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## **OSPAR Convention**

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”) was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. The Contracting Parties are Belgium, Denmark, the European Union, Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## **Convention OSPAR**

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. Les Parties contractantes sont l'Allemagne, la Belgique, le Danemark, l'Espagne, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède, la Suisse et l'Union européenne.

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This report has been prepared by the Offshore Industry Committee expert assessment panel (EAP) consisting of:

- Mr Andrew Taylor (convenor, United Kingdom)
- Mr Tage Andersen (Denmark)
- Mr Emmanuel Garland (France)
- Mr Kurt Machetanz (Germany)
- Ms Margot Cronin (Ireland)
- Mr Leo Henriquez (Netherlands)
- Mr Ivan Abdoellakhan (the Netherlands)
- Mr Bent Barman Skaare (Norway)

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## Executive Summary

Regular reporting is required in order to review progress in implementing the OSPAR Offshore Industry Strategy and in implementing the OSPAR decisions and recommendations related to offshore oil and gas activities.

Since 1978, discharges and waste handling from offshore oil and gas installations have been addressed and regularly reported under the former Paris Convention (PARCOM) and under the OSPAR Convention. Since the beginning of the 1990s air emissions from these installations have been reported as well.

This report presents the discharges, spills and emissions from offshore installations in 2011. Part A of the report compiles data on the number of installations with emissions and discharges, discharges of produced water and displacement water contaminated with oil, and the use and discharge of drilling fluids, cuttings and chemicals. It also reports on accidental spills of oil and chemicals and emissions to air. Part B of the report presents the discharges and emissions over the period 2000-2011 to show the trends in discharges and emissions and use of chemicals. The present report does not assess the findings.

## Récapitulatif

Une notification régulière s'impose pour suivre la progression de la mise en œuvre de la stratégie OSPAR visant l'industrie de l'offshore, ainsi que l'application des décisions et des recommandations OSPAR qui visent les activités pétrolières et gazières en offshore.

Depuis 1978, les rejets et le traitement des déchets des installations pétrolières et gazières en offshore ont été abordés, et ont fait l'objet de rapports réguliers dans le contexte de l'ancienne Convention de Paris (PARCOM) et de la Convention OSPAR. Depuis le début des années 1990, les émissions atmosphériques de ces installations ont également été notifiées.

Ce rapport présente les rejets, déversements et émissions provenant des installations offshore en 2011. Dans la partie A du rapport, sont collationnées les données sur le nombre d'installations procédant à des émissions et à des rejets, à des rejets d'eau de production et d'eau de déplacement contaminés par des hydrocarbures, sur la consommation et les rejets de fluides de forage, de déblais de forage et de produits chimiques utilisés et rejetés en offshore. Y sont également indiqués les déversements accidentels d'hydrocarbures et de produits chimiques, ainsi que les émissions dans l'atmosphère. Dans la partie B du rapport sont indiqués les rejets et les émissions au cours de la période allant de 2000 à 2011, afin de mettre en évidence les tendances des rejets et des émissions ainsi que la consommation des produits chimiques. Le rapport annuel 2008 ne porte aucun jugement sur les constatations.

# Récapitulatif

## 1. Introduction

### 1.1 Programmes and measures relevant to this report

At their meeting in Bergen (Norway) on 23-24 September 2010, OSPAR Ministers adopted the Strategy of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic 2010-2020 ("the North-East Atlantic Environment Strategy") (OSPAR Agreement 2010-3).

The North-East Atlantic Environment Strategy sets out OSPAR's vision, objectives, strategic directions and action for the period up to 2020. In Part I, the Strategy gives prominence to the overarching implementation of the ecosystem approach and the need for integration and coordination of OSPAR's work across themes and groups. Part II provides the thematic strategies for Biodiversity and Ecosystems, Eutrophication, Hazardous Substances, Offshore Oil and Gas Industry and Radioactive Substances.

The Offshore Oil and Gas Industry thematic Strategy (Offshore Strategy) sets the objective of preventing and eliminating pollution and taking the necessary measures to protect the OSPAR maritime area against the adverse effects of offshore activities so as to safeguard human health, conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected.

As its timeframe, the Offshore Strategy further declares that the OSPAR Commission will implement this Strategy progressively and, insofar as they apply, following on and consistent with the commitments made in the other OSPAR thematic Strategies.

The Offshore Strategy provides that the OSPAR Commission will keep under review and, where necessary, develop programmes and measures in respect of all phases of the offshore activities, in accordance with the provisions of the OSPAR Convention and the findings of the Quality Status Report 2010.

To this end, the Offshore Strategy requires the OSPAR Commission to continue the annual collection of data on use and discharges of offshore chemicals, emissions to air, spills, and discharges of oil and radioactive substances. Regular reporting is therefore required in order to review progress towards the targets of the Offshore Strategy.

Since 1978, discharges and waste handling from offshore oil and gas installations have been addressed and regularly reported under the former Paris Convention and under the OSPAR Convention. Since the beginning of the 1990s air emissions from these installations have been reported as well. The following measures<sup>1</sup> are relevant for this report:

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<sup>1</sup> All measures referred to in this chapter can be downloaded from the OSPAR website [www.ospar.org](http://www.ospar.org) (under "Work Areas, Offshore Oil and Gas Industry").

### ***Discharges contaminated with oil***

- PARCOM Recommendation 86/1 of a 40 mg/l Emission Standard for Platforms;<sup>2</sup>
- OSPAR Reference Method of Analysis for the Determination of the Dispersed Oil Content in Produced Water (OSPAR Agreement number: 2005-15);
- OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations as amended by OSPAR Recommendation 2006/4 and OSPAR Recommendation 2011/8;

### ***Use and discharge of drilling fluids and cuttings***

- OSPAR Decision 2000/3 on the Use of Organic-phase Drilling Fluids (OPF) and the Discharge of OPF-contaminated Cuttings;
- Guidelines for the Consideration of the Best Environmental Option for the Management of OPF-Contaminated Cuttings Residue (OSPAR Agreement number: 2002-8);

### ***Chemicals used and discharged offshore***

- OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals as amended by OSPAR Decision 2005/1;
- OSPAR Recommendation 2010/3 on a Harmonised Offshore Chemical Notification Format (HOCNF)
- OSPAR Recommendation 2010/4 on a Harmonised Pre-Screening Scheme for Offshore Chemicals;

and a whole suite of Other Agreements concerning guidance on test methods and completing data sets, and lists of chemicals that will contribute to the implementation of these measures.

## **1.2 Annual reporting and biennial assessments**

In preparation for the Annual OSPAR Reports on Discharges, Spills and Emissions from Offshore Oil and Gas Installations, data are submitted by Contracting Parties, compiled by the Secretariat and, following examination by the relevant subsidiary bodies, published by the OSPAR Commission. At first annual reports were published as part of the OSPAR Commission's general Annual Report, and from 1992 onwards they are published in the form of Annual OSPAR Reports on Discharges, Spills and Emissions from Offshore Oil and Gas in the OSPAR maritime area. From 1999 onwards, annual reports also contained a biennial assessment of discharges, spills and emissions, which started in 1999 with the assessment of data reported in 1996 and 1997.

With a view to harmonising the way in which data and information on offshore oil and gas activities are being established and reported, the former Programmes and Measures Committee of the OSPAR Commission adopted in 1995 a reporting format and procedures. Over time, the reporting requirements and format for data collection have regularly been reviewed and updated in the light of ongoing work under the OSPAR Commission as regards offshore installations. The reporting format was examined by the Offshore Industry Committee's Expert Assessment Panel in 2012 and revised to bring it in-line with the recently revised OSPAR Harmonised Mandatory Control System for the Use and Reduction of the

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<sup>2</sup> PARCOM Recommendation of a 40 mg/l Emission Standard for Platforms, 1986 was revoked for produced water by OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations. However, this measure is still applicable in relation to ballast water, drainage water and displacement water from offshore installations.

Discharge of Offshore Chemicals (OSPAR Decision 2000/2, and Recommendations 2010/3 and 2010/4). The revised reporting format was adopted by OSPAR in 2012 (OSPAR Agreement 2012-08).

This report presents the discharges, spills and emissions data from offshore installations for 2011 in Part A and cumulative data in Part B. It also includes the discharges of radioactive substances in produced water in Tbq for 2011.

## 2. Results

Part A: Report relating to 2011 data

Part B: Cumulative Report

### 2.1 General information

The continental decimal system is used throughout this report (with a space as 1000 separator and a comma as decimal separator) with one decimal number after the comma.

NI means No Information available, i.e. unknown or missing data (data different from 0).

NA means Not Applicable, i.e. that the criteria is not relevant. For sums and totals, it is equivalent to 0.

### 2.2 Glossary

**OP** is the acronym for organic phase.

**Organic-phase drilling fluid (OPF)** means an organic-phase drilling fluid, which is an emulsion of water and other additives in which the continuous phase is a water-immiscible organic fluid of animal, vegetable or mineral origin.

**Base fluid** means the water immiscible fluid which forms the major part of the continuous phase of the OPS.

**Drilling fluid** means base fluid together with those additional chemicals which constitute the drilling system.

**Oil-based fluids (OBF)** means low aromatic and paraffinic oils and those mineral oil-based fluids that are neither synthetic fluids nor fluids of a class whose use is otherwise prohibited.

**Synthetic fluid** means highly refined mineral oil-based fluids and fluids derived from vegetable and animal sources.

**Cuttings** means solid material removed from drilled rock together with any solids and liquids derived from any adherent drilling fluids.

**Whole OPF** means OPF not adhering to or mixed with cuttings.

**WBM** is the acronym for water-based muds.

Part A: Report relating to 2011 data

**Table 1: Number of installations with emissions and discharges covered by OSPAR measures<sup>a</sup>**

**Year: 2011**

Country	Production		Subsea <sup>d</sup>	Other <sup>e</sup>	Total	Number of wells drilled <sup>f</sup>
	Oil <sup>b</sup>	Gas <sup>c</sup>				
Denmark	17	0	0	1	18	6
Germany	1	1	0	0	2	1
Ireland <sup>(1)</sup>	0	1	0	0	1	5
Netherlands	9	108	11	0	128	31
Norway	45	11	47	0	103	175
Spain <sup>(2)(3)</sup>	0	1	0	1	2	0
United Kingdom <sup>(4)</sup>	88	194	204	1	487	168
<b>Total</b>	<b>160</b>	<b>316</b>	<b>262</b>	<b>3</b>	<b>741</b>	<b>386</b>

a. It should be noted that each CP records number of installations in accordance with its own accounting system

b. Installations which produce oil and gas are considered as "oil installations".

c. Installations which produce gas and condensate are considered as "gas installations".

d. Subsea installations are determined differently by each CP

e. Example: offshore underground storage and loading buoys.

f. Number of wells drilled are for wells completed in that calendar year.

<sup>(1)</sup>Ireland - Number of wells drilled - 5 x well integrity investigation

<sup>(2)</sup> Spain - Production - Gas: Cluster of wells (POSEIDON NORTH, POSEIDON SOUTH)\_The installation is very close to its exhaustion. Trials made from 2007 to 2009 have proved not to be suitable for storage, therefore the remaining gas is currently being exploited as production

<sup>(3)</sup> Spain - Others: Offshore underground gas storage: platform GAVIOTA connected to a cluster of wells (ALBATROS, GAVIOTA I-II)

<sup>(4)</sup> UK - Number of wells drilled: Includes sidetracks.

