

# Annex F

## United Kingdom oil and gas resources

### Introduction

F.1 This section provides background information on the United Kingdom's crude oil, natural gas liquid and natural gas production, disposal and operations. This information is intended as a supplement to that in the commodity balances included in Chapter 3. Most of the data (including those on gas) are obtained from the Department of Energy and Climate Change's Petroleum Production Reporting System (PPRS). Further information can be obtained from DECC's oil and gas website at <http://og.decc.gov.uk/>.

F.2 The annual statistics relate to calendar years, or the ends of calendar years, and the data cover the United Kingdom Continental Shelf [UKCS] (both onshore and offshore). Annual data for production, imports and exports of crude oil during the period 1970 to 2011 are given in Chapter 3, long term trends, Table 3.1.1 ([www.decc.gov.uk/en/content/cms/statistics/energy\\_stats/source/oil/oil.aspx](http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/source/oil/oil.aspx)).

### Oil and gas reserves

F.3 Information on oil and gas reserves can be found on DECC's oil and gas website in the statistics section at [http://og.decc.gov.uk/en/olgs/cms/data\\_maps/field\\_data/uk\\_oil\\_gas\\_res/uk\\_oil\\_gas\\_res.aspx](http://og.decc.gov.uk/en/olgs/cms/data_maps/field_data/uk_oil_gas_res/uk_oil_gas_res.aspx)

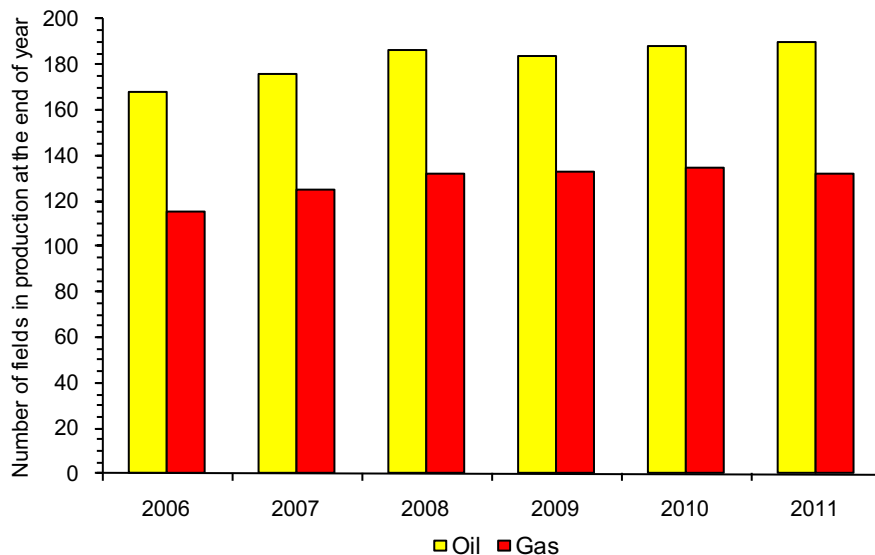
### Offshore oil and gas fields and associated facilities

F.4 Table F.A below shows that the number of offshore oil fields in production and under development rose from 184 at the end of 2006 to 204 at the end of 2011. For offshore gas fields the equivalent increase between the end of 2006 and 2011 was from 123 to 137. Most oil fields also produce gas: these are not double-counted. The increases in fields in production are shown in Chart F.1 (offshore fields in production). Throughout the period since 2006 there have been 5 onshore oil terminals. In 2006 there were 5 onshore associated sub-gas terminals and 9 other (dry) sub-gas terminals. However, during 2010 the three (dry) sub-gas terminals at Easington were combined into a single terminal. In 2011 two (dry) sub-gas terminals at Bacton were combined into a single sub-gas terminal. While there are significant numbers of oil and gas fields onshore, total onshore production is less than 2 per cent of the UK total.

**Table F.A: Offshore oil and gas fields and facilities**

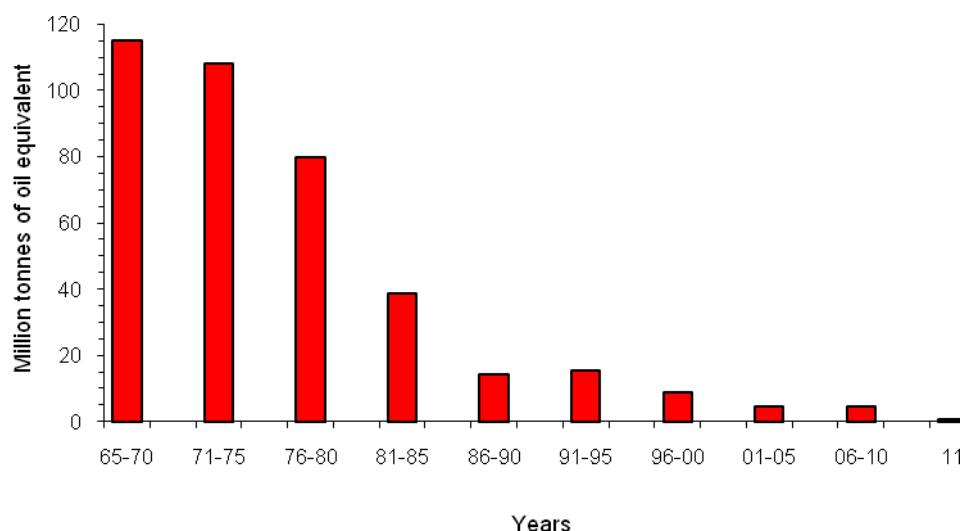
	2006	2007	2008	2009	2010	2011
Offshore oil fields in production	168	175	186	184	188	190
Offshore oil fields under development	16	13	9	6	10	14
Offshore gas fields in production	115	125	132	133	135	132
Offshore gas fields under development	8	4	3	4	2	5

**Chart F.1: Offshore oil and gas fields in production, 2006 to 2011**



The average size of fields commencing production in 2011 was 0.7 million tonnes of oil equivalent (see Chart F.2). The general fall in average field size reflects a decline in the size of fields discovered compared with the early period of the development of the North Sea and the effect of improved technology providing cost-effective means of extracting oil and gas from smaller fields and hitherto unpromising locations. The industry continues to face a range of challenges in order to realise fully the North Sea's potential. Government and industry are tackling these challenges via the joint Government and Industry task force, PILOT.

**Chart F.2: Average size<sup>(1)</sup> of offshore oil and gas fields commencing production**



(1) Recoverable reserves originally present based on the operators' best estimate at the time production commenced.

