Supply-Demand Balance - Winter 2007/08

Andrew Ryan

Network Operations

BIEE - 19 June 2007

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Agenda

- Winter Consultation Process
- Winter 2007/08 Modelling Assumptions
- Demand Supply Balance
- Issues

Winter Consultation Report

- Covers both Gas and Electricity and also key interaction;
- Uses a set of assumptions and scenarios to highlight would could happen over the winter;
- Is based upon views and assumptions developed in consultation with the energy industry;
- Documents are published on the Ofgem website: -

http://www.ofgem.gov.uk/Markets/WhlMkts/CustandIndustry/WinterOutlook/Pages/WinterOutlook.aspx

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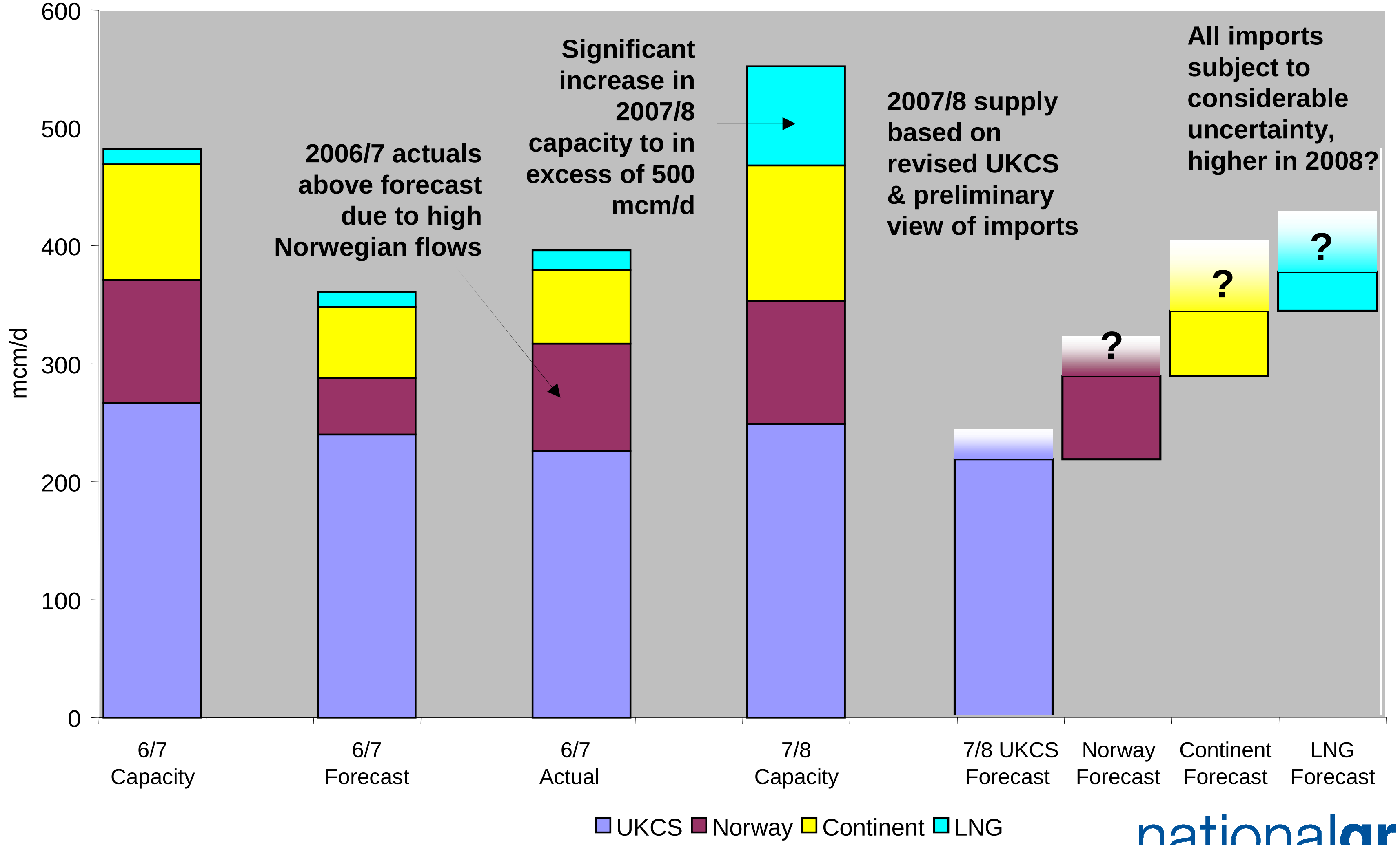
2007/8 Preliminary View of non-Storage Supplies