## Table 2: Produced water and displacement water

*This table refers to all waters discharged to the sea (except cooling and sewage water) the quality of which should fit with OSPAR measures (cf. OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations). Drainage water is considered so far of such little consequence that there is no reporting requirement for OSPAR.*

**Year: 2011**

**Table 2a: Produced water<sup>a</sup>**

Country	Total number of installations <sup>b</sup>	Annual quantity of water discharged <sup>c</sup> (m <sup>3</sup> )	Annual average dispersed <sup>d</sup> oil concentration (mg/l)	Total amount of dispersed <sup>d</sup> oil discharged (tonnes)	Annual average BTEX <sup>e</sup> concentration (mg/l)	Total amount of BTEX <sup>e</sup> discharged (tonnes)	Number of installations injecting water <sup>f</sup>	Annual quantity of water injected <sup>f</sup> (m <sup>3</sup> )
Denmark	13	24 493 493	6,7	165	6,7	165	8	13 372 434,00
Germany	1	18 182	16,0	0,3	43,0	0,8	1	2 022 171
Ireland	1	1 538	14,8	0,02	240,9	0,4	0	0
Netherlands	77	7 976 520	6,9	55	8,4	67	7	6 225 959
Norway	44	128 550 571	11,5	1 478	13,0	1 675	20	31 095 328
Spain <sup>(1)</sup>	0	0	0,0	0	0,0	0	0	0
United Kingdom	102	174 280 183	14,3	2 493	14,2	2 477	27	34 934 888
<b>Total</b>	<b>238</b>	<b>335 320 487</b>	<b>12,5</b>	<b>4 191,18</b>	<b>13,1</b>	<b>4 384,80</b>	<b>63</b>	<b>87 650 780</b>

a. "Produced water" means water which is produced in oil and/or gas production operations and includes formation water, condensation water and re-produced injection water; it also includes water used for desalting oil (citation from OSPAR Recommendation 2001/1 (as amended), definition of produced water).

b. Total number of installations discharging produced water

c. Total quantity of produced water discharged to the sea during the year.

d. Dispersed oil is, by definition, the oil measured according to the method described in § 7.2 of the OSPAR Recommendation 2006/4 and specified in the OSPAR Agreement 2005-15

e. BTEX determined according to 1.1 of OSPAR Recommendation 2001/1, as amended by OSPAR Recommendation 2011/8, are considered as dissolved oil.

f. Produced water only (excluding sea water for pressure maintenance).

<sup>(1)</sup> Spain - There is only one offshore gas storage installation (platform Gaviota) connected to a cluster of three wells (Albatros, Gaviota I, Gaviota II) and one subsea gas production. None of them discharge any produced water into the sea, since water is re-injected or treated onshore installation (North Poseidon and South Poseidon). There is no displacement water.

**Table 2: Produced water and displacement water**

*This table refers to all waters discharged to the sea (except cooling and sewage water) the quality of which should fit with OSPAR measures (cf. OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations). Drainage water is considered so far of such little consequence that there is no reporting requirement for OSPAR.*

**Year: 2011**

**Table 2b: Displacement water<sup>a</sup>**

Country	Total number of installations <sup>b</sup>	Annual quantity of water discharged <sup>c</sup> (m <sup>3</sup> )	Annual average dispersed <sup>d</sup> oil concentration (mg/l)	Total amount of dispersed <sup>d</sup> oil discharged (tonnes)	Annual average BTEX <sup>e</sup> concentration (mg/l)	Total amount of BTEX <sup>e</sup> discharged (tonnes)	Number of installations injecting water <sup>f</sup>	Annual quantity of water injected <sup>f</sup> (m <sup>3</sup> )
Denmark	2	1 632 449	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Netherlands	2	503 090	2,4	1,2	1,5	0,7	0	0
Norway	6	27 025 783	1,9	51	N/A	N/A	0	0
Spain <sup>(1)</sup>	0	0	0	0	0	0	0	0
United Kingdom	1	591 433	0,7	0,4	1,3	0,8	1	3 356 069
<b>Total</b>	<b>11</b>	<b>29 752 755</b>	<b>1,8</b>	<b>52,63</b>	<b>0,05</b>	<b>1,59</b>	<b>1</b>	<b>3 356 069</b>

a. "Displacement water" is the seawater which is used for ballasting the storage tanks of the offshore installations (when oil is loaded into the tanks, the water is displaced, and is discharged to the sea; when oil is downloaded to shuttle tanks, seawater is introduced into the storage tanks to replace the downloaded oil).

b. Total number of installations discharging displacement water.

c. Total quantity of displacement water discharged to the sea during the year.

d. Dispersed oil is, by definition, the oil measured according to the method described in § 7.2 of the OSPAR Recommendation 2006/4 and specified in the OSPAR Agreement 2005-15

e. BTEX determined according to 1.1 of OSPAR Recommendation 2001/1, as amended by OSPAR Recommendation 2011/8, are considered as dissolved oil.

f. Displacement water only (excluding sea water for pressure maintenance).

<sup>(1)</sup> Spain - There is only one offshore gas storage installation (platform Gaviota) connected to a cluster of three wells (Albatros, Gaviota I, Gaviota II) and one subsea gas production. None of them discharge any produced water into the sea, since water is re-injected or treated onshore installation (North Poseidon and South Poseidon). There is no displacement water.

**Table 3: Installations exceeding the 30 mg/l performance standard for dispersed oil**

*This table concerns installations for which the average annual oil content of the produced water discharged to the sea exceeds the 30 mg/l performance standard as defined in OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations (as amended)*

**Year: 2011**

Country/Installation <sup>a</sup>	Type of installation <sup>b</sup>	Quantity of water discharged during the year (1000m <sup>3</sup> )	Annual average concentration of dispersed oil <sup>c</sup> (mg/l)	Total amount of dispersed oil discharged (tonnes/yr)	Total amount of dispersed oil during the period exceeding the performance standard <sup>d</sup> (tonnes/yr)
Netherlands - L4-A	Gas	7	34	0,24	0,0283280
Netherlands - K5A/B	Gas	5	41,00	0,21	0,0545050
Netherlands - K6D	Gas	5	36,40	0,16	0,0288640
Norway - Gjøa	Oil, Gas	114	36,40	4,14	0,7296000
Norway - Oseberg Sør	Oil	1	38,3	0,03	0,0083200
Norway - Sleipner Øst	Gas	4	120,6	0,44	0,3622800
Norway - Sleipner Vest	Gas	3	38,9	0,11	0,0267300
UK - Alwyn North NAB Platform	Oil	23	49,9	1,14	0,4567800
UK - Shearwater C PUQ Platform	Gas	60	359,1	21,70	19,7464800
UK - Gannet A Platform	Oil	842	30,1	25,34	0,1153540
UK - Thames AP Platform	Gas	14	41,0	0,57	0,1540000
UK - Heather A Platform	Oil	979	39,0	38,33	8,8110000
UK - Hewett 52/5 A Platform	Gas	2	46,0	0,10	0,0344000
UK - Rough BD Platform	Gas	1,4	30,4	0,04	0,0005197
UK - Rough AD Platform	Gas	0,1	68,0	0,01	0,0027740
UK - West Sole WA Main Platform	Gas	0,7	67,2	0,05	0,0254478
UK - Ravenspurn North CPP Platform	Gas	17	249,0	4,12	3,6183180
UK - Cleeton CPQ Platform	Gas	0,2	55,0	0,01	0,0045750
UK - Bruce PUQ Platform	Gas	7	51,0	0,36	0,1493190
UK - Armada Platform	Gas	108	37,0	3,97	0,7583030
<b>Total</b>		<b>2 193,0</b>		<b>101,1</b>	<b>35,1158975</b>

a. Name of the installation where the discharge takes place.

b. Same categories as in table 1: Oil (O), Gas (G), Other (oth) installations

c. The annual average concentration of dispersed oil content should be calculated on the basis of the total weight of oil discharged per year by the installation divided by the total volume of produced water discharged during the same period.

d. To calculate this amount use the following formula: (annual average concentration of dispersed oil minus 30) \* volume discharged.

**Table 3a. Information on installations which did not meet the 30 mg/l performance standard and discharging more than 2 tonnes of dispersed oil per year**

*This table concerns installations for which the average annual oil content of the produced water discharged to the sea exceeds the 30 mg/l performance standard as defined in OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations (as amended)*

**Year: 2011**

Country/Installation/Operator <sup>a</sup>	Type of installation	Annual average concentration of dispersed oil (mg/l) <sup>b</sup>	Treatment equipment installed	Reasons for not achieving the standard	Action being taken
NO/Gjøa/GDF Suez	Oil	36,40	Hydrocyclones and Epcon CFU	The produced water volumes are lower than what the treatment facilities need to run optimally	Being followed closely
UK/Shearwater C PUQ Platform/Shell	Gas	359,11	Permanent hydro-cyclones, degasser vessel and from November 2011 a temporary adsorption media solution.	During Q1 – Q3 of 2011, without the key (saline, warm) well online OiPW levels were over 1000 mg/l, therefore any time this well was required to be offline OiPW levels were very high.  The installation of the temporary adsorption media solution allowed levels below 30 mg/l to be achieved, but recovery from process trips to this level required up to two weeks of steady operation.	In 2011 Shell has undertaken various operational improvements on de-sanding separators, optimising hydro-cyclone performance, maximising uptime of the key well for OiPW. From mid November a temporary adsorption based technology was installed downstream of existing equipment. Shell has selected a final technical solution which is due to be commissioned in Q3 2013.
UK/Gannet A Platform/Shell	Oil	30,14	Permanent hydro-cyclones and Induced Gas Flotation Unit (IGFU).	Following an unsuccessful chemical trial program, Shell focused on optimising the existing PW system.  Performance deteriorated during start ups and production upsets which were more frequent due to several unplanned shutdowns.	Action being taken to improve performance in 2012
UK/Heather A Platform/Enquest	Oil	39,15	Wemco Oily Water Separator Compact Flotation Unit Hydrocyclones	Produced water treatment has been affected by various issues including:- . chemical treatment and optimisation. efficiency of treatment process plant instability poorer than expected performance of treatment equipment	Enquest have commissioned hydrocyclones, developed enhanced maintenance regimes on existing equipment, equipment refurbishment, further chemical trials, working on plant stability and optimisation of well line up.
UK/Ravenspurn North CPP Platform/BP	Gas	249,36	Horizontal 3-phase separator and a mares tail coalescer water treatment package	Sand and proppant fill the treatment vessels, also emulsions are formed that prevent adequate separation in the vessels.	A sand treatment package is being installed, also a new vane package has been installed in the 3-phase separator. Better chemical control is being investigated as are 'end of pipe' treatment packages
UK/Armada Platform/BG	Gas	36,67	Water from the high pressure first stage separator, the low pressure third stage separator and the test separator (when in use) is directed to a Tilted Plate Separator produced water treatment unit directly with no storage tanks. The Tilted Plate Separator	The main reason for the non-compliance with the 2011 annual OIW target was the poor efficiency of the tilted plate separator (TPS) produced water treatment vessel in the first half of 2011 due to produced solids obstructing the plates. The TPS inefficiency up to end June also made the production process more sensitive to liquid slugging from the sub-sea wells and interface control upsets.	The TPS vessel was opened and cleaned in 2011, which improved performance to below 30mg/l. Also looking to the installation of a new Cetco Hiflo produced water treatment skid downstream of the TPS for commissioning and start-up in 2012.

a. Name of the installation where the discharge takes place.

b. The annual average oil content should be calculated on the basis of the total weight of oil discharged per year by the installation, divided by the total volume of produced water discharged during the same period.

