OSPAR COMMISSION

Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2016

Offshore Oil & Gas Industry Series

2018

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.

Acknowledgement

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

- Mr Andrew Taylor (Convenor, United Kingdom)
- Mr Emil Madsen (Denmark)
- Mr Henrik Bechmann Nielsen (Denmark)
- Mr Kurt Machetanz (Germany)
- Ms Margot Cronin (Ireland)
- Mr Roel van Vliet (the Netherlands)
- Ms Ingeborg Rønning (Norway)

with the support of the Secretariat of the OSPAR Commission.

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Executive Summary

Regular reporting is required in order to review progress in implementing the North-East Atlantic Environment Strategy and OSPAR measures (decisions, recommendations and other agreements) related to offshore oil and gas activities.

This report presents the discharges, spills and emissions from offshore installations in 2015. 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 2006-2016 to show the trends in discharges and emissions and use of chemicals.

Récapitulatif

Une notification régulière s'impose pour suivre la progression de la mise en œuvre de la Stratégie pour le milieu marin de l'Atlantique du Nord-est, ainsi que l'application de mesures OSPAR (décisions, recommandations et autres accords) qui visent les activités pétrolières et gazières en offshore.

Ce rapport présente les rejets, déversements et émissions provenant des installations offshore en 2015. 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 2006 à 2016, afin de mettre en évidence les tendances des rejets et des émissions ainsi que la consommation des produits chimiques.

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[1] are relevant for this report:

Operational discharges of oil

- PARCOM Recommendation 86/1 of a 40 mg/l Emission Standard for Platforms;[2]
- 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);

Use and discharge of chemicals

- 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 2016/4 on a Harmonised Pre-Screening Scheme for Offshore Chemicals (which superseded OSPAR Recommendation 2010/4 from 1 January 2017);

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 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

[1] All measures referred to in this chapter can be downloaded from the OSPAR website www.ospar.org

[2] 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.

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 revised OSPAR Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals (i.e. OSPAR Decision 2000/2, and Recommendations 2010/3 and 2016/4). 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 2015 in Part A and cumulative data in Part B.

2. Results

Part A: Report relating to 2016 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 2016 data

Part B: Cumulative Report

Part A : Report relating to 2016 data

Table 1: Number of installations with emissions and discharges covered by OSPAR measures[a]

Year: 2016

Country	Production		Subsea[d]	Other[e]	Total	Number of wells drilled[f]
	Oil [b]	Gas[c]				
Denmark	20	0	0	0	**20**	14
Germany	1	1	0	0	**2**	3
Ireland	0	1	1	1	**3**	0
Netherlands	8	99	0	0	**107**	14
Norway	52	11	53	0	**116**	248
Spain						
United Kingdom	86	195	223	1	**505**	188
Total	**167**	**307**	**277**	**2**	**753**	**467**

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 Contracting Party.
e. Example: offshore underground storage and loading buoys.
f. Number of wells drilled are for wells completed in that calendar year.

Part A : Report relating to 2016 data

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

Year: 2016

Table 2a: Produced water[a]

Country	Total number of installations[b]	Annual quantity of water discharged[c] (m^3)	Calculated annual average dispersed[d,g] oil concentration (mg/l)	Total amount of dispersed[d] oil discharged (tonnes)	Calculated annual average BTEX[e,g] concentration (mg/l)	Total amount of BTEX[e] discharged (tonnes)	Number of installations injecting water[f]	Annual quantity of water injected[f] (m^3)
Denmark	16	22,882,987	8.7	199.0	4.3	99.0	8	11,257,941
Germany	1	7,887	3.8	0.04	35.5	0.5	1	2,806
Ireland	1	1,070	19.4	0.02	140	0.1	0	0
Netherlands	78	6,402,666	13.1	59.4	14.2	70.6	14	8,177,772
Norway	46	138,101,839	12.3	1698	16.1	2221	24	43,421,496
Spain								
United Kingdom	96	154,840,018	13.0	2017	13.8	2140	27	47,860,183
Total	**238**	**322,236,467**	**12.3**	**3,973**	**14.1**	**4,532**	**74**	**110,720,198**

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
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
e. BTEX determined according to 1.1 of OSPAR Recommendation 2001/1, as amended by OSPAR Recommendation 2011/8, are considered as dissolved oil.
OSPAR Agreement 2005-15.
f. Produced water only (excluding sea water for pressure maintenance).
g. Annual averages are calculated by (total amount of oil discharged / annual quantity water discharged) x 1 000 000

Part A : Report relating to 2016 data

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.