Note UKCS and Norwegian flows are subject to estimate for Vesterled

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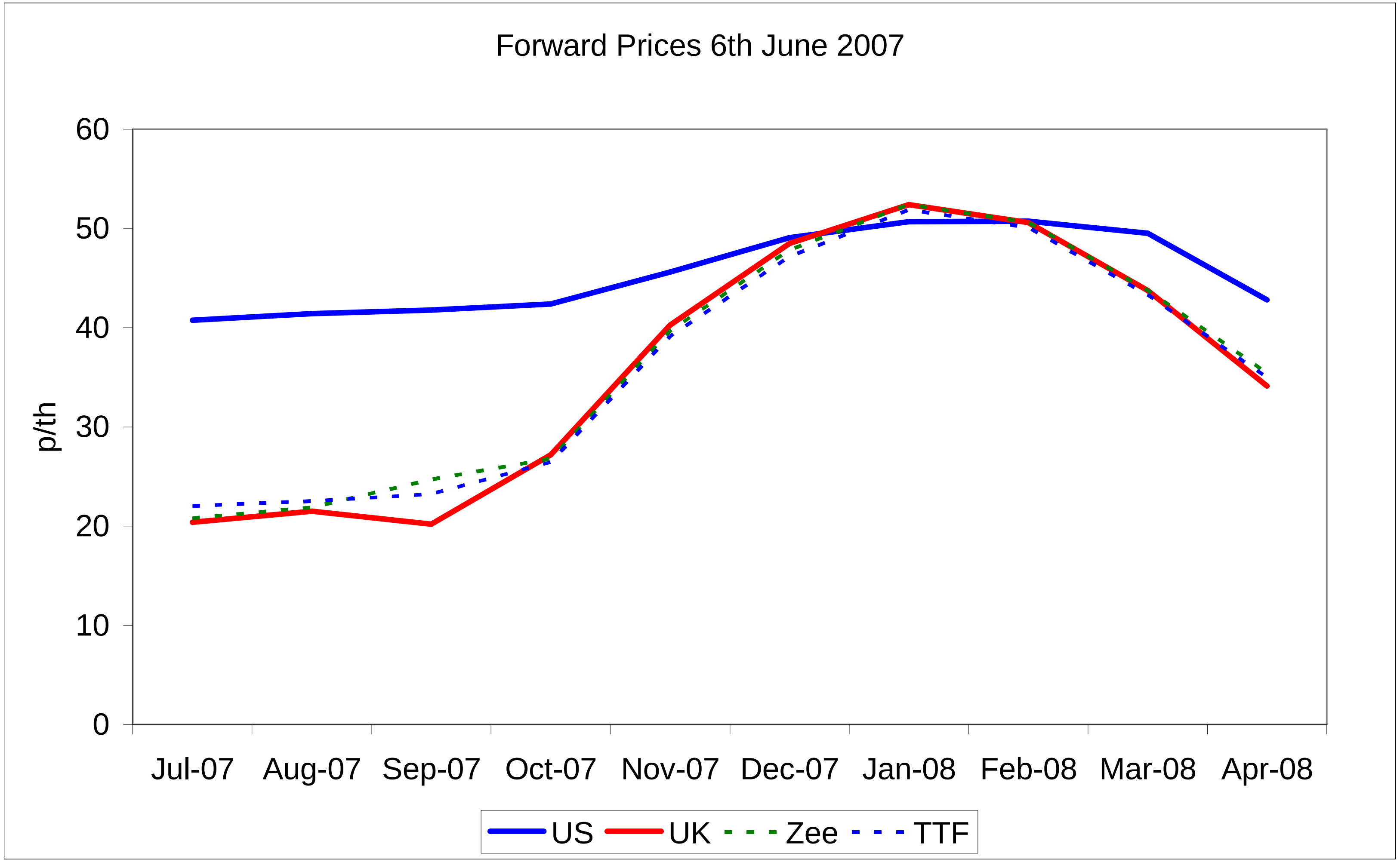
Initial Assumptions - gas

	2006/7 Base Case	2007/8 Max Capacity	2007/8 Initial View	2007/8 Revised View	Days at full rate
UKCS	240	252	224	227	
Norway	48	104	70	70	
IUK	36	74	37	37	
BBL	14	41	25	25	
LNG	13	69	46	33	
Total Non-Storage	**350**	**540**	**402**	**392**	
Short Duration Storage	49	49	49	49	3.7
Medium Duration Storage	32	45	45	45	20
Long Range Storage	42	42	42	42	75.7
Total Storage	**123**	**136**	**136**	**136**	
Grand Total	**473**	**676**	**538**	**528**	