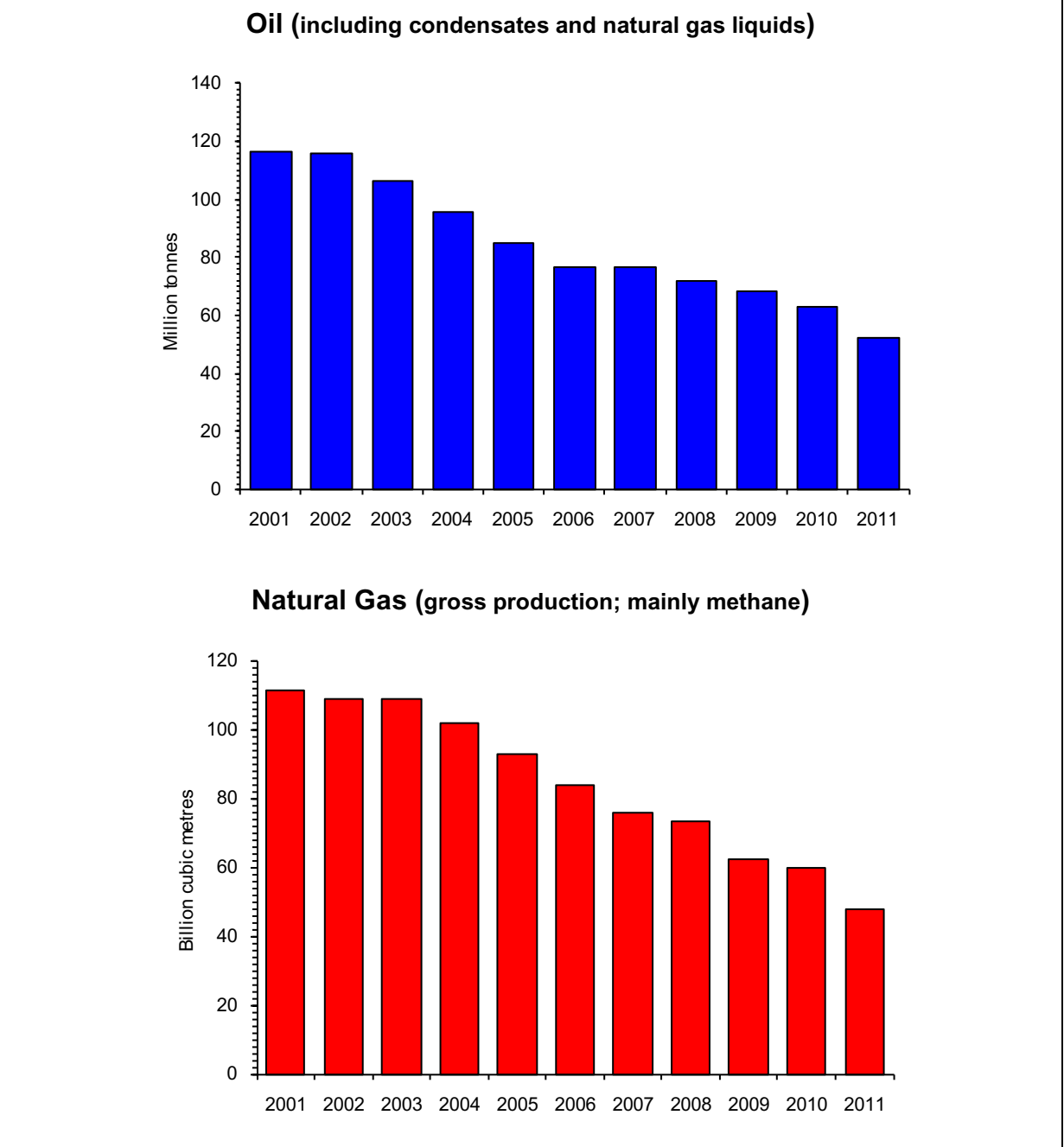
### Production of oil and gas (Table F.1, F.2 and F.3)

F.6 These tables show production of crude oil, natural gas (mainly methane) and natural gas liquids. Before 2001, oil and gas production were shown by field but are now based on terminal receipts rather than well-head production following the introduction in January 2001 of a simplified

Petroleum Production Reporting System and subsequent in-house changes to the data collection system. These new data are more accurate measures of production because the oil that leaves a terminal has been stabilised (that is any water, natural gas liquids or other organic compounds have been removed from the crude oil). Gross gas production includes gas used at terminals but excludes any flaring or venting at the terminals (not available before 2001). Except for associated gas fields, field level data can still be found at DECC's oil and gas website at: [http://og.decc.gov.uk/en/olgs/cms/data\\_maps/field\\_data/field\\_data.aspx](http://og.decc.gov.uk/en/olgs/cms/data_maps/field_data/field_data.aspx).

F.7 Chart F.3 shows the recent trend in total oil production from 2001 to 2011. After reaching a record level of 137 million tonnes in 1999, production has generally declined each year to 52 million tonnes in 2011, 38 per cent of the peak level. Gross natural gas production (mainly methane) peaked in 2000 at 115 billion cubic metres but has declined to 48 billion cubic metres in 2011, 48 per cent of the peak level.