Year: 2016

Table 2b: Displacement water[a]

Country	Total number of installations[b]	Annual quantity of water discharged[c] (m^3)	Calculated annual average dispersed[d,g] oil concentration (mg/l)	Total amount of dispersed[d] oil discharged (tonnes)	Calculated annual average BTEX[e,g] concentration (mg/l)	Total amount of BTEX[e] discharged (tonnes)	Number of installations injecting water[f]	Annual quantity of water injected[f] (m^3)
Denmark	2	1,296,349	0.6	0.7	0.1	0.2	0	0
Germany	0	0					0	0
Ireland	0	0					0	0
Netherlands	2	2,595,990	8	2.3	8	2.4	0	0
Norway	6	30,510,835	1.3	38.1	NI	NI	0	0
Spain								
United Kingdom	2	623,039	0.04	0.02	0.43	0.27	0	0
Total	**12**	**35,026,213**	**1.2**	**41**	**0.08**	**2.9**	**0**	**0**

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,
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).
g. Annual averages are calculated by (total amount of oil discharged / annual quantity water discharged) x 1 000 000

Part A : Report relating to 2016 data

Table 3: Installations which fail to meet 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

Year: 2016

Country/Installation[a]	Type of installation[b]	Quantity of water discharged during the year (1000m^3)	Annual average concentration of dispersed oil[c] (mg/l)	Total amount of dispersed oil discharged (tonnes/yr)	Total amount of dispersed oil during the period exceeding the performance standard[d] (tonnes/yr)
Netherlands/L11-B - ONE	Gas	0.7	72.0	0.05	0.03
Norway/Alvheim	Oil	1,001	42.8	42.9	12.83
Norway/Heimdal	Gas	1.0	84.4	0.08	0.05
Norway/Oseberg A	Oil	38.7	100	3.86	2.70
Norway/Sleipner Vest	Gas	0.8	115	0.10	0.07
Norway/Sleipner Øst	Gas	2.0	41.7	0.08	0.02
UK/Rough BD Platform	Gas	0.3	773	0.26	0.25
UK/Cygnus A PU Platform	Gas	0.2	271	0.04	0.04
UK/Global Producer III	Oil	602	30.4	18.32	0.27
UK/Galahad Template	Gas	17.9	45.7	0.37	0.28
UK/Guinevere Platform	Gas	0.3	30.1	0.01	0.00001
UK/Ravenspurn North CPP Platform	Gas	17.7	80.6	1.42	0.90
UK/Waveney Platform	Gas	0.5	31.0	0.01	0.0005
UK/West Sole WA Main Platform	Gas	2.05	172	0.35	0.29
UK/Shearwater C PUQ Platform	Gas	175	38.1	6.66	1.42
UK/Ross FPSO Bleo Holm	Oil	1,028	32.2	33.1	2.22
UK/Alwyn North NAB Platform	Oil	36.4	30.9	1.12	0.03
Total		**1,922**	**56.5**	**109**	**21.4**

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

Part A : Report relating to 2016 data

Table 3a. Information on installations which fail to 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

