UK Continental Shelf Oil and Gas Production and the UK Economy

Mike Earp
Outline

• Production and Reserves
• Expenditure
• Prices, Income and Taxation
• Gross Value Added
• Employment
• Trade
• Recent Production History
• Production (and Demand) Projections
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The UK was ranked 13th overall, 18th in oil and 8th in gas.
UK Oil Production by field (thousand tonnes)
New Entrants’ Contribution to Production & Investment 1999–2006

- Proportion of total production
- Proportion of total capital invested

Source: Wood Mackenzie

Source: Wood Mackenzie
UK Gas Production and Consumption

- UK Gas Production
- UK Gas consumption

Source: DTI / Oil & Gas UK / National Grid
UK Continental Shelf Gas Reserves and Production

Possible Reserves at end of year
Remaining Proven plus Probable Reserves at end of year
Cumulative production to end of year
Change in Ultimate Recovery during year
Net Production in year
Pie Charts Showing Potential for UK Reserves Growth

West of Shetland GAS
(billion cubic metres)
- Proven & Probable Reserves 38
- Possible Reserves 29
- PARs 31

West of Shetland OIL
(million tonnes)
- Proven & Probable Reserves 107
- Possible reserves 144
- PARs 28

Northern North Sea GAS
(billion cubic metres)
- Proven & Probable Reserves 137
- Possible Reserves 57
- PARs 12

Northern North Sea OIL
(million tonnes)
- Proven & Probable Reserves 157
- Possible Reserves 85
- PARs 58

Central North Sea GAS
(billion cubic metres)
- Proven & Probable Reserves 276
- Possible Reserves 128
- PARs 28

Central North Sea OIL
(million tonnes)
- Proven & Probable Reserves 492
- Possible Reserves 240
- PARs 99

Irish Sea/Celtic Basin GAS
(billion cubic metres)
- Proven & Probable Reserves 50
- Possible Reserves 9
- PARs 7

Irish Sea/Celtic Basin OIL
(million tonnes)
- Proven & Probable Reserves 3
- Possible Reserves 1
- PARs 1

Southern North Sea GAS
(billion cubic metres)
- Proven & Probable Reserves 180
- Possible Reserves 60
- PARs 47

KEY
- Proven & Probable Reserves
- Possible Reserves
- Potential Additional Resources (PARs) - Central Estimate
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- Exploration & Appraisal Expenditure (£53 billion)
- Development Capital Expenditure (£210 billion)
Industry Investment 2005 by Sector

- 34% Oil & Gas
- 14% Food, Beverages & Tobacco
- 10% Pulp & Paper
- 10% Chemicals & Products
- 8% Basic Metals
- 3% Machinery & Equipment
- 3% Electrical & Optical
- 3% Transport
- 13% Other Manufacturing

Source: National Statistics

- Exploration & Appraisal Expenditure (£53 billion)
- Development Capital Expenditure (£210 billion)
- Operating Expenditure (£141 billion)
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Average **Oil** and **Gas** Prices received by UKCS Producers

£/tonne (2007 prices)

p/therm (2007 prices)

**Average Oil and Gas Prices received by UKCS Producers**

- Oil
- Gas

- Exploration & Appraisal Expenditure (£53 billion)
- Development Capital Expenditure (£210 billion)
- Operating Expenditure (£141 billion)
- Income (£829 billion)
Government revenues from UK oil and gas production (£ billion, 2006/07 prices)

Petroleum Revenue Tax
Supplementary Petroleum Duty
Corporation Tax
Supplementary Charge
Royalty
Licence Fees

- Exploration & Appraisal Expenditure (£53 billion)
- Development Capital Expenditure (£210 billion)
- Operating Expenditure (£141 billion)
- Post-Tax Income (£586 billion)
- Government Take (£242 billion) - on top of Post-Tax Income
Supply of oil and gas sector by product

£ billion

- Refined petroleum
- Oil and gas extraction
- Gas distribution

Year: 1992 to 2004
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Direct contribution of the Upstream Oil & Gas sector to UK GVA
UK Gross Value Added 2005 by Sector

- 13% Oil & Gas
- 13% Food, Beverages & Tobacco
- 12% Pulp & Paper
- 10% Chemicals & Products
- 9% Basic Metals
- 7% Machinery & Equipment
- 9% Electrical & Optical
- 7% Transport
- 18% Other Manufacturing

Source: National Statistics
GVA: Oil and gas sector growth relative to the UK economy

Per cent growth (Rebased to 1992)
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Employment In and Supported by UK E&P Activity

- Induced
- Indirect: Capital
- Indirect: Operational
- Direct

Source: Experian, ONS (Input Output, ABI)
UK Oil and Gas Supply Chain Employment by Sector 2004

Source: Experian
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Net trade balance (by product)

£ million (exports less imports)

- Oil & gas extraction (I-O 5)
- Refined petroleum (I-O 35)

Years: 1992 to 2004
Destination of UK crude oil production and sources of UK supply, 2006

- **Exports**
- **Domestic Use**
- **UKCS**
- **Norway**
- **Russia**
- **Other**
UKCS disposals of crude oil 2006

Total disposals: 69 million tonnes

- To UK refineries: 35.3% (24.5 million tonnes)
- USA: 13.0%
- Netherlands: 15.2%
- France: 10.4%
- Germany: 14.8%
- Other (1): 11.3%

Exports: 64.7% (44.9 million tonnes)

(1) Of which: Canada 3.6%, Italy 1.8% and Finland 1.1%.
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UK Oil (including NGL) Production

million tonnes p.a.

January 1998
April 1998
July 1998
October 1998
January 1999
April 1999
July 1999
October 1999
January 2000
April 2000
July 2000
October 2000
January 2001
April 2001
July 2001
October 2001
January 2002
April 2002
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January 2003
April 2003
July 2003
October 2003
January 2004
April 2004
July 2004
October 2004
January 2005
April 2005
July 2005
October 2005
January 2006
April 2006
July 2006
October 2006
January 2007
April 2007
July 2007
October 2007
January 2008
UKCS Oil Production

- Current month (annual equivalent)
- 12 months to date
- % change (12 months to date vs previous year)

UK Net Gas Production
UKCS Gas Production

- Current month (annual equivalent)
- 12 months to date
- % change (12 months to date vs previous year)

January 1998
April 1998
July 1998
October 1998
January 1999
April 1999
July 1999
October 1999
January 2000
April 2000
July 2000
October 2000
January 2001
April 2001
July 2001
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October 2006
January 2007
April 2007
July 2007
October 2007
January 2008

bcm pa
UK Monthly Gas Supply and Demand

- Storage Injections
- Net Exports except to Ireland and direct to The Netherlands & Norway
- Storage Withdrawals
- Net Imports
- Indigenous Net Gas Supply
- UK & net Irish Demand
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Projected UKCS Oil and Gas Production and PILOT Targets

Latest BERR Projection (Feb 2008)

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<th>Latest BERR Projection (Feb 2008)</th>
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millions of barrels oil equivalent/day
Actual/Projected UK Oil and Gas Production and Demand
(million tonnes of oil equivalent)

- Oil Production
- Oil Demand
- Gas Production
- Gas Demand
- Net Oil and Gas Exports/(Imports)