**Chart F.3: Production of oil and gas, 2001 to 2011**

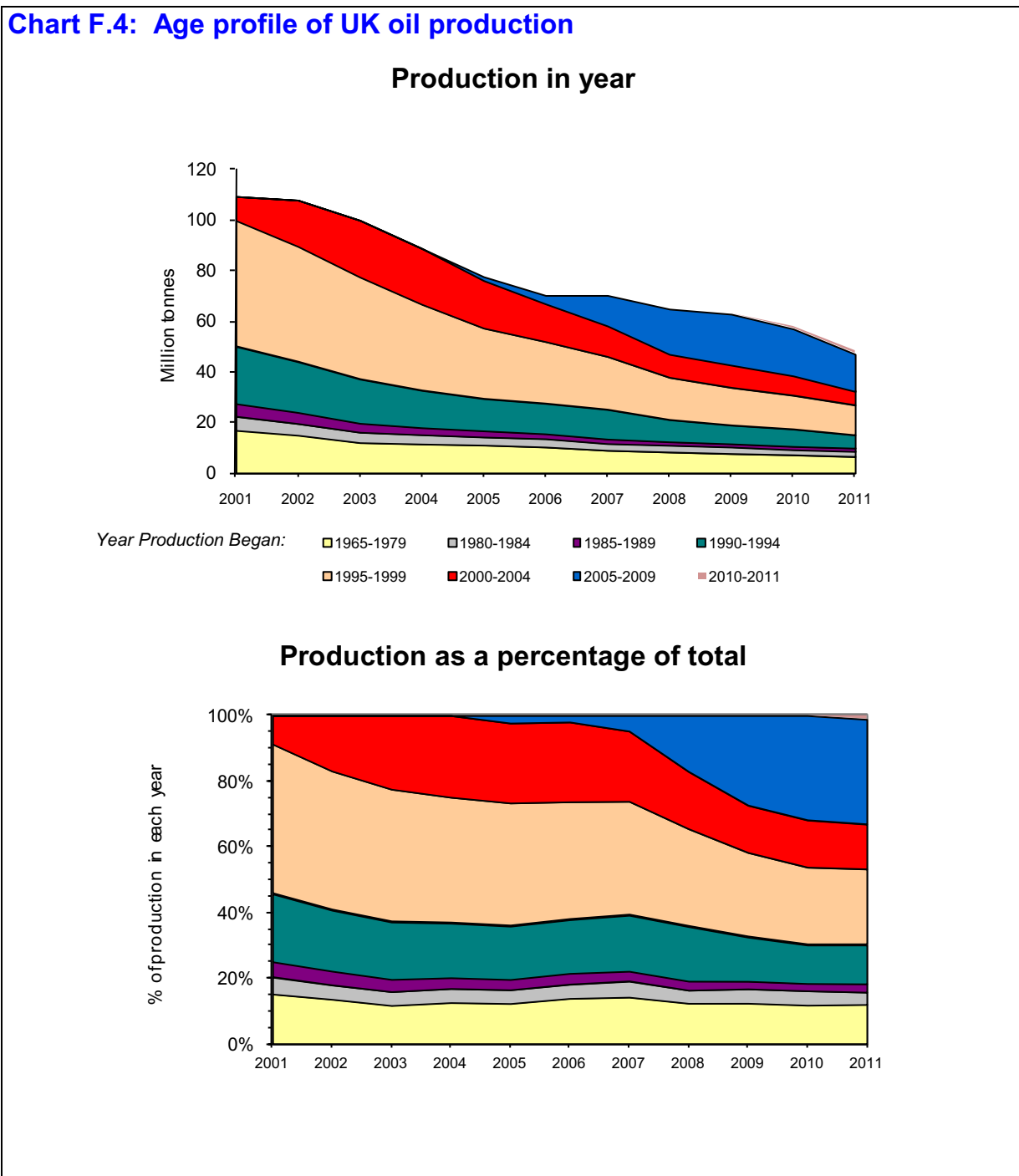


## Production of crude oil

F.8 Production from established oil fields has been dropping in recent years. This is illustrated in Chart F.4 below, where oil production in each year from 2001 to 2011 is broken down by the age group of the fields in production during that year. Two charts are shown, the first with the actual amounts of crude oil produced during the year for each age group and the second with the same data transformed to show what percentage of total production each year comes from each field age group. The data used to produce these charts can be found on DECC's oil and gas website at [www.og.decc.gov.uk/pprs/full\\_production.htm](http://www.og.decc.gov.uk/pprs/full_production.htm).

F.9 It can be seen from the production chart that during the 2000s the amount of oil produced from older established fields was in general decline. It is also noticeable that the decline for post 1994 developments is greater than for earlier developments. This is because later technology meant crude oil could be extracted at a relatively greater rate leading to a quicker exhaustion of the reserves. In 2011, these newer (post 1994) fields accounted for 68 per cent of the UK's oil production. The charts also clearly reflect the start up and prolonged plateau of the very large Buzzard field at the beginning of 2007.

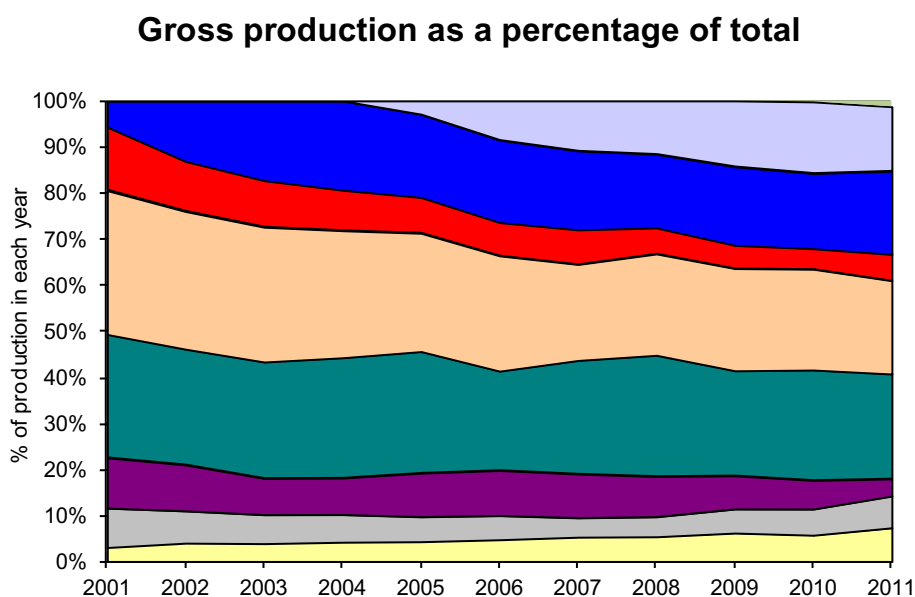
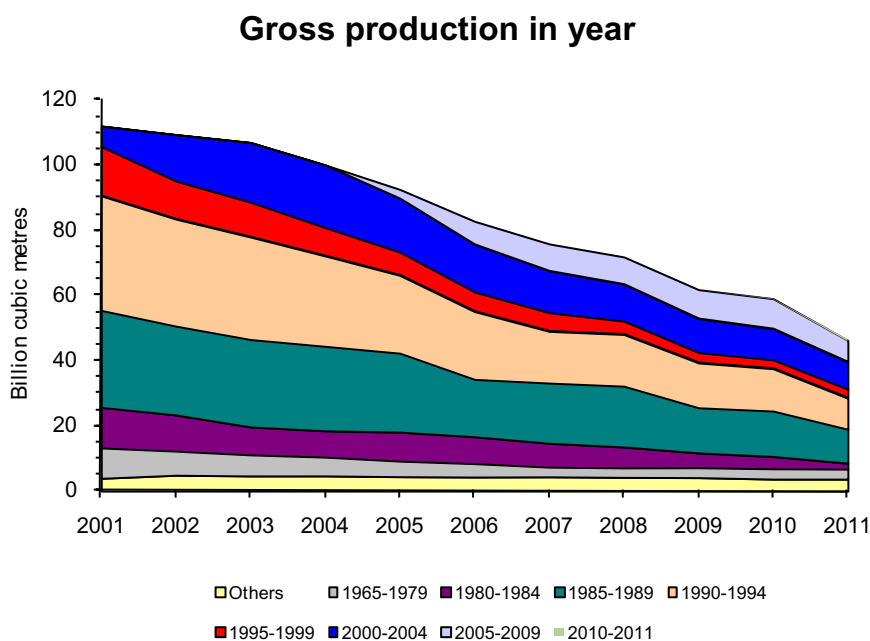
**Chart F.4: Age profile of UK oil production**



## Production of gas

F.10 The charts below present gross gas production reported at field/system level and include gas used for drilling, production and pum ping operations, but exclude gas flared, vented and re-injected. The data used to produce these charts can be found on DECC's oil and gas website at [www.og.decc.gov.uk/pprs/full\\_production.htm](http://www.og.decc.gov.uk/pprs/full_production.htm).