Gas prices



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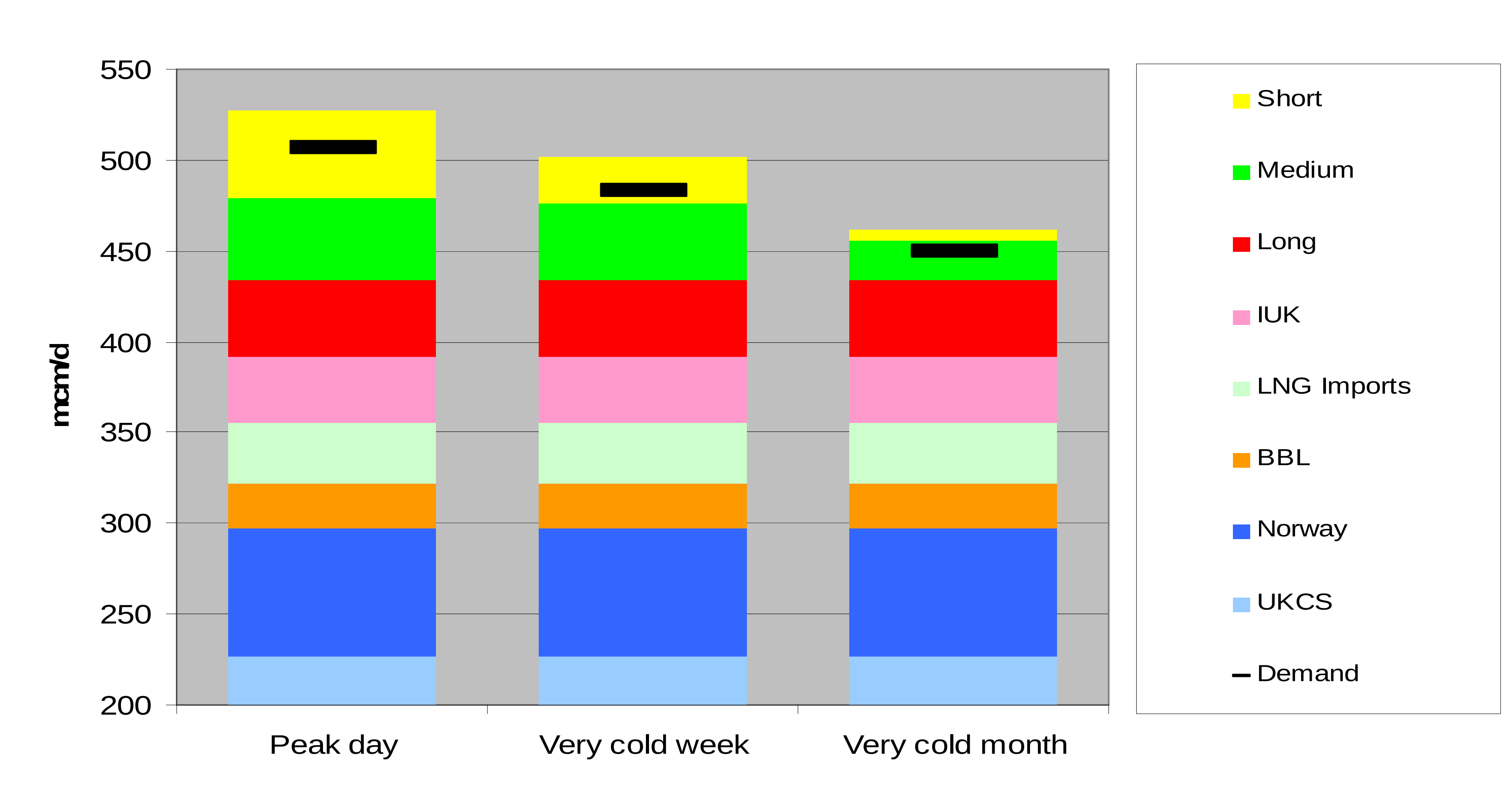
Balance - Peak Periods