**Table 3b. Information on installations which did not meet the 30 mg/l performance standard and discharging less than 2 tonnes of dispersed oil per year**

**Year: 2011**

Installation/Operator <sup>a</sup>	Type of installation <sup>b</sup>	Annual average concentration of dispersed oil mg/l <sup>c</sup>	Treatment equipment installed
L4-A/Total	Gas	34	HP Filtercoalescer
K5A/B/Total	Gas	41	HP Filtercoalescer
K6D/Total	Gas	8	HP Filtercoalescer
Oseberg Sør/Statoil	Oil	38,32	1 and 2 step separators and flotation tanks
Sleipner Øst/Statoil	Gas	120,57	3 step separators
Sleipner Vest/Statoil	Gas	38,91	3 step separators
Alwyn North NAB Platform/Total	Oil	49,86	Separators and degassers. Main PW disposal route is PWRI which has >95% uptime. Discharges overboard when PWRI unavailable.
Thames AP Platform/Perenco	Gas	40,897	Three gravity separators and a tilted plate separator. Also produced water disposal wells.
Hewett 52/5 A Platform/ENI	Gas	45,581	2 stage separation
Rough BD Platform/Centrica Storage	Gas	30,367	1. Off-Spec Condensate Vessel 2. Sand Dilution Vessel 3. Oily Water Separator 4. Buffer Tank 5. Polishing Filter 6. Oil recovery pump in caisson
Rough AD Platform/Centrica Storage	Gas	68,493	1. Oil Skimmer 2. Oily Water Separator 3. Oil recovery pump in caisson
West Sole WA Main Platform/BP	Gas	67,153	Vertical 3-phase separator
Cleeton CPQ Platform/BP	Gas	54,645	3-phase separators and a produced water re-injection package (that operates at greater than 95% up time)
Bruce PUQ Platform/BP	Gas	50,955	LP and HP separator, slugcatcher, test separator and degassing Drum. Also PWRI

a. Name of the installation where the discharge takes place.

b. Same categories as in table 1: Oil (O), Gas (G), Other (oth) installations

c. The annual average oil content should be calculated on the basis of the total weight of oil discharged per year by the installation divided by the total volume of produced water discharged during the same period.

**Table 4a: Use and Discharges of Oil Based drilling Fluids (OBF) and cuttings<sup>a</sup>**

**Year: 2011**

Country	Total amount of OBF (fluid only) used (tonnes)	Number of wells drilled with OBF <sup>c</sup>	Cuttings discharged to the sea after treatment				OBF cuttings injected		Cuttings transported to shore (tonnes)
			Number of wells concerned	Amount of cuttings discharged	Average OBF <sup>d</sup> concentration in cuttings (g/kg%)	Total amount of OBF discharged <sup>e</sup> (tonnes)	Number of wells concerned	Total amount of cuttings injected <sup>f</sup> (tonnes)	
Denmark	13 587	5	0	0	0	0	0	0	9 120
Germany	1 456	1	0	0	0	0	0	0	3 326
Ireland	0	0	0	0	0	0	0	0	0
Netherlands	36 887	31	0	0	0	0	0	0	10 518
Norway	99 340	123	0	0	0	0	25	11 877	53 363
Spain	0	0	0	0	0	0	0	0	0
United Kingdom	60 779	86	11	7 765	0,3	4,1	23	8 009	22 346
<b>Total OBF</b>	<b>212 049</b>	<b>246</b>	<b>11</b>	<b>7 765</b>		<b>4,1</b>	<b>48</b>	<b>19 886</b>	<b>98 673</b>

a. Any use of drilling fluids regulated by OSPAR Decision 2000/3 on the Use of Organic-Phase Drilling Fluids (OPF) and the Discharge of OPF-Contaminated Cuttings should be reported. It concerns all OPF and includes inter alia Oil Based Fluids (OBF), as defined in OSPAR Decision 2000/3.

b. OP is the acronym for organic phase: it means oil in the case of OBF, the organic phase mixture for the other OPFs.

c. Report the estimated amount of OBF discharged to the sea, through the cuttings discharged.

d. As defined in OSPAR Decision 2000/3.

e. Report the amount of cuttings transported to shore, for treatment and/or disposal.

f. Report the estimated amount of cuttings injected into disposal wells, excluding the water added for slurryfication.

**Table 4b: Use and Discharges of other Organic Phase drilling Fluids (Other OPF)<sup>b</sup>**

**Year: 2011**

Country	Total amount of OPF (fluid only) used (tnnes)	Number of wells drilled with OPF <sup>c</sup>	Cuttings discharged to the sea after treatment				OPF cuttings injected		Cuttings transported to shore <sup>g</sup> (tonnes)
			Number of wells concerned	Amount of cuttings discharged	Average OP <sup>d</sup> concentration in cuttings (%)	Total amount of OP discharged <sup>e</sup> (tonnes)	Number of wells concerned	Total amount of cuttings injected <sup>f</sup> (tonnes)	
Denmark	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0
Norway	2 888	1	0	0	0	0	0	0	986
Spain	0	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0	0	0
<b>Total non-OBF OPF</b>	<b>2 888</b>	<b>1</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>986</b>
<b>Grand Total OBF<sup>h</sup></b>	<b>214 937</b>	<b>247</b>	<b>11</b>	<b>7 765</b>		<b>4,1</b>	<b>48</b>	<b>19 886</b>	<b>99 659</b>

a. Any use of drilling fluids regulated by OSPAR Decision 2000/3 on the Use of Organic-Phase Drilling Fluids (OPF) and the Discharge of OPF-Contaminated Cuttings should be reported. It concerns all OPF and includes inter alia Oil Based Fluids (OBF), as defined in OSPAR Decision 2000/3.

b. Other OBF OPF, including synthetics.

c. An OPF well is drilled with at least one section of the well with OPF

d. OP is the acronym for organic phase: it means oil in the case of OBF, the organic phase mixture for the other OPFs.

e. Report the estimated amount of OP discharged to the sea, through the cuttings discharged.

f. Report the estimated amount of cuttings injected into disposal wells, excluding the water added for slurryfication.

g. Report the amount of cuttings transported to shore, for treatment and/or disposal.

h. Total OBF + non-OBF OPF.

**Table 5: Accidental spillages****Year: 2011****Table 5a: Accidental spillages of oil<sup>a</sup>**

Country	Number of oil spills		
	≤ 1 tonne	> 1 tonne	Total number
Denmark	30	0	30
Germany	0	0	0
Ireland	1	0	1
Netherlands	13	1	14
Norway <sup>(1)</sup>	129	1	130
Spain	0	0	0
United Kingdom <sup>(2)</sup>	270	9	279
<b>Total</b>	<b>443</b>	<b>11</b>	<b>454</b>

a. Flaring spillages are included in oil spillages

<sup>(1)</sup>Norway - Reports m<sup>3</sup> rather than tonnes<sup>(2)</sup>UK - Note UK quantity data excludes two incidents which are still currently under investigation

Total Quantity of oil spilled (tonnes)		
≤ 1 tonne	> 1 tonne	Total Quantity
1	0	1
0	0	0
0,008	0	0,008
0,143	1,071	1,214
8,7	10	18,7
0	0	0
12,8	29,1	41,9
<b>22,65</b>	<b>40,16</b>	<b>62,81</b>

**Table 5b: Accidental spillages of chemicals<sup>a</sup>**

Country	Number of chemical spillages		
	≤ 1 tonne	> 1 tonne	Total number
Denmark	3	0	3
Germany	0	0	0
Ireland	0	0	0
Netherlands	1	0	1
Norway <sup>(1)</sup>	123	28	151
Spain	0	0	0
United Kingdom <sup>(3)</sup>	204	36	240
<b>Total</b>	<b>331</b>	<b>64</b>	<b>395</b>

Total Quantity of chemicals spilled (tonnes)		
≤ 1 tonne	> 1 tonne	Total Quantity
1	0	1
0	0	0
0	0	0
0,003	0	0,003
25,1	176	201,1
0	0	0
35,6	490,04	525,6
<b>61,66</b>	<b>666,04</b>	<b>727,70</b>

a. Chemical spills include all drilling fluids for all CPs except for the Netherlands in case of the oil in OBF which is reported as an oil spill

<sup>(1)</sup>Norway - Reports m<sup>3</sup> rather than tonnes<sup>(3)</sup>UK: Note UK quantity data excludes one incident which is still currently under investigation

**Table 6: Emissions to air**

**Year: 2011**

Country	CO <sub>2</sub> <sup>a</sup> (10 <sup>3</sup> tonnes)	NO <sub>x</sub> <sup>b</sup> (tonnes)	nmVOCs <sup>c</sup> (tonnes)	CH <sub>4</sub> <sup>d</sup> (tonnes)	SO <sub>2</sub> (tonnes)
Denmark	1 761	6 320	1 220	3 192	86
Germany	50	41	817	545	0
Ireland	46	157	3	6	7
Netherlands	1 539	5 274	4 122	12 408	133
Norway	12 284	51 487	30 580	28 580	899
Spain <sup>(2)</sup>	1	8	14	113	N/D
United Kingdom	14 019	47 486	35 429	44 863	1 923
<b>Total</b>	<b>29 700</b>	<b>110 773</b>	<b>72 185</b>	<b>89 707</b>	<b>3 048</b>

a. CO<sub>2</sub> is carbon dioxide emitted, not the carbon dioxide equivalents of the various greenhouse gases. Carbon monoxide (CO) is not included.

b. NO<sub>x</sub> is the sum of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) expressed as NO<sub>2</sub> equivalent. Nitrous oxide (N<sub>2</sub>O) is not included as a component of NO<sub>x</sub>.

c. VOCs (Volatile Organic Compounds) comprise all hydrocarbons, other than methane, released to the atmosphere.

d. CH<sub>4</sub> corresponds to the methane released to the atmosphere, from any source.