**Chart F.5: Age profile of gross UK gas production**

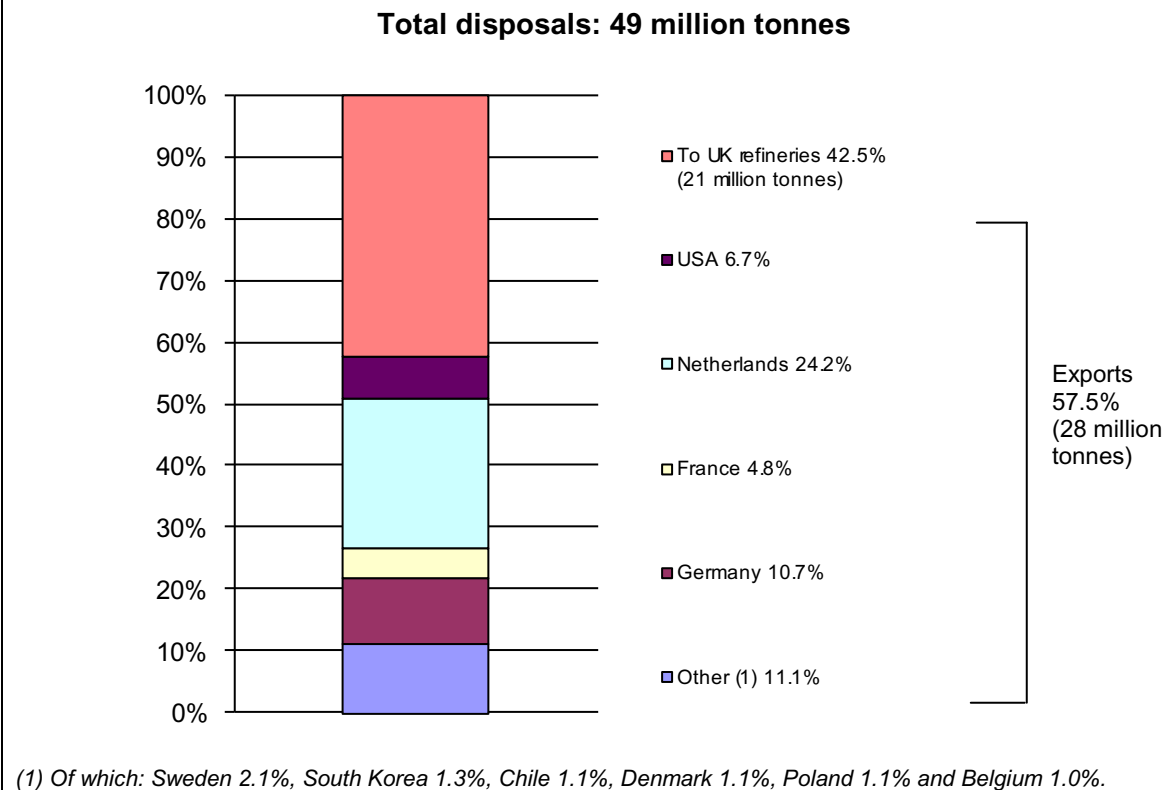


F.11 Gross gas production reached a peak in 2000. Since then production has fallen to 44 per cent of peak production (Chart F.5). As mentioned above (paragraph F.8) for older oil fields, production from the older gas fields that were discovered in the Southern North Sea has reduced in recent years as the reserves originally present in the fields become depleted. Chart F.5 illustrates this. The apparent extent of the decline in gas production from older fields is not as significant as that shown for oil fields (Chart F.4). This is partly because most associated gas production is not back allocated to individual fields and, therefore, the associated gas is based on terminal start date rather than field start date.

## Disposals of crude oil (Table F.4)

F.12 Table F.4 and Chart F.6 show the destination of crude oil split between amounts to UK refineries and exports (see technical notes, paragraphs F.14 to F.21) by country of destination (from which it may be transhipped elsewhere). The figures are obtained from returns made to the Department of Energy and Climate Change by operators of oil fields and onshore terminals under the Petroleum Production Reporting System (see paragraphs F.16 to F.18).

**Chart F.6: UKCS disposals of crude oil 2011**



F.13 The exports figures in Table F.4 may differ from those compiled by the United Kingdom Petroleum Industry Association (UKPIA) and published in Chapter 3. UKPIA figures also include re-exports. These are products that have been imported into the UK and stored before being exported from the UK, and were never part of UK production.

## Technical notes and definitions

### Petroleum Production Reporting System

F.14 Licensees operating on the UK Continental Shelf are required to make monthly returns on their production of hydrocarbons to the Department of Energy and Climate Change (DECC). DECC compiles this information in the Petroleum Production Reporting System (PPRS). The PPRS is used to report flows, stocks and uses of hydrocarbon from the well-head through to final disposals from a pipeline or terminal and is the major source of the information presented in this chapter.

F.15 Returns are collected covering field and terminal data compiled by relevant reporting units. Each type of return is provided by a single operator, but usually covers the production of a number of companies, since frequently operations carried out on the Continental Shelf involve several companies working together in joint ventures.

F.16 Every production system has one or more sets of certified meters to measure oil, gas or condensate production. The flows measured by the meters are used to check the consistency of returns and are therefore used to assure the accuracy of the PPRS.

## Exports

F.17 The term exports used in Table F.4 refers to figures recorded by producers of oil and gas for their exports. These figures may differ from the figures for exports compiled by HM Revenue and Customs (HMRC) and given in Annex G. In addition, HMRC now differentiate between EU and non-EU trade by using the term dispatches for trade going to other EU countries, with exports retained for trade going to non-EU countries. The differences can occur between results from the two sources of information because, whilst the trader's figures are a record of actual shipments in the period, for non-EU trade HMRC figures show the trade as declared by exporters on documents received during the period stated.

F.18 In addition, trade in oil frequently involves a "string" of transactions, which can result in the actual destination of the exports changing several times even after the goods have been dispatched. As such, differences can arise between the final country of destination of the exports as recorded by the producers themselves and in the HMRC figures. The HMRC figures also include re-exports. These are products that might originally have been imported into the UK and stored before being exported back out of the UK, as opposed to actually having been produced in the UK.