Year: 2016

Country/Installation/Operator[a]	Type of installation	Annual average concentration of dispersed oil (mg/l)[b]	Treatment equipment installed	Reasons for not achieving the standard	Action being taken
Norway/Alvheim	Oil	42.8	hydrocyclones and degassing	Challenging workovers and well start-ups. High concentration of particles during workovers have made reinjection impossible in certain periods. Three wells with comprehensive workovers in May caused high concentration of oil in produced water beacuase particles from completion fluids reduced the effect on the separation.	Optimalisation of process. Better routines when starting up wells
Norway/Oseberg A	Oil	99.9	Separators and floatation	Regularity of reinjection in 2016 was 99,8 %. The incidents of fall out of reinjection (causing discharges of produced water to sea) are in most cases caused by irregularities/unstabilities in the production/production wells. This implies difficulties in optimal operation of the produced water treatment systems. There was an increase in oil content in the produced water from 2015 to 2016. Possible explanations to this can be increased well start-ups, increased production from wells with seawater and increase amount of produced water.	No further action as high OIW result of loss of PWRI which has very high uptime.
UK/Donan FPSO Global Producer III/Maersk	Oil	30.4	First stage separator, de-sanding hydrocyclones, deoiling hydrocyclones, Downstream Enhancement Vessel (DEV) then overboard/reinjected.	Improvement seen since 2015 (2015 annual average concentration of dispersed oil mg/l - 32.423). Challenges of vessel motion continue to impact ability of installation to meet standard.	The installation is now in a late life production phase with predicted Cessation Of Production date of mid-2020 . To minimise total oil to sea Maersk Oil continue to progress action to improve PWRI availability/uptime. In this regard current workscopes are to re-instate the Charlie PWRI pump. To improve oil-in-water quality Maersk Oil are actively: i. Optimising slops tank processing through a dedicated hydrocyclone; ii. Monitoring the 1st stage separator and DEV for separation performance; and iii. Optimising the application and dosing of production chemicals.
UK/Shearwater C PUQ Platform/Shell	Gas	38.1	Seperator vessels and hydrocyclones.	They have had an ongoing problem with fouling of the hydrocyclones.	Shell are developing a solution to the hydrocyclone issue and additionally commissioning an OIPW membrane package to reduce OIW averages.
UK/Ross FPSO Bleo Holm/Talisman	Oil	32.2	Hydrocyclones, Degasser, Slops Tank	During rough seas, vessel motion causes disturbance in slops tanks giving rise to poor OIW separation.	On identification of high OIW, overboard discharge stopped, levels in slops tank allowed to rise until vessel movement, and hence disturbance in slops tanks, subsides. Operator has instigated a produced water improvement programme.

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 dischargec during the same period.

Part A : Report relating to 2016 data

Table 3b. Information on installations which fail to meet the 30 mg/l performance standard and discharging less than 2 tonnes of dispersed oil per year

Year: 2016

Country/Installation/Operator [a]	Type of installation [b]	Annual average concentration of dispersed oil mg/l [c]	Treatment equipment installed
Netherlands/L11-B - ONE	Gas	72	Separators, Active Carbonfilters
Norway/Heimdal	Gas	84.4	Temporary treatment facility based on electrolysis and flotation, because of the formation of benzene and health-issues it was terminated in June. New treatment equipment on Heimdal, based on centrifuges, was tested for the first time in November 2016
Norway/Sleipner Vest	Gas	115.4	Separators and degassing
Norway/Sleipner Øst	Gas	41.7	Separators and degassing
UK/Rough BD Platform/Centrica	Gas	773.1	Inlet Separators, Injection Separators, Test Separator, Off-spec Condensate Vessel, De-sanding Package, Oily Water Separator& the operator is reviewing its current arrangements.
UK/Cygnus A PU Platform/Engie	Gas	271.3	Cygnus A production started in December 2016. High initial oil in water values until plant stabilised.
UK/Galahad Template/Perenco	Gas	45.7	Gravity separation & filtration consisting of - Separator, Coalescer & degasser drum.
UK/Guinevere Platform/Perenco	Gas	30.1	Gravity separation & filtration consisting of – Separator & degasser drum.
UK/Ravenspurn North CPP Platform/Perenco	Gas	80.6	Perenco UK Ltd planned to install a bespoke filtration system with coalescer within the Ravenspurn North CPP produced water system during a planned shutdown Q3 2017 (this slipped from Q4 2016 / Q1 2017). This arrangement will be confirmed during the next planned inspection of the installation Q4 2017.
UK/Waveney Platform/Perenco	Gas	31.0	Three phase gravity separation & filtration consisting of - Separator, Hydrocyclone & degasser drum.
UK/West Sole WA Main Platform/Perenco	Gas	172.1	Perenco UK Ltd planned to stop discharging produced water from West Sole WA during Q4 2016 and to direct export all produced fluids to Dimlington onshore terminal for processing thereafter. That being the case, the last reported report of oil discharged with produced water was for October 2016. This arrangement will be confirmed during the next planned inspection of the installation Q4 2017.
UK/Alwyn North NAB Platform/Total	Oil	30.9	First stage and Test separator, LP Flash Drum, HP and LP Plate Separators, Flotation Unit Flash drum.