**Table 7: The use and discharge of offshore chemicals**

**Year: 2011**

**Table 7a: Quantity of offshore chemicals used in kg/year**

Country	Prescreening Category <sup>a</sup>						Ranking <sup>h</sup>	Total
	Plonor <sup>b</sup>	LCPA <sup>c</sup>	LC <sub>50</sub> or EC <sub>50</sub> < 1 mg/l <sup>d</sup>	Biodegradation < 20 % <sup>e</sup>	Substances meet two of three criteria <sup>f</sup>	Inorganic, LC50 or EC50 > 1 mg/l <sup>g</sup>		
Denmark	31 661 190	0	0	178 803	284 938	2 207 877	13 381 005	<b>47 713 813</b>
Germany	478	0	0	0	6 355	0	1 527	<b>8 360</b>
Ireland	836 841	0	0	0	3 317	0	12 992	<b>853 150</b>
Netherlands	36 110 148	0	0	349 002	1 566 448	784 501	11 563 870	<b>50 373 969</b>
Norway <sup>(1)</sup>	273 273 649	0	0	1 493 063	348 519	0	80 140 772	<b>355 256 003</b>
Spain	0	0	0	0	0	0	0	<b>0</b>
United Kingdom	155 542 997	783	365	2 881 197	2 685 217	1 181 268	63 098 455	<b>225 390 282</b>
<b>Total</b>	<b>497 425 302</b>	<b>783</b>	<b>365</b>	<b>4 902 065</b>	<b>4 894 794</b>	<b>4 173 646</b>	<b>168 198 621</b>	<b>679 595 577</b>

a. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals (as amended) and the terminology used in this Recommendation.

b. Substances on OSPAR "List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment" (PLONOR) (Reference Number: 2004-10, 2008 update).

c. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because it referred to Annex 2 of the 1998 OSPAR strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

d. Inorganic substance with LC<sub>50</sub> or EC<sub>50</sub> less than 1 mg/l.

e. Biodegradation of the substance is less than 20% during 28 days.

f. Substance meets two of the following three criteria:

I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);

II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;

III. toxicity LC50 < 10mg/l or EC50 < 10mg/l.

g. Inorganic substance with LC50 or EC50 over 1 mg/l.

h. Substance does not fulfill the above mentioned criteria (B-G) and is therefore ranked according to OSPAR Recommendation 2000/4.

<sup>(1)</sup>Norway - "Inorganic, LC50 or EC50 >1 mg/l" is included in "Ranking".

**Table 7b: Quantity of offshore chemicals discharged in kg/year**

**Year: 2011**

Country	Plonor <sup>b</sup>	LCPA <sup>c</sup>	Prescreening Category <sup>a</sup>				Ranking <sup>h</sup>	Total
			LC <sub>50</sub> or EC <sub>50</sub> < 1 mg/l <sup>d</sup>	Biodegradation < 20 % <sup>e</sup>	Substances meet two of three criteria <sup>f</sup>	Inorganic, LC50 or EC50 > 1 mg/l <sup>g</sup>		
Denmark	13 966 161	0	0	4 244	341	146 321	4 505 310	<b>18 622 377</b>
Germany	478	0	0	0	0	0	24	<b>502</b>
Ireland	423 274	0	0	0	2 917	0	8 534	<b>434 725</b>
Netherlands	12 281 563	0	0	4 542	13 976	41 875	819 255	<b>13 161 210</b>
Norway <sup>(1)</sup>	99 503 072	0	0	6 403	1 710	0	12 304 885	<b>111 816 070</b>
Spain	0	0	0	0	0	0	0	<b>0</b>
United Kingdom	52 216 290	9	345	375 566	738 516	439 121	10 005 461	<b>63 775 307</b>
<b>Total</b>	<b>178 390 838</b>	<b>9</b>	<b>345</b>	<b>390 754</b>	<b>757 459</b>	<b>627 317</b>	<b>27 643 469</b>	<b>207 810 191</b>

a. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals (as amended) and the terminology used in this Recommendation.

b. Substances on OSPAR "List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment" (PLONOR) (Reference Number: 2004-10, 2008 update).

c. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because it referred to Annex 2 of the 1998 OSPAR strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

d. Inorganic substance with LC<sub>50</sub> or EC<sub>50</sub> less than 1 mg/l.

e. Biodegradation of the substance is less than 20% during 28 days.

f. Substance meets two of the following three criteria:

- I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);
- II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;
- III. toxicity LC50 < 10mg/l or EC50 < 10mg/l.

g. Inorganic substance with LC50 or EC50 over 1 mg/l.

h. Substance does not fulfill the above mentioned criteria (B-G) and is therefore ranked according to OSPAR Recommendation 2000/4.

<sup>(1)</sup>Norway - "Inorganic, LC50 or EC50 >1 mg/l" is included in "Ranking".

**Table 7c: Quantity of offshore chemicals spilled in kg/year**

**Year: 2011**

Country	Prescreening Category <sup>a</sup>						Ranking <sup>h</sup>	Total
	Plonor <sup>b</sup>	LCPA <sup>c</sup>	LC <sub>50</sub> or EC <sub>50</sub> < 1 mg/l <sup>d</sup>	Biodegradation < 20 % <sup>e</sup>	Substances meet two of three criteria <sup>f</sup>	Inorganic, LC50 or EC50 > 1 mg/l <sup>g</sup>		
Denmark	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0
Norway <sup>(1)</sup>	170 000	0	ND	500	330	0	51 700	222 530
Spain	0	0	0	0	0	0	0	0
United Kingdom	450 711	0	0	1 090	920	328	80 915	533 964
<b>Total</b>	<b>620 711</b>	<b>0</b>	<b>0</b>	<b>1 590</b>	<b>1 250</b>	<b>328</b>	<b>132 615</b>	<b>756 494</b>

a. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals (as amended) and the terminology used in this Recommendation.

b. Substances on OSPAR "List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment" (PLONOR) (Reference Number: 2004-10, 2008 update).

c. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because it referred to Annex 2 of the 1998 OSPAR strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

d. Inorganic substance with LC<sub>50</sub> or EC<sub>50</sub> less than 1 mg/l.

e. Biodegradation of the substance is less than 20% during 28 days.

f. Substance meets two of the following three criteria:

- I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);
- II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;
- III. toxicity LC50 < 10mg/l or EC50 < 10mg/l.

g. Inorganic substance with LC50 or EC50 over 1 mg/l.

h. Substance does not fulfill the above mentioned criteria (B-G) and is therefore ranked according to OSPAR Recommendation 2000/4.

<sup>(1)</sup>Norway - "Inorganic, LC50 or EC50 >1 mg/l" is included in "Ranking".

ND - No Data

Part B: Cumulative Report

**Table 1: Number of installations in the OSPAR maritime area**

**Table 1a: Number of installations in the OSPAR maritime area with discharges to the sea, or emissions to the air 2002-2011\***

<b>Country</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011<sup>6</sup></b>
Denmark <sup>1</sup>	17	19	20	17	19	19	18	20	20	18
France <sup>2</sup>	0	0,1	0	0	0	0	0	0	0	0
Germany	2	2	3	4	3	3	3	3	2	2
Ireland	4	1	1	1	1	2	2	1	2	1
Netherlands	114	123	124	129	128	130	132	135	138	128
Norway <sup>3</sup>	67	63	103	108	109	125	128	143	136	103
Spain	1	1	1	1	1	1	1	2	2	2
UK <sup>4</sup>	381	383	396	407	416	444	457	439	484	487
<b>Total<sup>5</sup></b>	<b>586</b>	<b>592</b>	<b>649</b>	<b>666</b>	<b>677</b>	<b>725</b>	<b>741</b>	<b>743</b>	<b>784</b>	<b>741</b>

<sup>1</sup> Part of the Danish reports contain the reports on number of installations from Faroe Islands: for 2006: 0,3 installation; for 2008, 0,4 installation; for 2010, 03 installation.

<sup>2</sup> France had 1 exploratory well in in 2003.

<sup>3</sup> Norway started reporting subsea installations in 2004

<sup>4</sup> UK revised its criteria for counting subsea installations in 2010

<sup>5</sup> The increase of the number of installations from year 2002 is mainly due to the change of rules in counting the installations. The numbers given for 2003 and 2004 reflect the current OSPAR database on offshore installations set up in accordance with OSPAR

<sup>6</sup> From 2011 drilling activity has been excluded from this total

\* These data are taken from Table 1 of Part A of the report.

**Table 1 (cont'd): Number of installations in the OSPAR maritime area**

**Table 1b<sup>1</sup>: Total number of installations in the OSPAR maritime area as detailed in the offshore inventory, 2000-2011**

	2000	2001	2003	2005	2007	2009	2011
<b>Total</b>	717	869	1167	1131	1281	1340	1495

<sup>1</sup> The increase of the number of installations from year 2002 is mainly due to the change of rules in counting the installations. The numbers given for 2003 and 2004 reflect the current OSPAR database on offshore installations set up in accordance with OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations.

**Table 1c: Number of installations by type of installation in the OSPAR maritime area with discharges to the sea, or emissions to the air, 2002-2011\***

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>1</sup>
Oil	153	146	148	148	151	154	155	158	169	160
Gas	225	254	257	257	259	274	276	280	318	316
Subsea	120	143	179	184	190	206	220	221	230	262
Drilling	86	45	58	71	75	85	84	74	57	-
Other	2	4	11	11	8	11	11	9	9	3
<b>Total</b>	<b>586</b>	<b>592</b>	<b>653</b>	<b>671</b>	<b>683</b>	<b>730</b>	<b>746</b>	<b>742</b>	<b>783</b>	<b>741</b>
Wells	-	-	-	-	-	-	-	-	-	380

<sup>1</sup> From 2011 number of wells drilled is reported rather than 'drilling years' as in previous years

\* These data are taken from Table 1 of Part A of the report.

**Table 2: Oily aqueous discharges to the maritime area\***

**Table 2a: Oil discharged in displacement and produced water (in tonnes), 2002-2011**

Country	2002 (IR)	2003 (IR)	2004 (IR)	2005 (IR)	2006 (IR)	2007 (IR)	2008 (IR)	2009 (IR)	2010 (IR)	2011 (IR)
	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed <sup>(1)</sup>	Dispersed <sup>(2)</sup>	Dispersed <sup>(2)</sup>	Dispersed <sup>(2)</sup>
Denmark	294	358	431	446	385	386	380	340	N/A	N/A
Germany	0,17	0,20	0,20	0,15	0,13	0,12	0,11	0,16	0,19	0,29
Ireland	ND	ND	0,12	0,02	0,05	0,03	0,04	0,01	0,01	0,02
Netherlands	148	114	119	108	114	156	140	54	N/A	N/A
Norway	2 827	2 584	2 653	2 833	2 379	N/A	N/A	N/A	N/A	N/A
Spain	0	0	0	0	0	0	0	N/A	N/A	N/A
UK	5 721	5 276	5 279	4 970	4 357	N/A	N/A	N/A	N/A	N/A
<b>Total</b>	<b>8 990</b>	<b>8 332</b>	<b>8 482</b>	<b>8 357</b>	<b>7 235</b>	<b>542</b>	<b>520</b>	<b>394</b>	<b>0,20</b>	<b>0,31</b>

Country	2007 (GC-FID)	2008 (GC-FID)	2009 (GC-FID)	2010 (GC-FID)	2011 (GC-FID)
	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed
Denmark	ND	ND	ND	214	165
Germany	ND	ND	ND	ND	ND
Ireland	ND	ND	ND	ND	ND
Netherlands	ND	ND	54	83	56
Norway	1 626	1 627	1 542	1 490	1 529
Spain	0	0	N/A	N/A	0
UK	2 960	3 160	2 900	3 008	2 493
<b>Total</b>	<b>4 586</b>	<b>4 787</b>	<b>4 496</b>	<b>4 795</b>	<b>4 243</b>

(1) The Netherlands have reported on IR in 2007 and on a mixture of IR and GC in 2008

(2) The Netherlands went over to the new GC-FID on 1st July 2009.