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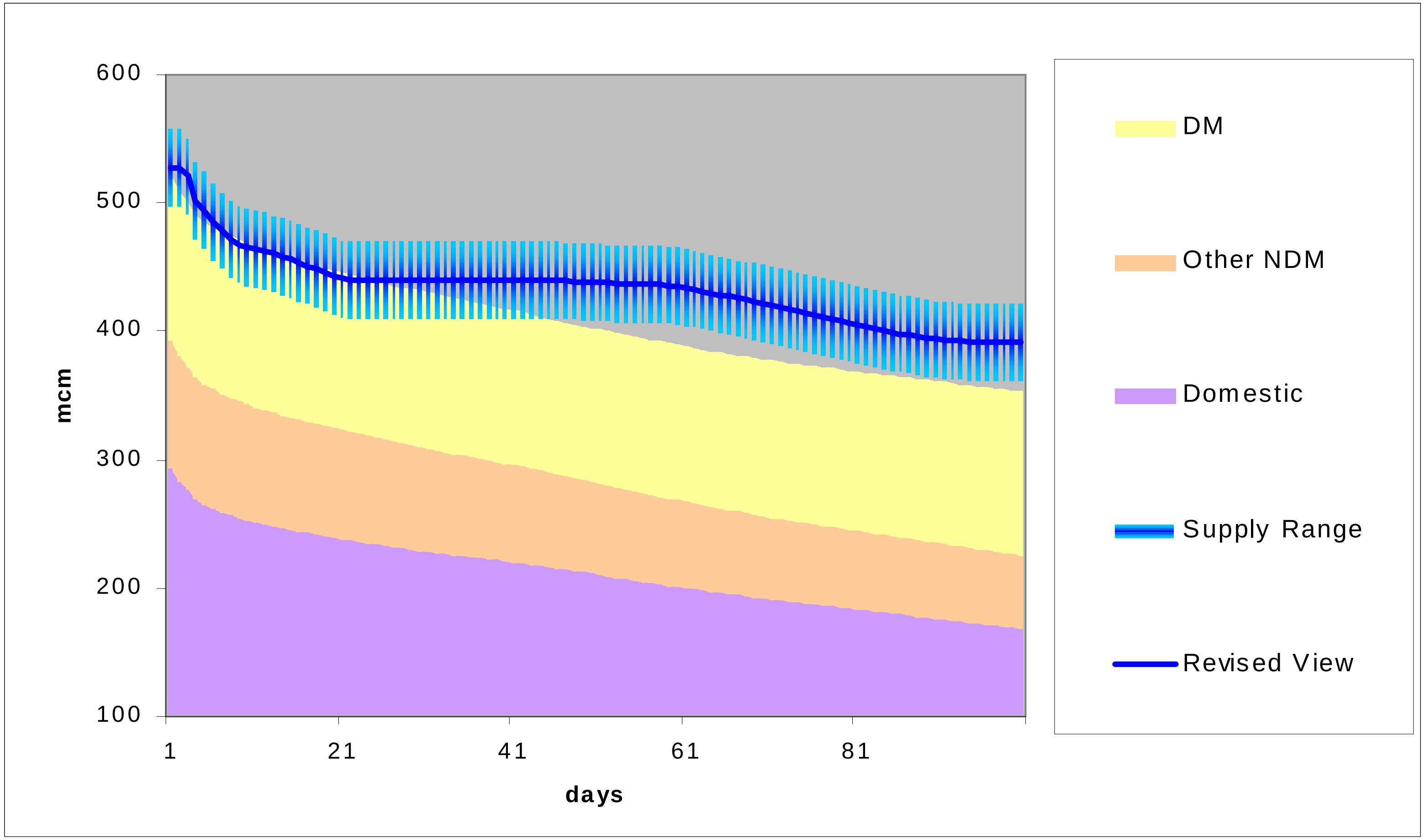
Demand-Supply Balance - 1:50 winter



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Demand Turndown Requirements

	Average	1 in 10	1 in 50
Revised View	0	0	0
Revised View +30 mcm/d	0	0	0
Revised View -30 mcm/d	0	0.17	1.01

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Initial Assumptions - electricity

- 0.7 GW new renewables in Scotland
- No new large stations in E&W
- Reduced output at Hinkley Point and Hunterston
- No demand growth
- Plant margin 24%
- Assuming 30% wind, margin is 22%

- No short-term mothballed plant

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Availability Assumptions 07/08 – Electricity

Power Station Type	Full Capacity (GW)	Assumed Availability	Assumed Availability (GW)	Model Assumptions Summary
Nuclear	10.5	80%	8.4	Baseload
French Interconnector	2.0	100%	2.0	Baseload, except 7 am to 3pm weekdays
Hydro generation	1.0	60%	0.6	Baseload
Wind generation	1.2	35%	0.4	Baseload
Coal	28.1	85%	23.9	Baseload
Oil	3.4	95%	3.3	12 hours over peak
Pumped storage	2.8	100%	2.8	6 hours over peak
OCGT	1.2	95%	1.1	Low merit, run occasionally
Non-NTS CCGT	3.3	90%	3.0	Baseload
Baseload CCGT	3.9	90%	3.5	Baseload
Distillate CCGT	4.2	90%	3.8	200 hours
CCGT	13.8	90%	12.4	Marginal plant
Total	**75.5**		**65.3**	
Average availability		**86%**		