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.

Part A : Report relating to 2016 data

Table 4a: Use and Discharges of Oil Based drilling Fluids (OBF) and cuttings [a]

Year: 2016

Country	Total amount of OBF (fluid only) used (tonnes)	Number of wells drilled with OBF[c]	Cuttings discharged to the sea after treatment				OBF cuttings injected		Cuttings transported to shore (tonnes)
			Number of wells concerned	Amount of cuttings discharged (tonnes)	Average OBF[d] concentration in cuttings (%)	Total amount of OBF discharged[e] (tonnes)	Number of wells concerned	Total amount of cuttings injected[f] (tonnes)	
Denmark	6202	7	0	0	0	0	1	538	12863
Germany	2384	3	0	0	0	0	0	0	3958
Ireland	0	0							
Netherlands	14395	14	0	0	0	0	0	0	5652
Norway	162460	146	0	0	0	0	42	33249	84492
Spain									
United Kingdom	71152	80	17	10685	0.21	23.0	17	485.01	28145
Total OBF	**256,593**	**250**	**17**	**10,685**	**0.21**	**23.0**	**60**	**34,272**	**135,110**

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
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.

Part A : Report relating to 2016 data

Table 4b: Use and Discharges of other Organic Phase drilling Fluids (Other OPF)[b]

Year: 2016

Country	Total amount of OPF (fluid only) used (tnnes)	Number of wells drilled with OPF[c]	Cuttings discharged to the sea after treatment				OPF cuttings injected		Cuttings transported to shore[g] (tonnes)
			Number of wells concerned	Amount of cuttings discharged	Average OP[d] concentration in cuttings (%)	Total amount of OP discharged[e] (tonnes)	Number of wells concerned	Total amount of cuttings injected[f] (tonnes)	
Denmark	3254	4	0	0	0	0	0	0	3273
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	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0	0	0
Total non-OBF OPF	**3,254**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**3,273**
Grand Total OBF[h]	**259,847**	**254**	**17**	**10,685**	**0.21**	**23.0**	**60**	**34,272**	**138,383**

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
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.

Part A : Report relating to 2016 data

Table 5: Accidental spillages

Year: 2016

Table 5a: Accidental spillages of oil [a]

Country	Number of oil spills			Total quantity of oil spills (tonnes)		
	≤ 1 tonne	> 1 tonne	Total number	≤ 1 tonne	> 1 tonne	Total Quantity
Denmark	43	0	43	1.0	0.0	1.0
Germany	0	0	0	0.0	0.0	0.0
Ireland	3	0	3	0.001	0.0	0.001
Netherlands	22	0	22	0.8	0.0	0.8
Norway [(1)]	36	3	39	2.0	15.0	17.0
Spain						
United Kingdom	348	5	353	11.6	13.9	25.5
Total	**452**	**8**	**460**	**15.4**	**28.9**	**44**

a. Flaring spillages are included in oil spillages

(1) Norway - Reports m^3 rather than tonnes

Table 5b: Accidental spillages of chemicals [a, b]

Country	Number of chemical spillages			Total Quantity of chemicals spilled (tonnes)		
	≤ 1 tonne	> 1 tonne	Total number	≤ 1 tonne	> 1 tonne	Total Quantity
Denmark	35	2	37	1.1	42.2	43.3
Germany	0	0	0	0	0	0
Ireland	0	0	0	0	0	0
Netherlands	8	4	12	1.5	57.4	58.9
Norway [(1)]	138	25	163	19	313	332
Spain						
United Kingdom	206	40	246	65.1	510.2	575.3
Total	**387**	**71**	**458**	**86.7**	**923**	**1,009**

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.

b. The total quantity of chemicals spilled are reported in these tables. The total quantities of specific components spilled are reported in Table 7c.