#### Dissolved from 2002

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	BTEX
Denmark	192	265	292	348	359,53	353,39	202,38	195	216	165
Germany	0,42	0,50	0,80	0,76	0,952	0,591	0,545	0,395	0,672	0,78
Ireland	ND	ND	0,38	0,02	0,004	0,050	0,011	0,025	0,290	0,37
Netherlands	57	72	76	70	52,4	72	66,835	61,649	75,59	67,7
Norway	1 165	906	1 547	1 524	1 711	1 879	1 852	1 954	1 820	1 675
Spain	0	0	0	0	0	0	0	N/A	N/A	0
UK	4 260	3 599	3 276	3 049	2 756	2 273	3 783	2 619	2 115	2 477
<b>Total</b>	<b>5 674</b>	<b>4 843</b>	<b>5 192</b>	<b>4 992</b>	<b>4 880</b>	<b>4 578</b>	<b>5 905</b>	<b>4 830</b>	<b>4 228</b>	<b>4 386</b>

Please note that the Netherlands are not in favour of splitting Table 2a data from 2007 into IR and GC-FID, as they believe that insufficient evidence is presented.

\*These data are taken from Tables 2a & 2b in Part A

**Table 2: Oily aqueous discharges to the maritime area \***

**Table 2b: Quantity of displacement and produced water discharged daily to the sea (in m<sup>3</sup>/day), 2002-2011**

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark	44 158	54 243	67 578	74 522	76 677	75 204	83 442	75 638	73 833	71 578
Germany	19	18	22	22	26	23	23	33	43	50
Ireland	8	NI	8	7	9	6	5	4	4	4
Netherlands	24 263	21 381	23 313	24 275	26 429	38 391	34 542	30 373	26 429	23 232
Norway	490 826	524 910	537 342	533 349	510 618	558 647	506 912	455 719	446 018	426 237
Spain	0	0	0	0	2	3	0	0	0	0
UK	738 082	719 950	690 481	642 967	603 112	555 784	541 611	538 690	540 766	479 100
<b>Total</b>	<b>1 297 356</b>	<b>1 320 502</b>	<b>1 318 745</b>	<b>1 275 143</b>	<b>1 216 873</b>	<b>1 228 058</b>	<b>1 166 536</b>	<b>1 100 457</b>	<b>1 087 093</b>	<b>1 000 201</b>

\* These data are taken from table 2 of Part A of the report

Comment referencing earlier years removed

**Table 2c: Total volume of produced water and displacement water discharged, and produced water injected ( in m<sup>3</sup>/year), 2002-2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PW*	406 980 758	419 235 111	422 925 843	413 865 753	398 629 647	401 516 892	385 158 923	365 677 026	361 133 229	335 320 487
DPW**	66 554 292	62 747 873	58 416 126	51 561 436	45 740 777	46 723 197	40 626 832	35 989 804	35 655 541	29 752 755
IPW	46 619 734	58 960 839	74 978 612	76 893 589	80 185 640	87 721 185	84 083 816	88 027 421	86 744 890	91 006 849
<b>Total</b>	<b>520 154 784</b>	<b>540 943 823</b>	<b>556 320 581</b>	<b>542 320 778</b>	<b>524 556 064</b>	<b>535 961 274</b>	<b>509 869 571</b>	<b>489 694 251</b>	<b>483 533 660</b>	<b>456 080 091</b>

\* Produced water as mentioned in Table 2a in Part A

\*\* Displacement water as mentioned in Table 2b in Part A

\*\*\* Injected produced and displacement water as mentioned in Table 2a & Table 2b in Part A

**Table 3: Installations which do not meet OSPAR performance standard for dispersed oil in aqueous discharges<sup>a\*</sup>**

**Table 3a<sup>b</sup>: Number of installations with discharges exceeding the 40 mg oil/l performance standard, 2002-2006, and quantity of oil discharged by these installations (in tonnes)**

	2002	2003	2004	2005	2006
Total number of installations with discharges in the Convention area	586	623	648	671	671
Number of installations exceeding 40 mg/l	20	22	28	25	14
Quantity of dispersed oil discharged	216	217	737	1044	469

**Table 3b<sup>b</sup>: Number of installations with discharges exceeding the 30 mg oil/l performance standard, valid from 2007 onwards, and quantity of oil discharged by these installations (in tonnes)**

	2007	2008	2009	2010	2011
Total number of installations with discharges in the Convention area	730	746	743	811	741
Number of installations exceeding 30 mg/l	22	31	31	20	20
Quantity of dispersed oil discharged	319	297	340	276	101

"Dispersed oil", or aliphatics, as measured according to the PARCOM Procedure described in the "Methods of sampling and analysis for implementing the provisional target standard for discharges from oil and gas production platforms (OSPAR Reference document OSPAR 1997-16)

a. The performance standard of 40 mg/l is defined on the basis of a monthly average. Most Contracting Parties, however, reported until 2000 only installations which exceeded the 40 mg/l performance standard on the basis of an annual average. From 2001 onwards, all the data is based on annual averages.

b. Data in Tables 3a and 3b refer to dispersed oil only.

The figures for Contracting Parties' total amount of oil discharged have been rounded up. The overall total value is the exact figure and may differ slightly from the sum of the Contracting Parties' total amount of oil discharged.

\* These data are taken from table 3 of Part A of the report.

**Table 3: Installations which do not meet OSPAR performance standard for dispersed oil in aqueous discharges<sup>a</sup>**

**Table 3c: Number of installations with discharges exceeding the 40 mg oil/l performance standard, 2002-2006, by Contracting Party and quantity of oil discharged by these installations (in tonnes)**

Country	2002		2003		2004		2005		2006	
	Number of installations	Amount discharged	Number of installations	Amount discharged	Number of installations	Amount discharged	Number of installations	Amount discharged	Number of installations	Amount discharged
Denmark	0	0	1	52	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	NI	NI	1	0,12	0	0	0	0
Netherlands	5	2	4	3	0	0	0	0	0	0
Norway	1	82	0	0	3	344	4	468	3	339
Spain	0	0	0	0	0	0	0	0	0	0
UK	14	130	17	162	23	393	21	576	11	477
<b>Total</b>	<b>20</b>	<b>216</b>	<b>22</b>	<b>217</b>	<b>27</b>	<b>737</b>	<b>25</b>	<b>1 044</b>	<b>14</b>	<b>816</b>

a. The performance standard of 40 mg/l is defined on the basis of a monthly average. Most Contracting Parties, however, reported until 2000 only installations which exceeded the 40 mg/l performance standard on the basis of an annual average. From 2001 onwards, all the data is based on annual averages.

The figures for Contracting Parties' total amount of oil discharged have been rounded up. The overall total value is the exact figure and may differ slightly from the sum of the Contracting Parties' total amount of oil discharged.

\* These data are taken from table 3 of Part A of the report.

**Table 3: Installations which do not meet OSPAR performance standard for dispersed oil in aqueous discharges<sup>a\*</sup>**

**Table 3d: Number of installations with discharges exceeding the 30 mg oil/l performance standard, valid from 2007 onwards and quantity of oil discharged by these installations (in tonnes), in excess of the 30 mg/performance standard**

Country	2007		2008		2009		2010		2011	
	Number of installations	Amount discharged	Number of installations	Amount discharged	Number of installations	Amount discharged	Number of installations	Amount discharged	Number of installations	Amount discharged
Denmark	0	0	0	0	2	7	1	1	0	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0,0	0	0	0	0	0	0	0	0
Netherlands	4	1,6	7	0,6	7	4	0	0	3	0,1
Norway	2	22	4	12	0	0	3	1,64	4	1,1
Spain	0	0	0	0	0	0	0	0	0	0
UK	16	295	20	204,8	22	99,4	16	130,4	13	33,9
<b>Total</b>	<b>22</b>	<b>319</b>	<b>31</b>	<b>217</b>	<b>31</b>	<b>110</b>	<b>20</b>	<b>133</b>	<b>20</b>	<b>35</b>

\* These data are taken from table 3 of Part A of the report.

# Table 4: Use and discharges of organic-phase drilling fluids (OPF) and cuttings

Table 4a: Quantities of oil and other organic-phase fluids discharged via cuttings (in tonnes), 2002-2011 \*

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>	Total OPF <sup>1</sup>
Denmark	0	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	NI	NI	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway	954	342	425	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0	0
UK	0	0	0	0	0	0	0	0	1	4
<b>Total</b>	954	342	425	0	0	0	0	0	1	4

<sup>1</sup> Total OPF is the sum of OBF and non-OBF OPF. No oil-based mud contaminated cuttings have been discharged since 1996.

\* These data are taken from tables 4a & 4b of Part A of the report.

**Table 4b: Number of wells drilled with OPF, with discharge of contaminated cuttings to the maritime area, 2002-2011\***

Wells for which all cuttings are re-injected or brought to shore are not taken into account in this table.

Country	2002		2003		2004		2005		2006	
	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF
Denmark	0	0	0	0	0	0	0	0	0	0
Germany	0	0	0	NI	0	0	0	0	0	0
Ireland	0	1	NI	NI	0	0	0	0	0	0
Netherlands	0	0	0	0	17	0	0	0	0	0
Norway	0	13	0	7	0	4	0	0	0	0
Spain	N/A	N/A	N/A	N/A	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>7</b>	<b>17</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Country	2007		2008		2009		2010		2011	
	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	Other OPF
Denmark	0	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	1	0	11	0	11	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>11</b>	<b>0</b>

\* The data in tables 4b are taken from table 4 of Part A.