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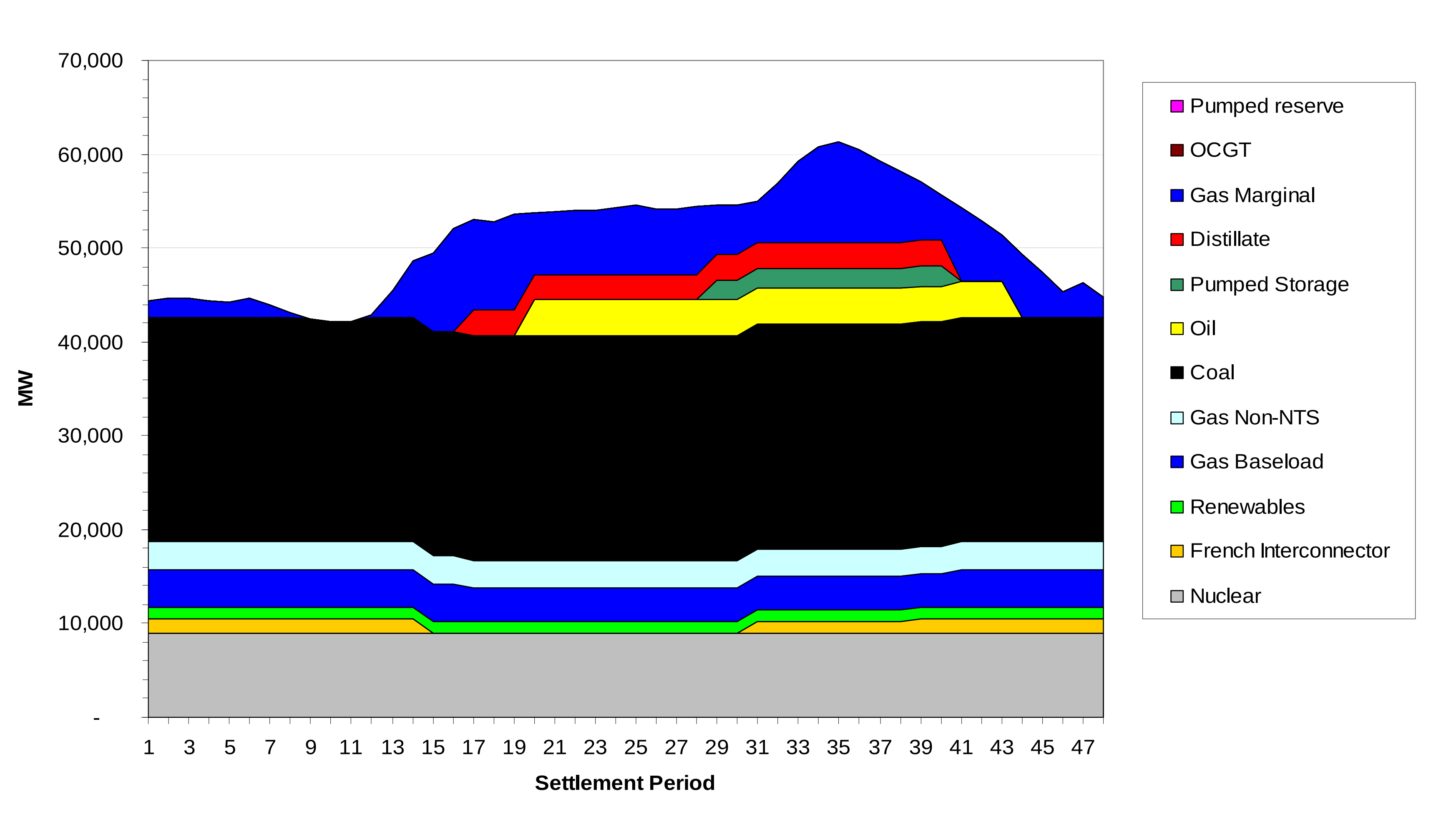
Merit Order 07/08 – Electricity



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CCGTs – relief in 1:50 winter

	Average	1 in 10	Severe
Required	0.0	0.17	1.01
Potential CCGT	0.0	0.14	0.31
Deficit	0.0	0.03	0.70

Short Term Issues

- Weather
- Demand Growth
- Will the imported gas arrive?
- Supply shocks – another Rough, more nuclear closures
- Infrastructure capacity

- Will CCGTs continue to generate?

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Long Term Issues

- Increased imported gas dependency
- Closure of nuclear
- LCPD - 2015
- CO_2 and Carbon capture
- Timing of new investments
- Demand Growth
- Supply shocks
- What level of risk/security does the market seek?
- Infrastructure and Access developments
- Prices – weather driven, volatile, Global market, cyclical