F.19 In editions of the Digest before 1997, these exports were called "shipments" in an attempt to highlight their difference from the other sources of trade data.

## Units of measurement for gas

F.20 The basic unit of measurement for quantities of flows and stocks is volume in cubic metres at a temperature of 15°C and a pressure of 1.01325 bar.

## Monthly and Quarterly data

F.21 Monthly and quarterly data on the production of crude oil and natural gas from the UKCS, along with details of imports and exports of oil, oil products and gas, are available. This information can be obtained free of charge by following the links given at the Energy Statistics section of the DECC web site at: [www.decc.gov.uk/en/content/cms/statistics/energy\\_stats/source/source.aspx](http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/source/source.aspx).

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## F.1 Crude oil and Natural Gas Liquids production

Thousand tonnes

CRUDE OIL		Total to end 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total to end 2011
<b>Offshore production:</b>	Offshore loaded (1)	379,268	30,312	34,169	37,317	31,268	29,976	28,315	25,481	21,977	18,875	18,679	16,007	15,753	15,327	13,141	<b>715,865</b>
<b>Terminal receipts:</b>	Flotta (2)	258,529	10,061	9,564	8,251	6,677	6,464	5,452	4,967	4,287	3,371	3,369	3,235	3,067	2,834	2,068	332,195
	Flotta West (3)	232	3,753	4,330	4,577	3,723	5,281	4,010	3,535	2,987	2,912	2,390	26	0	0	0	37,756
	Forties (4)	552,146	38,352	41,565	35,177	32,806	34,059	30,726	27,715	24,996	21,985	27,168	29,213	28,653	25,261	20,192	970,013
	Nigg Bay (5)	19,840	365	194	137	62	385	293	292	192	106	98	54	338	449	187	22,993
	Norpipe (6)	8,155	7,619	7,819	6,867	5,870	5,989	5,984	5,077	4,600	5,076	3,941	3,729	3,501	3,054	3,074	80,356
	Sullom Voe (7)	821,773	28,805	26,658	22,107	25,059	22,603	20,857	18,508	16,491	15,962	13,441	11,985	10,328	10,180	9,231	1,073,988
<b>Total terminal receipts:</b>		<b>1,660,675</b>	<b>88,955</b>	<b>90,130</b>	<b>77,116</b>	<b>74,197</b>	<b>74,781</b>	<b>67,322</b>	<b>60,094</b>	<b>53,553</b>	<b>49,412</b>	<b>50,407</b>	<b>48,242</b>	<b>45,886</b>	<b>41,778</b>	<b>34,752</b>	<b>2,517,301</b>
Onshore production:	Rail, road, terminals (8)	38,374	5,161	4,285	3,247	2,921	2,673	2,198	1,941	1,648	1,379	1,271	1,248	1,181	941	678	69,146
Other:	Extended well tests (9)	693	-	-	202	-	-	-	-	-	-	-	-	-	-	-	895
<b>Total crude oil production:</b>		<b>2,079,010</b>	<b>124,428</b>	<b>128,584</b>	<b>117,882</b>	<b>108,386</b>	<b>107,430</b>	<b>97,835</b>	<b>87,516</b>	<b>77,178</b>	<b>69,666</b>	<b>70,357</b>	<b>65,497</b>	<b>62,820</b>	<b>58,047</b>	<b>48,571</b>	<b>3,303,206</b>
<b>Total natural gas liquids production:</b>		<b>96,155</b>	<b>8,205</b>	<b>8,515</b>	<b>8,363</b>	<b>8,292</b>	<b>8,514</b>	<b>8,238</b>	<b>7,858</b>	<b>7,543</b>	<b>6,913</b>	<b>6,218</b>	<b>6,168</b>	<b>5,378</b>	<b>4,915</b>	<b>3,401</b>	<b>194,677</b>
<b>Total crude oil and NGL production:</b>		<b>2,175,165</b>	<b>132,633</b>	<b>137,099</b>	<b>126,245</b>	<b>116,678</b>	<b>115,944</b>	<b>106,073</b>	<b>95,374</b>	<b>84,721</b>	<b>76,579</b>	<b>76,575</b>	<b>71,665</b>	<b>68,198</b>	<b>62,962</b>	<b>51,972</b>	<b>3,497,883</b>

(1) Production from: Alba, Angus, Ardmores, Banff, Beryl, Bittern, Blackbird, Blake, Boa (UK), Buckland, Captain, Chestnut, Clapham, Cook, Curlew, Curlew C, Don South West, Donan (Maersk), Douglas, Douglas West, Ettrick, Fergus, Fife, Flora, Foinaven, Gryphon, Guillemot A, NW and W, Harding, Kyle, Leadon, Lennox, Lochranza, Loirston, Maclure, Ness, Nevis, Pict, Pierce, Ross, Saxon, Shelley, Skene, Statfjord (UK), Teal, Teal South, Tullich, West Don.

(2) Production from: Chanter, Claymore, Duart, Galley, Hamish, Highlander, Iona, Ivanhoe, MacCulloch, Petronella, Piper, Renee, Rob Roy, Rubie, Saltire, Scapa, Tartan, Tweedsmuir, Tweedsmuir South..

(3) Production from: Foinaven. The Flotta contract to process Foinaven crude expired in 2008. Direct disposals from Foinaven are included in the offshore loaded figure.

(4) Production from: Andrew, Arbroath, Arkwright, Balmoral, Bardolino, Beaulay, Beinn, Birch, Brae Area, Braemar, Brechin, Brenda, Brimmond, Britannia, Brodgar, Bruce, Buchan, Burghley, Buzzard, Caledonia, Callanish, Cyrus, Drake, Egret, Elgin, Enock (UK), Erskine, Everest, Farragon, Fleming, Forties, Franklin, Gadwall, Glamis, Glenelg, Goosander, Grouse, Hannay, Hawkins, Heron, Howe, Keith, Kingfisher, Larch, Lomond, Machar, Madoes, Mallard, Maria, Marnock, Maule, Merganser, Miller, Mirren, Monan, Montrose, Mungo, Nelson, Nicol, Rhum, Scoter, Scott, Seymour, Shearwater, Skua, Starling, Stirling, Sycamore, Telford, Thelma, Tiffany, Toni, Wood.

(5) Production from: Beatrice, Jacky.

(6) Production from: Affleck, Auk, Auk North, Blane (UK), Clyde, Fulmar, Gannet A- G, Halley, Jade, James, Janice, Joanne, Judy, Leven, Medwin, Nethan, Orion.

(7) Production from: Alwyn North, Brent, Broom, Claire, Columba B/D, Columba E, Conrie, Cormorant (North and South), Deveron, Don, Dunbar, Dunlin, Dunlin South West, Eider, Ellon, Falcon, Forvie, Grant, Heather, Hudson, Hutton, Hutton NW Jura, Kestrel, Loyal, Lyell, Magnus, Magnus South, Merlin, Murchison (UK), Ninian, Osprey, Otter, Pelican, Penguin, Playfair, Schiehallion, Strathspey, Tern, Thistle, West Don.