Original Table 4b deleted as referred to wells drilled in 2000. Table 4c renamed 4b

## Table 5: Spillage of oil and chemicals \*

Table 5a: Number of oil spills, 2002-2011 - Spills less than 1 tonne ( $\leq 1$  T) and spills above 1 tonne ( $> 1$  T)

Country	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T	$\leq 1$ T	$> 1$ T
Denmark	58	2	82	2	70	0	44	1	46	0	30	1	24	2	23	2	21	0	30	0
Germany	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	NI	NI	0	0	0	0	3	0	3	0	1	0	0	0	1	0	1	0
Netherlands	24	0	33	0	31	1	25	0	25	0	35	0	20	1	14	1	34	0	13	1
Norway <sup>(1)</sup>	238	9	121	11	108	10	141	6	115	7	155	12	164	9	142	4	133	7	129	1
Spain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom <sup>(2)</sup>	454	16	366	6	445	13	428	10	305	8	270	9	262	8	291	8	265	6	270	9
<b>Total</b>	<b>774</b>	<b>27</b>	<b>602</b>	<b>19</b>	<b>654</b>	<b>24</b>	<b>638</b>	<b>17</b>	<b>494</b>	<b>15</b>	<b>493</b>	<b>22</b>	<b>471</b>	<b>20</b>	<b>470</b>	<b>15</b>	<b>454</b>	<b>13</b>	<b>443</b>	<b>11</b>

<sup>(1)</sup>Norway - Reports m<sup>3</sup> rather than tonnes

<sup>(2)</sup>UK - UK quantity data for 2011 excludes two incidents which are still currently under investigation

\* These data are taken from Table 5 in Part A

**Table 5: Spillage of oil and chemicals \***

**Table 5b: Total quantity of oil spilled, in tonnes, 2002-2011**

Country	2002		2003		2004		2005		2006	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	7	21	12	6,8	6	0	3	3	4	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	NI	NI	0	0	0	0	0,04	0
Netherlands	1	0	0,17924	0	0,119	1,625	0,2	0	0,7	0,0
Norway <sup>(1)</sup>	16,5	76,4	47	690	7	58	13	303	10	95
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	31,24	60,46	21	47	29	47	38	39	23	40
<b>Total</b>	<b>56</b>	<b>158</b>	<b>80</b>	<b>744</b>	<b>42</b>	<b>107</b>	<b>54</b>	<b>345</b>	<b>38</b>	<b>135</b>

Country	2007		2008		2009		2010		2011	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	2	30	2	99	2	4	2	0	1	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0,2	0	0,004	0	0	0	0,0009	0	0,008	0
Netherlands	1,2	0	0,7	3	0,571	22,36	0,147	0	0,143	1,071
Norway <sup>(1)</sup>	10	3 805	7,5	156	8	88,4	6	105	8,7	10
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom <sup>(2)</sup>	12	47	17,03	20,3	15,00	39,1	9,79	13,6	12,8	29,1
<b>Total</b>	<b>25</b>	<b>3 882</b>	<b>27</b>	<b>278</b>	<b>26</b>	<b>154</b>	<b>18</b>	<b>119</b>	<b>23</b>	<b>40</b>

Deleted previous footnote 1, referring to data in 2001

<sup>(1)</sup>Norway - Reports m<sup>3</sup> rather than tonnes

<sup>(2)</sup>UK - UK quantity data for 2011 excludes two incidents which are still currently under investigation

\* These data are taken from table 5a of Part A of the report.

**Table 5c: Number of spills of chemicals and amount of chemical spills in tonnes/year, 2006-2011**

	2006	2007	2008	2009	2010	2011 <sup>(1)</sup>
Number of spills of chemicals	230	307	306	354	348	395
Tonnage of discharged chemicals	840	1 181	1 071	14 464	6 898	728

**Table 5d: Amount spilled<sup>a</sup> in kg per year**

Prescreening category <sup>b</sup>	2006	2007	2008	2009	2010	2011
PLONOR <sup>c</sup>	559 929	1 000 374	895 579	7 251 474	1 001 352	620 711
List of Chemicals for Priority Action <sup>d</sup>	6	0	0	1 600	0	0
Inorganic LC <sub>50</sub> or EC <sub>50</sub> < 1 mg/l <sup>e</sup>	0	0	0	0	863	0
Biodegradation < 20% <sup>f</sup>	2 725	7 119	12 800	353 271	2 123	1 590
Substance meets two of three criteria <sup>g</sup>	11 259	30 516	1 980	244	31 129	1 250
Inorganic, LC <sub>50</sub> or EC <sub>50</sub> > 1 mg/l <sup>h</sup>	90	77	1 661	3 217	108	328
Ranking <sup>i</sup>	158 470	125 649	163 063	6 330 759	250 475	132 615
Total	732 479	1 163 735	1 075 083	13 940 565	1 286 050	756 494

a. All chemical spilled, including those related to accidental spillage of drilling fluids

b. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals (including its updates) and the terminology used in this Recommendation.

c. Substance on OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment (PLONOR) (Agreement Number: 2004-10, update 2008).

d. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates) (Agreement Number: 2004-12).

e. Inorganic substance with LC<sub>50</sub> or EC<sub>50</sub> less than 1 mg/l.

f. Biodegradation of the substance is less than 20% in OECD 306, Marine BODIS or any other accepted marine protocols; or less than 20% during 28 days in freshwater (ready test).

g. Substance meets two of the following three criteria:

I. biodegradation: less than 60% in 28 days (OECD 306 or any other OSPAR-accepted marine protocol); or in the absence of valid results for such tests; less than 60% (OECD 301B, 301C, 01D, 301F, Freshwater BODIS); or less than 70% (OECD 301A, 301E);

II. bioaccumulation: BCF > 100 or log Pow >= 3 and molecular weight <700;

III. toxicity: LC50 < 10mg/l or EC50 < 10mg/l; if toxicity values <10 mg/l are derived from limit tests to fish, actual fish LC50 data should be submitted.

h. Inorganic substance with LC<sub>50</sub> or EC<sub>50</sub> over 1 mg/l.

i. Substance does not fulfill the above mentioned criteria (A-G) and should therefore be ranked according to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals (including its updates) and the terminology used in this Recommendation.

Calculate the amount of substances on the basis of §1.6 of Appendix 1 of OSPAR Recommendation 2000/5 on a Harmonised Offshore Chemical Notification Format (HOCNF), including its updates

Important! To avoid double reporting, the first appropriate category for the substance shall be chosen. This means that the PLONOR substances are chosen first, and the ranking substances are chosen last.

<sup>(1)</sup> Quantity data for 2011 excludes one incident in the UK which is still currently under investigation

**Table 6: Emissions to air, 2002-2011\*****CO<sub>2</sub> (in million of tonnes)**

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	2,20	2,20	2,30	2,10	2,12	2,11	2,07	2,20	1,94	1,76
Germany	0,01	0,02	0,03	0,06	0,05	0,06	0,04	0,04	0,05	0,05
Ireland	0,07	NI	0,07	0,06	0,06	0,06	0,09	0,04	0,05	0,05
Netherlands	1,33	1,27	1,27	1,33	1,29	1,39	1,40	1,49	1,39	1,54
Norway	10,79	11,40	11,34	11,87	11,56	11,07	13,77	12,44	12,00	12,28
Spain	0,04	0,03	0,03	0,06	0,04	0,04	0,05	0,00	2,00	0,001
United Kingdom	19,90	18,79	18,52	18,21	16,41	16,96	15,60	15,44	15,00	14,02
<b>Total</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>32</b>	<b>32</b>	<b>33</b>	<b>32</b>	<b>32</b>	<b>30</b>

**NO<sub>x</sub> (in thousand of tonnes)**

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	5,30	5,30	7,20	6,80	8,10	8,90	8,50	8,10	7,00	6,32
Germany	0,04	0,08	0,11	0,14	0,04	0,03	0,05	0,05	0,05	0,04
Ireland	0,16	NI	0,16	0,15	0,27	0,25	0,52	0,12	0,21	0,16
Netherlands	5,00	6,60	3,74	3,81	3,86	4,00	3,80	4,17	3,70	5,27
Norway	48,70	50,30	51,60	54,40	54,35	54,00	51,00	50,00	50,00	51,49
Spain	0,08	0,07	0,08	0,13	0,08	0,01	0,11	0,01	0,00	0,01
United Kingdom	69,43	61,25	60,12	59,00	52,00	52,00	52,30	49,50	53,00	47,49
<b>Total</b>	<b>129</b>	<b>124</b>	<b>123</b>	<b>124</b>	<b>119</b>	<b>119</b>	<b>116</b>	<b>112</b>	<b>114</b>	<b>111</b>

**nmVOCs (in thousands of tonnes)**

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	9,90	8,10	5,10	3,00	2,10	2,00	2,25	2,00	2,61	1,22
Germany	0,01	0,01	0,01	0,29	0,68	0,22	0,12	0,12	0,12	0,82
Ireland	0,001	NI	0,20	0,001	0,10	0,01	0,04	0,001	0,05	0,003
Netherlands	5,43	4,97	3,60	3,74	3,69	4,00	4,68	5,00	4,16	4,12
Norway <sup>(2)</sup>	198,40	165,20	131,60	93,50	79,54	73,00	50,00	45,61	37,00	30,58
Spain	0,09	0,10	0,09	0,13	0,08	0,10	0,11	0,00	0,00	0,01
United Kingdom	93,27	78,96	66,07	49,00	51,00	54,00	40,67	41,30	33,30	35,43
<b>Total</b>	<b>307</b>	<b>257</b>	<b>207</b>	<b>150</b>	<b>137</b>	<b>133</b>	<b>98</b>	<b>94</b>	<b>77</b>	<b>72</b>

\* These data are taken from table 6 of Part A of the report.

<sup>(1)</sup> Part of the Danish reports contains the reports on the emissions to air from Faroe Islands: For 2006: 11 000 tonnes of CO<sub>2</sub>, 250 tonnes of NO<sub>x</sub>, 18 tonnes of nmVOC; For 2008: 10 000 tonnes of CO<sub>2</sub>, 10 tonnes of NO<sub>x</sub>, 0,2 tonnes of nmVOC; For 2010: 16 000 tonnes of CO<sub>2</sub>, 14 tonnes of NO<sub>x</sub>, 0,3 tonnes of nmVOC.

<sup>(2)</sup> Norway: there was a substantial reduction the last years due to nmVOC recovery requirements on tankers. The Norwegian emissions of CH<sub>4</sub> which were reported for 2009 and 2010 and were incorrect. Therefore the figures presented here do not agree with the reports from these two years.

**Table 6: Emissions to air, 2002-2011\* (cont'd)****CH<sub>4</sub> (in thousand of tonnes)**

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	7,00	7,40	8,20	1,00	1,50	2,00	3,00	3,00	4,96	3,19
Germany	0,01	0,01	0,02	1,16	3,23	1,06	0,54	3,13	1,34	0,55
Ireland	0,30	NI	0,53	0,29	2,63	0,79	0,58	0,01	0,00	0,01
Netherlands	13,44	19,00	11,19	12,34	12,06	14,00	15,97	14,48	13,04	12,41
Norway <sup>(2)</sup>	32,10	31,00	30,80	29,30	26,20	25,20	31,00	29,63	28,04	28,58
Spain	0,27	0,33	0,26	0,39	0,31	0,40	0,43	0,00	0,00	0,11
United Kingdom	51,61	50,76	54,70	41,00	37,00	48,00	41,57	45,30	47,90	44,86
<b>Total</b>	<b>105</b>	<b>108</b>	<b>106</b>	<b>85</b>	<b>83</b>	<b>91</b>	<b>93</b>	<b>96</b>	<b>95</b>	<b>90</b>

**SO<sub>2</sub> (in tonnes)**

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	310	360	480	230	230	220	200	100	112,0	86,0
Germany	1,0	10,0	2,0	2,0	1,0	0,0	0,40	0,20	0,0	0,0
Ireland	0,3	NI	0,8	0,8	10,0	14,6	11,80	1,77	6,0	7,0
Netherlands	181	150	130	136	170	200	135	103	112	133
Norway	800	600	600	700	696	700	500	500	600	899
Spain	0,0	0,0	0,2	0,3	0,8	0,0	0,41	0,0	0,0	N/D
United Kingdom	2 020	2 560	2 940	3 000	2 570	1 740	3 290	2 170	2 600	1 923
<b>Total</b>	<b>3 312</b>	<b>3 680</b>	<b>4 153</b>	<b>4 069</b>	<b>3 678</b>	<b>2 875</b>	<b>4 138</b>	<b>2 875</b>	<b>3 430</b>	<b>3 048</b>

<sup>(1)</sup> Part of the Danish reports contains the reports on the emissions to air from Faroe Islands: For 2006: 8 tonnes SO<sub>2</sub>; For 2008: 0,2 tonnes CH<sub>4</sub> and 3 tonnes SO<sub>2</sub>; For 2010: 0,3 tonnes CH<sub>4</sub> and 5 tonnes SO<sub>2</sub>.