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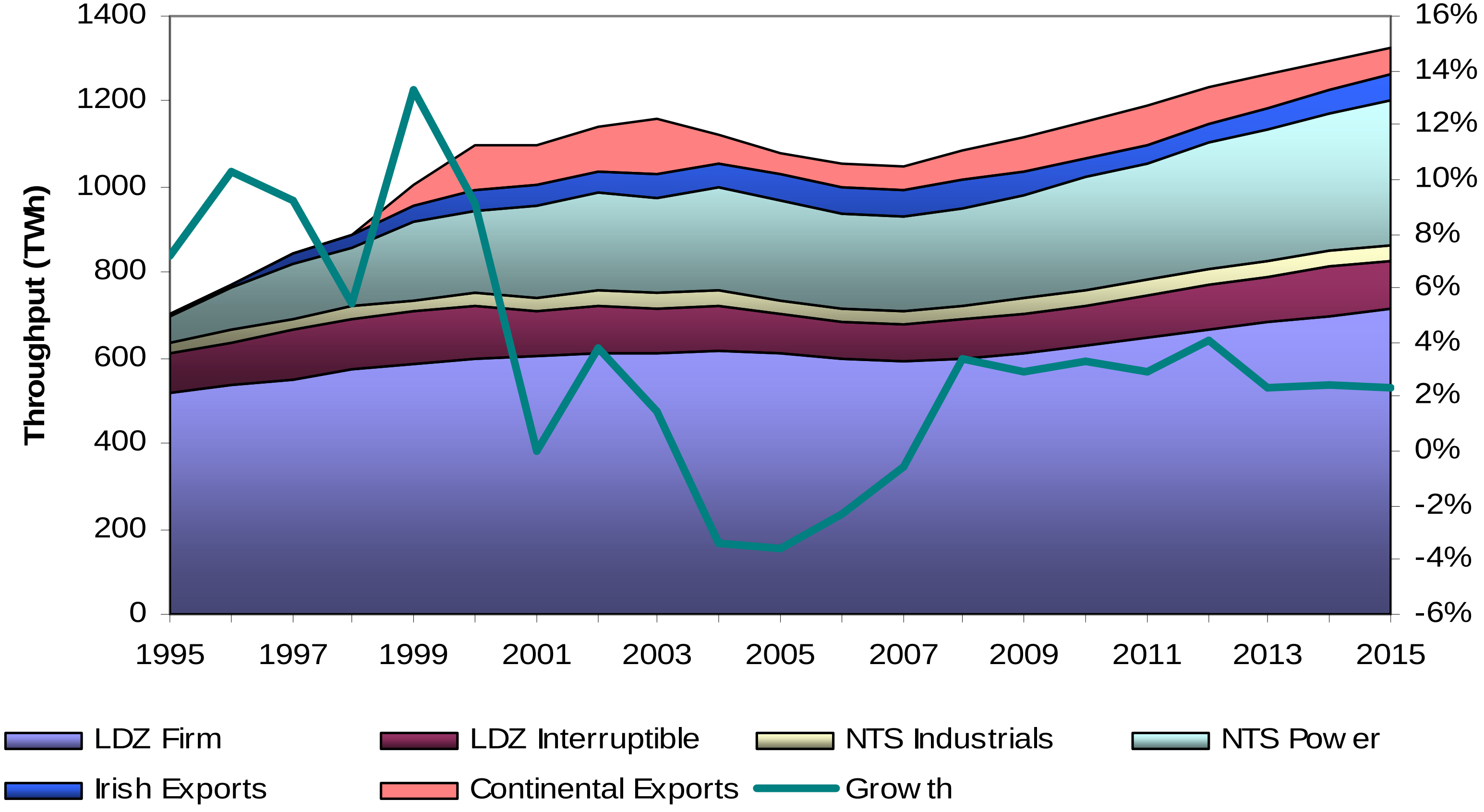
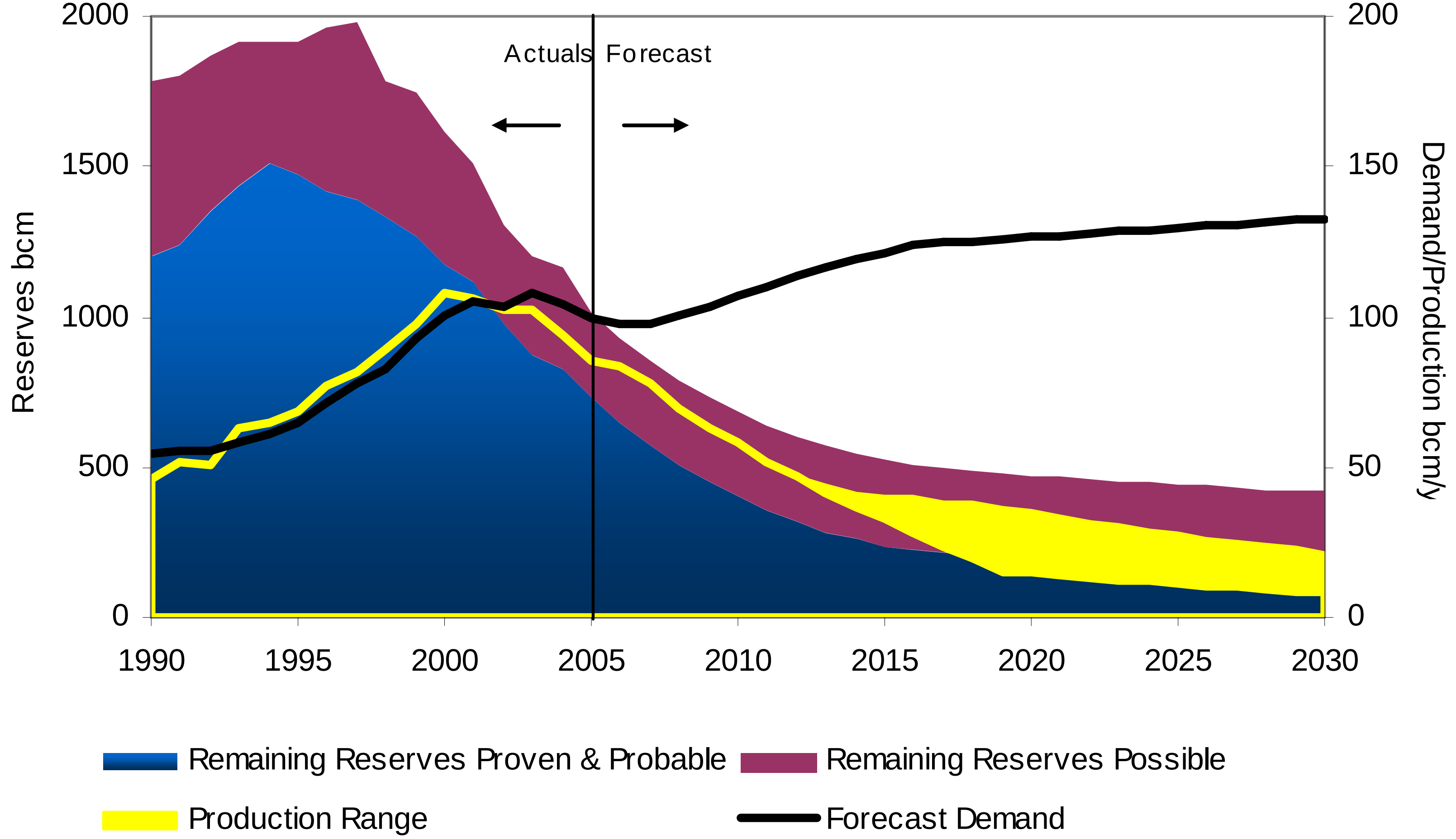
Gas Demand