(8) Production from the Hamble and Holybourne terminals, plus other onshore oil fields.

(9) Extended well tests other than from established fields.



## F.2 Gas production to 2011

		Million cubic metres														
		Total to end 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total to end 2011
<b>Offshore dry gas:</b>																
Terminal receipts and production	Bacton Perenco (1)	209,317	5,431	5,885	5,179	4,493	3,873	3,336	2,553	2,423	2,342	2,375	2,032	2,003	2,221	253,463
	Bacton ENI Hewett (2)	151,047	7,157	6,655	5,140	3,914	2,937	2,136	2,916	2,901	2,595	1,597	1,516	946	509	191,965
from direct export fields:	Bacton Shell (3)	265,816	7,966	9,638	10,660	7,466	7,932	8,193	8,230	6,174	4,347	5,706	5,165	4,920	4,937	357,150
	Chiswick	-	-	-	-	-	-	-	-	-	-	542	569	549	842	2,502
	Dimlington (4)	43,858	2,892	4,700	4,367	3,484	4,174	4,049	3,478	2,630	2,387	2,078	1,782	1,700	2,436	84,016
	Easington (5)	62,876	2,486	2,412	1,216	2,249	2,158	2,018	1,799	1,644	1,529	1,681	1,025	432	0	83,525
	Frigg (FUKA Pipeline) (6)	-	-	-	-	-	2,198	2,170	1,812	1,536	1,421	992	791	605	243	11,767
	Grove (7)	-	-	-	-	-	-	-	-	-	238	184	409	622	506	1,959
	Markham (7)	4,460	485	463	350	304	207	192	377	295	257	144	118	82	47	7,780
	Minke (7)	-	-	-	-	-	-	-	-	-	138	24	1	1	0	165
	Morecambe North (8)	9,804	1,144	4,487	3,775	3,922	3,363	2,865	1,972	1,668	1,195	1,211	1,138	1,178	1,053	38,774
	Morecambe South (9)	67,936	9,971	8,436	8,224	7,480	7,853	8,181	5,906	2,410	3,692	4,222	1,918	3,489	2,014	141,731
	Point Of Ayr (10)	4,769	1,870	2,228	2,539	2,279	2,617	1,882	1,552	1,310	1,130	819	574	526	318	24,412
	Rough (11)	4,370	0	428	17	0	0	0	0	0	0	0	0	0	0	4,815
	Stamford (7)	-	-	-	-	-	-	-	-	-	-	-	132	24	3	159
	Theddlethorpe (12)	175,949	11,349	13,994	11,377	8,577	9,602	7,994	7,689	8,942	8,097	7,300	5,910	5,293	4,318	286,390
	Windermere (7)	714	320	273	223	174	149	91	54	44	48	31	16	15	17	2,170
	Offshore gas fields' own use (13)	14	-	-	1,026	897	861	912	872	788	684	724	675	803	678	8,933
<b>Total offshore dry gas gross production:</b>		<b>1,000,928</b>	<b>51,071</b>	<b>59,599</b>	<b>54,092</b>	<b>45,239</b>	<b>47,924</b>	<b>44,019</b>	<b>39,210</b>	<b>32,765</b>	<b>30,102</b>	<b>29,629</b>	<b>23,769</b>	<b>23,188</b>	<b>20,143</b>	<b>1,501,676</b>
<b>Offshore associated gas:</b>																
Terminal receipts:	Bacton SEAL Shell (14)	1	-	93	2,207	7,026	7,391	8,464	7,567	7,101	6,833	7,041	7,033	6,430	5,786	72,972
	Blane	-	-	-	-	-	-	-	-	-	14	38	37	24	23	136
	CATS (15)	21,756	13,605	13,618	13,038	14,213	14,972	13,812	11,660	11,125	7,819	8,243	7,757	7,440	5,397	164,456
	FLAGS (16)	108,821	9,700	10,307	11,651	10,578	7,890	7,720	8,482	7,755	6,659	5,934	4,176	3,569	1,357	204,598
	Frigg (FUKA Pipeline) (6)	150,261	9,900	10,315	9,713	11,611	9,719	7,501	7,474	7,996	7,833	6,685	5,647	6,306	3,948	254,909
	Miller (17)	13,631	1,109	624	256	233	100	174	144	51	3	0	0	0	0	16,325
	Point Of Ayr (10)	-	-	-	-	-	77	440	730	766	935	1,022	739	601	705	6,014
	SAGE (18)	40,302	15,459	16,802	15,350	15,138	15,704	14,827	13,075	11,998	11,570	11,034	9,486	8,507	6,970	206,224
	Offshore oil fields' own use	45,807	3,937	3,763	4,730	4,781	4,565	4,513	4,277	4,170	3,961	3,759	3,688	3,548	3,251	98,750
<b>Total offshore associated gas gross production:</b>		<b>380,579</b>	<b>53,710</b>	<b>55,522</b>	<b>56,945</b>	<b>63,581</b>	<b>60,418</b>	<b>57,451</b>	<b>53,409</b>	<b>50,962</b>	<b>45,626</b>	<b>43,756</b>	<b>38,564</b>	<b>36,426</b>	<b>27,436</b>	<b>1,024,383</b>
<b>Total offshore gross gas production:</b>		<b>1,381,507</b>	<b>104,781</b>	<b>115,121</b>	<b>111,036</b>	<b>108,819</b>	<b>108,342</b>	<b>101,470</b>	<b>92,619</b>	<b>83,727</b>	<b>75,728</b>	<b>73,385</b>	<b>62,332</b>	<b>59,614</b>	<b>47,579</b>	<b>2,526,059</b>
<b>Onshore production:</b>																
	Wytch Farm	1,402	149	111	115	108	82	73	61	46	34	44	40	21	3	2,288
	Other terminals / fields	1,434	140	106	91	65	90	49	56	44	77	52	53	71	25	2,354
<b>Total onshore gas gross production:</b>		<b>2,836</b>	<b>289</b>	<b>217</b>	<b>205</b>	<b>173</b>	<b>172</b>	<b>122</b>	<b>117</b>	<b>90</b>	<b>111</b>	<b>97</b>	<b>93</b>	<b>92</b>	<b>28</b>	<b>4,642</b>
<b>Total gross gas production:</b>		<b>1,384,343</b>	<b>105,070</b>	<b>115,338</b>	<b>111,242</b>	<b>108,992</b>	<b>108,514</b>	<b>101,592</b>	<b>92,735</b>	<b>83,817</b>	<b>75,839</b>	<b>73,482</b>	<b>62,425</b>	<b>59,707</b>	<b>47,607</b>	<b>2,530,701</b>
<b>Own use: (19)</b>		<b>72,819</b>	<b>6,344</b>	<b>7,033</b>	<b>6,770</b>	<b>6,854</b>	<b>6,607</b>	<b>6,627</b>	<b>6,320</b>	<b>5,978</b>	<b>5,399</b>	<b>5,280</b>	<b>5,158</b>	<b>5,181</b>	<b>4,666</b>	<b>151,036</b>
<b>Total net gas production:</b>		<b>1,311,524</b>	<b>98,726</b>	<b>108,305</b>	<b>104,472</b>	<b>102,138</b>	<b>101,907</b>	<b>94,965</b>	<b>86,415</b>	<b>77,839</b>	<b>70,439</b>	<b>68,202</b>	<b>57,267</b>	<b>54,526</b>	<b>42,941</b>	<b>2,379,665</b>