Footnote regarding Norwegian storage & transportation removed

<sup>(2)</sup> The Norwegian emissions of CH<sub>4</sub> which were reported for 2009 and 2010 and were incorrect. Therefore the figures presented here do not agree with the reports from these two years

**Table 7: The use and discharge of offshore chemicals**

**Year: 2002-2011**

**Table 7a: Quantity of offshore chemicals on the PLONOR\* List used and discharged in kg/year**

Country	Quantity of chemicals used (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	72 358 514	60 382 417	52 667 440	41 208 531	78 932 552	66 356 341	55 035 267	45 732 541	32 364 501	31 661 190
France	0	526 654	NI	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Germany	4 000	1 098 862	977 651	2 138 463	716 405	710 225	503 527	2 425	1 565 002	478
Ireland	NI	NI	830 542	9 287	1 549 666	3 876 616	6 274 318	1 020 082	1 904 711	836 841
Netherlands	NI	31 899 171	26 342 421	35 701 161	36 984 151	27 052 063	27 200 803	29 127 105	41 713 369	36 110 148
Norway	NI	237 163 000	226 932 000	228 476 000	227 536 000	253 122 000	259 360 628	289 681 616	286 277 021	273 273 649
Spain	0	1 272 695	0	0	0	0	0	0	0	0
United Kingdom	249 030 742	255 774 970	126 364 612	271 496 796	243 677 347	294 780 970	252 351 135	255 518 585	188 510 604	155 542 997
<b>Total</b>	<b>321 393 256</b>	<b>588 117 769</b>	<b>434 114 666</b>	<b>579 030 238</b>	<b>589 396 121</b>	<b>645 898 215</b>	<b>600 725 678</b>	<b>621 082 354</b>	<b>552 335 208</b>	<b>497 425 302</b>

Country	Quantity of chemicals discharged (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(2)</sup>	50 619 400	38 246 458	30 666 043	28 296 022	37 853 418	30 919 208	31 370 942	24 603 595	11 838 770	13 966 161
France	0	526 654	NI	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Germany	3 600	517 593	761 332	1 036 263	347 565	342 003	503 282	2 220	1 059 928	478
Ireland	NI	NI	460 057	2 566	1 040 761	1 660 002	4 203 349	125 905	754 568	423 274
Netherlands	NI	10 920 587	10 946 870	12 104 182	15 093 836	8 191 288	12 878 422	8 989 344	17 462 642	12 281 563
Norway	102 934 930	78 976 000	63 582 000	56 370 000	63 424 400	73 624 000	76 539 183	111 268 937	111 268 937	99 503 072
Spain	0	976 450	0	0	0	0	0	0	0	0
United Kingdom	109 474 671	113 811 824	64 219 437	117 027 290	102 846 899	104 733 835	110 746 879	113 184 172	69 422 728	52 216 290
<b>Total</b>	<b>263 032 601</b>	<b>243 975 566</b>	<b>170 635 739</b>	<b>214 836 323</b>	<b>220 606 879</b>	<b>219 470 336</b>	<b>236 242 057</b>	<b>258 174 174</b>	<b>211 807 573</b>	<b>178 390 838</b>

\* Substance on OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment (PLONOR) (Agreement Number: 2004-10, update 2008).

<sup>(1)</sup> Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2006: 1 819 321 kg; For 2008: 2 202 480 kg; For 2010: 1 145 498 kg.

<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2006: 810 434 kg; For 2008: 1 670 557 kg; For 2010: 1 057 980 kg.

The Netherlands have included 2 575 451 kg of unknown chemicals in their total in 2006

UK Report only contains a full report for the first ¾ of the year 2006. For the last quarter of 2006 the figures only contain a full report for production installations and not drilling installations

**Table 7: The use and discharge of offshore chemicals****Year: 2004-2011****Table 7b: Quantity of inorganic substances with LC50 or EC50 > 1 mg/l used and discharged in kg/year\***

Country	Quantity of chemicals used (kg)							
	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	14 196 383	12 738 121	16 361 467	7 996 987	14 435 908	11 660 616	3 992 862	2 207 877
France	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Germany	0	0	0	0	0	0	33 406	0
Ireland	NI	0	0	2 252	745	138	3 944	0
Netherlands	2 032 827	1 916 271	3 066 667	367 282	815 948	817 256	277 442	784 501
Norway <sup>(3)</sup>	NI	2 671 000	2 654 000	1 860 000	0	0	0	0
Spain	0	0	0	0	0	0	0	0
United Kingdom	33 542	73 409	949 303	2 326 787	4 150 103	1 657 961	2 478 527	1 181 268
<b>Total</b>	<b>16 262 752</b>	<b>17 398 801</b>	<b>23 031 437</b>	<b>12 553 308</b>	<b>19 402 704</b>	<b>14 135 971</b>	<b>6 786 181</b>	<b>4 173 646</b>

Country	Quantity of chemicals discharged (kg)							
	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(2)</sup>	980 564	138 620	408 828	169 353	1 484 608	431 845	304 808	146 321
France	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Germany	0	0	0	0	0	0	2 408	0
Ireland	NI	0	0	870	545	110	2 207	0
Netherlands	240 660	172 416	364 578	179 066	169 047	105 070	112 448	41 875
Norway <sup>(3)</sup>	NI	137 000	126 000	143 000	0	0	0	0
Spain	0	0	0	0	0	0	0	0
United Kingdom	25 964	64 902	376 830	483 930	594 504	594 504	676 648	439 121
<b>Total</b>	<b>1 247 188</b>	<b>512 938</b>	<b>1 276 236</b>	<b>976 219</b>	<b>2 248 704</b>	<b>1 131 529</b>	<b>1 098 519</b>	<b>627 317</b>

\* No data submitted prior to 2004

<sup>(1)</sup> Part of the Danish reports contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 178 401 kg.<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 168 270 kg.<sup>(3)</sup> Norway - "Inorganic, LC50 or EC50 >1 mg/l" is included in "Ranking".

**Table 7: The use and discharge of offshore chemicals**

**Year: 2002-2011**

**Table 7c: Quantity of ranking substances used and discharged in kg/year\***

Country	Quantity of chemicals used (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	29 776 007	28 646 471	17 001 572	14 093 489	1 378 038	12 049 738	14 703 054	15 792 136	13 063 744	13 381 005
France	0	3 025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Germany	84900	361 531	424 432	387282	127 403	124 599	4 333	2 993	2 318	1 527
Ireland	NI	NI	NI	0	150 115	151 051	722 136	358 021	572 265	12 992
Netherlands	NI	3 809 425	2 811 406	2 809 975	5 490 597	5 443 977	7 572 521	6 388 029	9 901 488	11 563 870
Norway <sup>(3)</sup>	NI	79 178 000	83 915 000	82 626 000	87 938 000	93 313 000	95 347 550	92 409 851	103 061 375	80 140 772
Spain	0	16950	0	0	0	0	0	0	0	0
United Kingdom	49 435 450	27 483 033	63 147 289	44 840 086	100 831 149	100 834 384	78 776 917	75 977 678	70 401 312	63 098 455
<b>Total</b>	<b>79 296 357</b>	<b>139 498 435</b>	<b>167 299 699</b>	<b>144 756 832</b>	<b>195 915 302</b>	<b>211 916 749</b>	<b>197 126 511</b>	<b>190 928 708</b>	<b>197 002 502</b>	<b>168 198 621</b>

Country	Quantity of chemicals discharged (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(2)</sup>	4 580 064	4 194 417	3 191 761	3 223 911	4 500 119	4 629 994	3 833 698	4 987 546	1 510 103	4 505 310
France	0	3 025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Germany	0	19 944	69 099	41275	11 223	3 659	52	0	0	24
Ireland	NI	NI	NI	0	110 604	61 016	242 717	1 827	8 752	8 534
Netherlands	NI	157 936	157 648	193 412	254 341	263 184	435 387	584 237	694 870	819 255
Norway <sup>(3)</sup>	10 897 930	10 977 000	10 599 000	10 103 000	10 952 000	11 880 000	12 956 914	14 700 303	11 727 338	12 304 885
Spain	0	3450	0	0	0	0	0	0	0	0
United Kingdom	16 904 059	11 101 380	29 930 079	14 056 179	13 144 219	13 866 642	13 596 227	12 074 628	11 446 089	10 005 461
<b>Total</b>	<b>32 382 053</b>	<b>26 457 152</b>	<b>43 947 587</b>	<b>27 617 777</b>	<b>28 972 506</b>	<b>30 704 495</b>	<b>31 064 995</b>	<b>32 348 540</b>	<b>25 387 152</b>	<b>27 643 469</b>

\*Includes substances ranked according to OSPAR Recommendation 2000/4 and which do not fulfill the criteria of tables 7 a, b, d, e, f, g

<sup>(1)</sup> Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2006: 120 906 kg; For 2010: 265 277 kg.

<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2006: 54 581 kg; For 2010: 113 804 kg.

<sup>(3)</sup> For Norway these figures include inorganic chemicals having a LC50 or a EC50 > 1mg/l

**Table 7: The use and discharge of offshore chemicals**

**Year: 2002-2011**

**Table 7d: Quantity of chemicals on the List of Chemicals for Priority Action (LCPA), used and discharged in kg/year\***

Country	Quantity of chemicals used (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	900	606	136	0	0	0	10	0	0	0
France	0	0	N/A	0	0	0	0	0	0	N/A
Germany	0	0	0	0	0	0	0	0	1 273	0
Ireland	NI	NI	NI	0	0	0	0	0	0	0
Netherlands	NI	302	0	0	0	0	0	0	0	0
Norway	NI	844	800	2 505	1 094	497	146	20	6	0
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	222	2 090	2 285	2 505	1 896	2 128	3 773	1 267	974	783
<b>Total</b>	<b>1 122</b>	<b>3 842</b>	<b>3 221</b>	<b>5 010</b>	<b>2 990</b>	<b>2 625</b>	<b>3 929</b>	<b>1 287</b>	<b>2 253</b>	<b>783</b>

Country	Quantity of chemicals discharged (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(2)</sup>	300	60	14	0	0	0	1	0	0	0
France	0	0	N/A	N/A	N/A	0	0	0	0	N/A
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	NI	NI	NI	0	0	0	0	0	0	0
Netherlands	NI	271	0	0	0	0	0	0	0	0
Norway	765	240	200	30	213	1	0	58	0	0
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	46	171	191	191	141	69	42	89	21	9
<b>Total</b>	<b>1 111</b>	<b>742</b>	<b>405</b>	<b>221</b>	<b>354</b>	<b>70</b>	<b>43</b>	<b>147</b>	<b>21</b>	<b>9</b>

\* Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). (Reference number: 2004-12)

<sup>(1)</sup> Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 10 kg.