Throughput (TWh)
1400
1200
1000
800
600
400
200
0
16%
14%
12%
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
LDZ Firm
LDZ Interruptible
NTS Industrials
NTS Pow er
Irish Exports
Continental Exports
Grow th

UKCS Reserve



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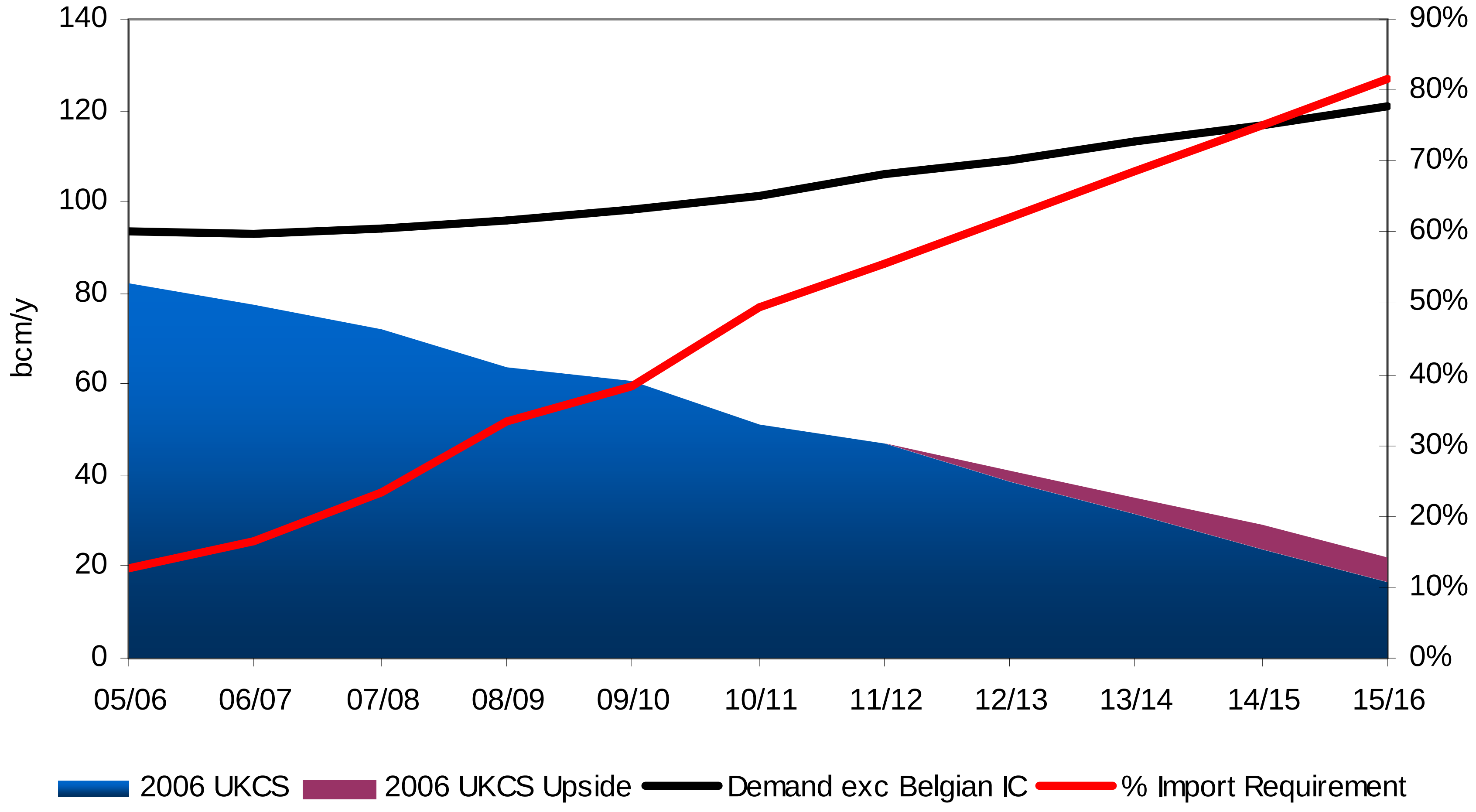
Import Dependency



