.0
Potential CCGT	0.3	2.1	2.7
Non-CCGT	0.0	1.0	2.3

Key consultation questions

What assumptions are appropriate?

- ◆ Gas supply outlook
 - ◆ UKCS
 - ◆ Imports; new infrastructure, market issues
 - ◆ Storage; safety monitors
- ◆ Electricity
 - ◆ Mothballed plant, French Interconnector, demand management
- ◆ Demand response
 - ◆ Non-CCGT; including NDM
 - ◆ CCGT