<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 1 kg.

Norwegian footnote regarding sweating deleted

**Table 7: The use and discharge of offshore chemicals**

**Year: 2002-2011**

**Table 7e: Quantity of inorganic substances with LC50 or EC50 < 1 mg/l, used and discharged in kg/year**

Country	Quantity of chemicals used (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>1</sup>	85 194	128 622	14 839	8 115	12 550	9 950	10 502	8 550	0	0
France	0	0	0	0	0	0	0	0	0	0
Germany	0	2 000	0	0	0	0	0	0	0	0
Ireland	NI	NI	NI	0	0	0	0	0	0	0
Netherlands	NI	0	31	0	0	0	0	0	0	0
Norway	NI	0	0	1 000	0	20	0	53	0	0
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	10 333	1 510	910	1 720	856	1 155	365
<b>Total</b>	<b>85 194</b>	<b>130 622</b>	<b>14 870</b>	<b>19 448</b>	<b>14 060</b>	<b>10 880</b>	<b>12 222</b>	<b>9 459</b>	<b>1 155</b>	<b>365</b>

Country	Quantity of chemicals discharged (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>2</sup>	43 443	58 553	1 215	54	117	250	2	0	0	0
France	0	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	NI	NI	NI	0	0	0	0	0	0	0
Netherlands	NI	0	3	0	0	0	0	0	0	0
Norway	100	0	0	0	0	1	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	10 306	1 440	864	1 596	0	137	345
<b>Total</b>	<b>43 543</b>	<b>58 553</b>	<b>1 218</b>	<b>10 360</b>	<b>1 557</b>	<b>1 115</b>	<b>1 598</b>	<b>0</b>	<b>137</b>	<b>345</b>

<sup>(1)</sup> Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 2 kg.

<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 2 kg.

**Table 7: The use and discharge of offshore chemicals**

**Year: 2002-2011**

**Table 7f: Quantity of substances where the biodegradation is less than 20% during 28 days used and discharged in kg/year**

Country	Quantity of chemicals used (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	1 324 413	1 813 142	1 782 941	894 141	582 599	302 503	766 936	515 528	538 181	178 803
France	0	0	0	0	0	0	0	0	0	0
Germany	0	3 239	4 333	4100	1516	1 400	0	5 906	6 932	0
Ireland	NI	NI	NI	0	0	12 319	8 730	3 498	22 790	0
Netherlands	NI	4 279 111	633 725	3 433 667	885 546	3 173 171	303 012	162 510	244 482	349 002
Norway	NI	3 450 000	3 769 100	3 066 300	2 935 500	3 024 000	3 141 149	2 144 671	2 386 670	1 493 063
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	4 934 729	8 240 728	4 227 698	7 244 942	6 419 857	3 974 251	3 156 299	2 581 413	1 924 708	2 881 197
<b>Total</b>	<b>6 259 142</b>	<b>17 786 220</b>	<b>10 417 797</b>	<b>14 643 150</b>	<b>10 825 018</b>	<b>10 487 644</b>	<b>7 376 126</b>	<b>5 413 526</b>	<b>5 123 763</b>	<b>4 902 065</b>

Country	Quantity of chemicals discharged (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(2)</sup>	166 387	163 236	123 729	106 127	92 047	44 682	56 457	1 061	7 852	4 244
France	0	0	0	0	0	0	0	0	0	0
Germany	0	3 104	634	4 100	1 458	1 400	0	37	750	0
Ireland	NI	NI	NI	0	0	651	0	0	64	0
Netherlands	NI	64 041	77 473	42 716	35 123	6 179	5 775	19 730	19 179	4 542
Norway	796 810	331 000	211 490	62 270	18 661	13 900	10 515	16 318	14 455	6 403
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	1 328 207	1 547 258	1 734 676	1 889 783	1577219	660 055	661 647	608 549	404 545	375 566
<b>Total</b>	<b>2 291 404</b>	<b>2 108 639</b>	<b>2 148 002</b>	<b>2 104 996</b>	<b>1 724 508</b>	<b>726 867</b>	<b>734 394</b>	<b>645 695</b>	<b>446 845</b>	<b>390 754</b>

<sup>(1)</sup> Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 2000 kg; For 2010: 11 596 kg.

<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 1950 kg; For 2010: 1 207 kg.

**Table 7: The use and discharge of offshore chemicals**

**Year: 2002-2011**

**Table 7g: Quantity of substances which meet two of three PBT-criteria\* used and discharged in kg/year**

Country	Quantity of chemicals used (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(1)</sup>	1 353 975	1 341 775	1 494 033	1 322 226	1 066 216	575 771	459 550	231 350	270 566	284 938
France	0	0	0	0	0	0	0	0	0	0
Germany	20337	1 132 505	652 623	2 631 107	878 855	879 156	6 972	0	0	6 355
Ireland	NI	NI	26	0	13 241	604 258	35 612	1 271	3 340	3 317
Netherlands	NI	3 918 807	2 097 535	8 972 101	5 291 265	2 533 475	185 157	979 280	770 136	1 566 448
Norway	NI	4 023 000	4 069 000	3 428 700	2 761 900	2 363 000	1 182 315	1 061 115	506 942	348 519
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	9 323 127	9 836 007	8 014 175	4 630 943	1505806	6 056 927	2 712 894	3 142 275	2 862 101	2 685 217
<b>Total</b>	<b>10 697 439</b>	<b>20 252 094</b>	<b>16 327 392</b>	<b>20 985 077</b>	<b>11 517 283</b>	<b>13 012 587</b>	<b>4 582 500</b>	<b>5 415 291</b>	<b>4 413 085</b>	<b>4 894 794</b>

Country	Quantity of chemicals discharged (kg)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark <sup>(2)</sup>	332 519	206 293	301 211	319 223	193 506	76 655	57 512	360	15 020	341
France	0	0	0	0	0	0	0	0	0	0
Germany	183	1 372	9 429	9 316	50	50	0	0	0	0
Ireland	NI	NI	1	0	4 364	880	3 693	391	0	2 917
Netherlands	NI	11 368	39 107	16 560	13 811	10 182	28 462	37 089	57 636	13 976
Norway	210 150	293 000	81 900	33 985	23 450	9 900	4 579	5 152	1 584	1 710
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	1 051 622	1 318 525	4 062 814	1 399 510	631877	1 234 498	918 515	1 046 561	930 855	738 516
<b>Total</b>	<b>1 594 474</b>	<b>1 830 558</b>	<b>4 494 462</b>	<b>1 778 594</b>	<b>867 058</b>	<b>1 332 165</b>	<b>1 012 761</b>	<b>1 089 553</b>	<b>1 005 095</b>	<b>757 459</b>

\* The criteria are as follows:

- i. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);
- ii. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;
- iii. toxicity LC50 < 10mg/l or EC50 < 10mg/l.

<sup>(1)</sup> Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2006: 16 kg; For 2010: 15 400 kg.

<sup>(2)</sup> Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2006: 2 kg; For 2010: 14 717 kg.

**Table 8: Total spillage of oil and discharges of dispersed oil, in tonnes****Year: 2002-2011**

<b>Country</b>	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark	322	377	487	452	389	418	481	346	216	166
Germany	0,00	0,20	0,20	0,20	0,01	0,21	0,11	0,2	0,2	0,3
Ireland	0	NI	0,12	0,02	0,09	0,23	0,42	0,01	0,03	0,03
Netherlands	149	114	121	108	114	157	144	124	83	57
Norway <sup>(1)</sup>	2 921	3 321	2 718	3 149	2 484	5 441	1 791	1 639	1 601	1 548
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	5 817	5 345	5 355	5 047	4 420	3 019	3 198	2 954	3 031	2 535
<b>Total</b>	<b>9 209</b>	<b>9 157</b>	<b>8 681</b>	<b>8 756</b>	<b>7 407</b>	<b>9 035</b>	<b>5 614</b>	<b>5 063</b>	<b>4 931</b>	<b>4 307</b>

<sup>(1)</sup>Norway - Data for spills are supplied in m<sup>3</sup>

These data are taken from Table 2a Part A, Table 2b Part A and Table 5a of Part A

**Table 9: Total production in oil equivalents, (toeq)****Year: 2002-2011**

	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Denmark	28 417 000	25 502 326	29 220 320	28 349 771	25 654 788	25 034 608	25 654 788	21 136 996	19 428 193	17 757 812
Germany	2 169 437	1 990 664	2 120 124	1 024 948	1 890 000	1 724 604	1 468 139	1 323 703	1 142 193	1 245 520
Ireland	112 027	762 285	1 014 893	592 617	514 683	301 455	524 423	392 584	408 678	361 130
Netherlands	22 307 046	19 905 219	23 958 559	20 380 637	17 752 641	19 051 921	19 601 935	17 931 997	16 562 387	17 160 297
Norway	241 000 000	245 886 380	264 600 000	245 262 000	233 976 120	231 697 250	249 282 000	246 686 000	213 000 000	170 723 267
Spain	466 045	142 355	269 005	119 660	37 693	6 628	6 862	0	41 176	39 044
United Kingdom	209 000 000	199 000 000	182 000 000	164 000 000	149 000 000	143 000 000	134 900 000	121 700 000	125 612 217	99 391 433
<b>Total</b>	<b>503 471 555</b>	<b>493 189 229</b>	<b>503 182 901</b>	<b>459 729 633</b>	<b>428 825 925</b>	<b>420 816 466</b>	<b>431 438 147</b>	<b>409 171 280</b>	<b>376 194 844</b>	<b>306 678 503</b>

**Table 10: Discharges of radioactive substances in produced water in terabecquerel (TBq), in 2011**

Country	OSPAR Region	Pb-210	Ra-226	Ra-228
Denmark	II	1,30E-02	3,80E-02	1,70E-02
Ireland	III	1,31E-06	1,85E-06	3,46E-07
Germany	II	<7,00E-06	2,07E-04	1,70E-05
Netherlands	II	8,80E-03	1,20E-01	1,30E-01
Norway	I	4,00E-03	5,30E-02	4,10E-02
Norway	II	3,10E-02	4,15E-01	3,30E-01
UK	II	3,90E-02	3,20E-01	2,20E-01
UK <sup>(1)</sup>	III	NI	NI	NI
<b>Total</b>		<b>0,10</b>	<b>0,95</b>	<b>0,74</b>

	Total alpha	Total beta
2006	6,9	4,67
2007	7,41	4,94
2008	6,76	4,54
2009	7,4	5,02
2010	7,6	4,94
2011	7,6	5,03

The calculations for alpha and beta are estimates of activities discharged, rather than a measured value.

<sup>(1)</sup>Only one operator reported discharges to OSPAR Region III of Pb-210, Ra-226 and Ra-228.



Victoria House  
37-63 Southampton Row  
London WC1B 4DA  
United Kingdom

t: +44 (0)20 7430 5200  
f: +44 (0)20 7242 3737  
e: [secretariat@ospar.org](mailto:secretariat@ospar.org)  
[www.ospar.org](http://www.ospar.org)

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