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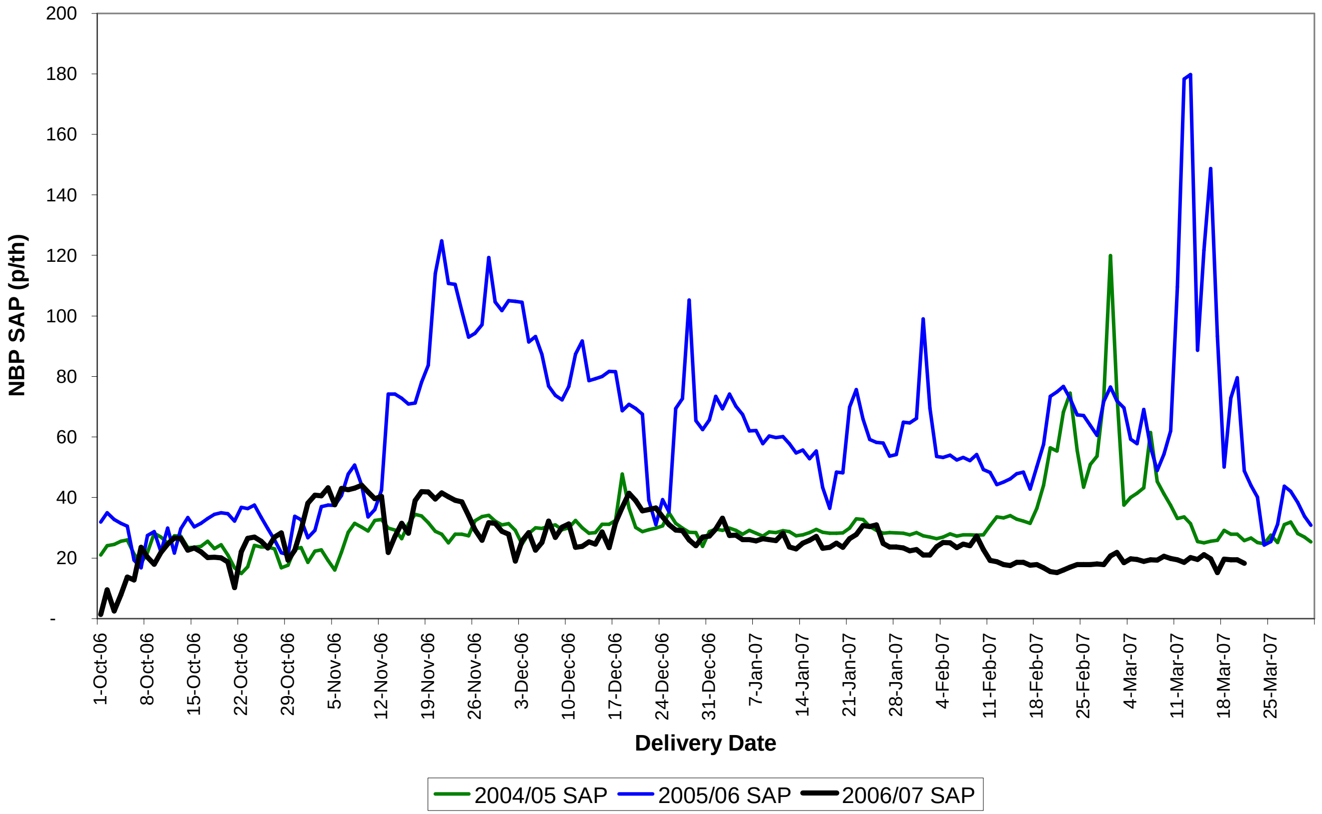
NBP Prices

SAP p/th	Min	Ave	Max
2004/05	14.90	31.00	119.95
2005/06	16.80	60.90	179.80
2006/07	1.44	25.88	44.05



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