(1) Production from: Baird, Beaufort, Bell, Bessemer, Boyle, Brown, Camelot (Central, South and North), Davy, Davy East, Garrow, Indefatigable, Indefatigable South West, Kilmar, Leman (BP), North Davy, Trent, Tyne (North and South).

(2) Production from: Arthur, Bure, Bure West, Dawn, Deben, Delilah, Durango, Excalibur, Galahad, Goosander, Grouse, Guinevere, Hewett, Home, Lancelot, Malory, Mordred, Orwell, Thames, Thurne, Tristan, Waveney, Welland North West, Welland South, Wensum, Wissey, Wren, Yare.

(3) Production from: Barque, Barque South, Brigantine (A, B, C and D), Caravel, Carrack, Clipper, Corvette, Cutter, Galleon, Gawain, Indefatigable (Shell), Leman (Shell), Sean, Sean East, Shamrock, Skiff.

(4) Production from: Apollo, Babbage, Ceres, Cleeton, Eris, Johnston, Mercury, Minerva, Neptune, Ravenspurn North, Ravenspurn South, Whittle, Wollaston.

(5) Production from: Amethyst East, Amethyst West, Helvellyn, Hoton, Hyde, Newsham, Rose, West Sole.

(6) Production from: Alwyn North, Bruce, Captain, Duart, Dunbar, Ellon, Frigg (uk), Forvie, Galley, Grant, Ivanhoe/Rob Roy, Jura, Keith, NUGGETS, Piper/Tartan, Renee/Rubie, Rhum, Ross Tweedsmuir, Tweedsmuir South.

(7) Gas exported to the Netherlands.

(8) Production from: Bains, Calder, Dalton, Millom, Morecambe North.

(9) Production from: Morecambe South.

(10) Production from: Hamilton, Hamilton East, Hamilton North, Lennox.

(11) Converted for use as an off-peak storage unit with effect from 1985.

(12) Production from: Alison, Alison KX, Anglia, Ann, Audrey, Bell (Conoco), Boulton, Caister (B and C), Callisto, Callisto North, Cavendish, Europa,

Ganymede, Hawksley, Hunter, Ketch, Kelvin, McAdam, Mimas, Murdoch, Pickerill, Rita, Saturn (Annabel), Saturn (Atlas, etc), Saltfleetby,

Schooner, Sinope, Topaz, Valiant North, Valiant South, Valkyrie, Vampire, Vanguard, Victor, Viking, Viscount, Vixen, Vulcan, Watt.

(13) Prior to 2001, the own use figure is included within the terminal or field production figure.

(14) Production from: Elgin, Franklin, Glenelg, Halley, Scoter, Shearwater.

(15) Production from: Andrew, Banff, Drake, Egret, Erskine, Everest, Farragon, Fleming, Hawkins, Heron, Jade, James, Janice, Joanne, Judy, Lomond,

Machar, Madoes, Marmock, Mirren, Monan, Mungo, Seymour, Skua.

(16) Production from: Bittern, Brent, Clapham, Clyde, Cook, Cormorant (North and South), Curlew, Fulmar, Gannet (A, B, C, D, E, F and G),

Goldeneye, Guillemot A, Guillemot North West, Guillemot West, Howe, Kittiwake, Kyle, Leven, Magnus, Magnus South, Mallard, Medwin,

Murchison (UK), Nelson, Orion, Pelican, Penguin, Pict, Statfjord (UK), Strathspey, Teal, Teal South, Thistle.

(17) Gas delivered direct to Boddam (Peterhead) power station by dedicated pipeline.

(18) Production from: Atlantic, Beinn, Beryl, Boa, Brae Area, Braemar, Britannia, Brodgar, Caledonia, Callanish, Cromarty, Enoch (UK), Kingfisher, Larch, Maclure, Ness, Nevis, Scott, Skene, Thelma, Tiffany, Toni, Tullich.

(19) Includes gas used at onshore gas terminals

## F.3 Natural Gas Liquids net production

	Thousand tonnes												
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Offshore oil pipeline terminals (1):</b>													
Ethane	534	567	485	511	528	495	402	356	362	333	299	257	229
Propane	852	682	903	969	954	849	773	678	627	672	673	554	526
Butane	705	483	857	960	961	866	778	722	659	684	684	584	438
Condensate	424	439	422	532	532	500	469	419	411	412	406	393	328
<b>Total offshore oil terminals:</b>	<b>2,516</b>	<b>2,171</b>	<b>2,667</b>	<b>2,972</b>	<b>2,975</b>	<b>2,710</b>	<b>2,422</b>	<b>2,175</b>	<b>2,058</b>	<b>2,101</b>	<b>2,062</b>	<b>1,788</b>	<b>1,521</b>
<b>Offshore associated gas terminals (2):</b>													
Ethane	1,173	1,321	1,114	1,085	1,003	978	1,011	925	791	869	701	608	370
Propane	1,890	1,966	1,747	1,700	1,579	1,551	1,374	1,239	1,141	1,254	994	908	521
Butane	1,203	1,229	1,044	1,059	997	975	856	810	744	748	593	575	330
Condensate	950	1,025	1,033	1,086	1,050	1,062	1,380	1,311	1,057	798	651	592	285
<b>Total offshore associated gas terminals:</b>	<b>5,217</b>	<b>5,541</b>	<b>4,938</b>	<b>4,930</b>	<b>4,629</b>	<b>4,566</b>	<b>4,621</b>	<b>4,285</b>	<b>3,733</b>	<b>3,670</b>	<b>2,938</b>	<b>2,683</b>	<b>1,505</b>
<b>Offshore dry gas terminals (3):</b>													
Condensate	582	505	548	497	545	516	450	412	390	364	346	427	375
<b>Total offshore dry gas terminals:</b>	<b>582</b>	<b>505</b>	<b>548</b>	<b>497</b>	<b>545</b>	<b>516</b>	<b>450</b>	<b>412</b>	<b>390</b>	<b>364</b>	<b>346</b>	<b>427</b>	<b>375</b>
<b>Onshore production (4):</b>													
Ethane	-	-	-	-	-	-	-	-	-	1	0	0	0
Propane	104	76	68	59	45	40	34	29	28	25	26	17	0
Butane	96	70	61	52	41	23	15	11	10	7	6	0	0
Condensate	-	-	10	4	3	3	1	1	0	0	0	0	0
<b>Total onshore production:</b>	<b>200</b>	<b>146</b>	<b>139</b>	<b>115</b>	<b>89</b>	<b>66</b>	<b>49</b>	<b>41</b>	<b>38</b>	<b>33</b>	<b>32</b>	<b>17</b>	<b>0</b>
Total Ethane	1,707	1,888	1,599	1,596	1,531	1,473	1,414	1,281	1,153	1,203	999	866	599
Total Propane	2,846	2,724	2,718	2,728	2,578	2,440	2,181	1,946	1,796	1,952	1,692	1,479	1,047
Total Butane	2,004	1,782	1,962	2,071	1,999	1,864	1,648	1,543	1,412	1,439	1,284	1,159	768
Total Condensate	1,956	1,969	2,013	2,119	2,130	2,081	2,300	2,143	1,858	1,574	1,403	1,412	987
<b>Total production:</b>	<b>8,515</b>	<b>8,363</b>	<b>8,292</b>	<b>8,514</b>	<b>8,238</b>	<b>7,858</b>	<b>7,543</b>	<b>6,913</b>	<b>6,218</b>	<b>6,168</b>	<b>5,378</b>	<b>4,915</b>	<b>3,401</b>

(1) Production from: Flotta, Forties, Nigg, Norpipe, Sullom Voe.

(2) Production from: Bacton SEAL Shell, CATS, FLAGS, Frigg (UK), SAGE.

(3) Production from: Bacton Perenco, Tullow, Shell, Dimlington, Easington, Barrow, Point Of Ayr, Theddlethorpe.

(4) Production from: Hamble, Holybourne, Knapton, Wytch Farm.

## F.4 Disposals of crude oil<sup>(1)</sup>

	Thousand tonnes													
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
UK refineries	46,887	47,170	38,335	32,770	32,060	29,960	27,692	27,971	24,484	25,878	24,574	23,797	21,328	20,789
Exports:	77,322	80,078	79,061	75,749	75,367	68,073	59,553	49,226	44,923	45,129	40,808	39,102	36,898	28,112
Albania	-	-	84	-	-	-	-	-	-	-	-	-	-	-
Bahamas (2)	257	143	65	-	-	-	-	67	88	-	84	-	-	-
Belgium	1,035	1,193	1,038	362	392	560	-	62	-	77	483	-	242	465
Canada	808	625	1,667	3,447	3,527	2,786	2,882	1,706	2,471	1,208	490	615	380	292
Chile	-	-	-	-	-	-	-	-	-	-	-	666	626	523
China	-	1,588	519	260	1,364	159	157	-	-	-	-	-	-	-
Denmark	-	-	-	79	64	57	-	-	104	-	240	424	589	551
Finland	788	929	690	1,674	184	245	236	552	790	1,626	250	-	-	-
France	15,261	15,177	11,975	11,725	10,019	9,842	8,528	4,685	7,249	5,154	3,501	2,540	3,322	2,354
Germany	17,406	11,879	10,732	11,043	8,058	8,854	9,521	11,000	10,251	10,271	10,542	6,382	7,186	5,210
Gibraltar	-	-	77	-	-	-	-	-	-	535	-	-	109	82
Greece	-	-	-	-	135	-	-	-	-	-	-	-	-	-
India	-	277	1,638	-	-	-	-	-	-	245	135	-	92	152
Italy	1,219	1,819	1,459	957	1,075	236	2,178	1,961	1,269	401	399	-	169	347
Lebanon	-	-	-	-	-	-	-	-	-	-	81	-	-	-
Lithuania	-	-	251	-	-	-	-	-	-	-	-	-	-	-
Martinique (2)	87	-	84	-	178	330	385	754	646	700	347	6	-	-
Morocco	-	-	163	-	-	-	-	-	-	-	-	-	-	-
Netherlands (3)	15,591	16,540	18,912	20,194	19,794	16,418	12,325	10,462	10,517	11,245	11,192	15,570	13,426	11,832
Norway	1,087	1,297	542	329	223	545	331	796	156	954	326	352	970	157
Poland	1,494	682	368	-	-	-	-	87	319	415	239	321	669	535
Portugal	1,157	1,394	714	413	1,078	1,054	563	250	606	85	-	14	80	86
Puerto Rico	-	-	-	-	-	212	103	-	60	-	-	-	-	-
Republic of Ireland	82	69	-	322	964	977	719	783	100	171	-	75	157	-
Singapore	-	-	-	-	-	-	-	-	38	117	83	-	165	226
South Africa	1,028	-	-	-	263	-	-	-	271	-	-	258	126	-
South Korea	-	260	-	-	-	480	85	-	-	81	605	886	78	619
Spain	3,403	4,040	2,107	2,025	1,062	589	808	575	389	612	1,211	475	339	159
St Lucia (2)	-	-	-	-	-	-	-	-	-	-	-	131	499	135
Sweden	1,266	1,024	636	1,313	1,596	992	1,025	588	455	630	671	362	171	1,004
Turkey	-	-	-	-	-	-	-	-	-	471	277	80	595	-
USA	15,017	21,142	25,340	21,496	24,288	22,259	17,801	13,817	9,056	9,774	9,651	9,868	6,905	3,299
Virgin Islands (2)	-	-	-	-	-	-	-	93	-	355	-	-	-	-
Unknown	-	-	-	110	1,103	1,478	1,906	988	88	-	-	78	-	84
<b>Total disposals (4)</b>	<b>124,209</b>	<b>127,248</b>	<b>117,396</b>	<b>108,519</b>	<b>107,427</b>	<b>98,033</b>	<b>87,245</b>	<b>77,197</b>	<b>69,407</b>	<b>71,007</b>	<b>65,382</b>	<b>62,899</b>	<b>58,225</b>	<b>48,900</b>

(1) Monthly data for aggregate disposals to refineries and exports are available - See paragraph F.21.

(2) Some of the exports to the Caribbean area may have been for transshipment to the USA.

(3) Exports to the Netherlands include oil for transshipment or in transit to other destinations (e.g. Belgium and Germany).

(4) Includes disposals of onshore production. The difference between disposals and production as shown in

Table F.2 is accounted for by platform and other field stock changes and by terminal and transit stock changes.