(1) Norway - Reports m^3 rather than tonnes.

Part A : Report relating to 2016 data

Table 6: Emissions to air

Year: 2016

Country	CO_2[a] (10^3 tonnes)	NO_x[b] (tonnes)	nmVOCs[c] (tonnes)	CH_4[d] (tonnes)	SO_2 (tonnes)
Denmark	1,766	8,705	2,425	3,864	160
Germany	32	65	78	152	1.0
Ireland	26	95.4	1.7	337	1.5
Netherlands	1,403	3,753	3,454	9,562	42
Norway	13,343	44,715	42,502	19,468	584
Spain					
United Kingdom	13,404	51,861	32,121	42,152	2,506
Total	**29,973**	**109,194**	**80,582**	**75,534**	**3,295**

a. CO_2 is carbon dioxide emitted, not the carbon dioxide equivalents of the various greenhouse gases. Carbon monoxide (CO) is not
b. NO_x is the sum of nitric oxide (NO) and nitrogen dioxide (NO_2) expressed as NO_2 equivalent. Nitrous oxide (N_20) is not included as a
c. VOCs (Volatile Organic Compounds) comprise all hydrocarbons, other than methane, released to the atmosphere.
d. CH_4 corresponds to the methane released to the atmosphere, from any source.

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Table 7: The use and discharge of offshore chemicals [a, b]

Year: 2016

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

Country	Prescreening Category							
	Plonor	LCPA	LC_{50} or EC_{50} < 1 mg/l	Biodegradation < 20 %	Substances meet two of three criteria	Inorganic, LC50 or EC50 > 1 mg/l	Ranking	Total
Denmark [3]	47,972,604	0	29,425	226,188	84,478	2,105,204	18,138,083	**68,555,982**
Germany	13,666	0	0	0	510	0	1,177	**15,353**
Ireland	62,995	0	0	0	18	0	21	**63,034**
Netherlands	17,848,041	0	0	155,040	52,088	147,130	4,422,648	**22,624,946**
Norway [1] [2]	283,520,496	0	134,810	2,397,250	1,040,438	0	111,064,657	**398,157,651**
Spain								
United Kingdom	150,546,941	223	291	1,170,337	1,481,436	1,342,891	62,469,981	**217,012,100**
Total	**499,964,744**	**223**	**164,526**	**3,948,815**	**2,658,968**	**3,595,224**	**196,096,567**	**706,429,066**

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. The total quantities of specific components are reported in this table.

[1] Norway has changed classification of NaOCl from Ranking to LC50 or EC5<1mg/l

[2] Norway now reports firefighting chemicals

[3] Denmark has changed classification of NaOCl from LC50 or EC50 >1mg/l to LC50 or EC50 <1mg/l

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Table 7b: Quantity of offshore chemicals discharged in kg/year [a, b]

Year: 2016

Country	Prescreening Category							
	Plonor	LCPA	LC_{50} or EC_{50} < 1 mg/l	Biodegradation < 20 %	Substances meet two of three criteria	Inorganic, LC50 or EC50 > 1 mg/l	Ranking	Total
Denmark [3]	12,160,682	0	18,247	460	6,517	223,153	4,664,838	**17,073,897**
Germany	12,299	0	0	0	0	0	339	**12,638**
Ireland	13,839	0	0	0	0	0	22	**13,861**
Netherlands	8,313,274	0	0	261	5,826	62,314	272,207	**8,653,882**
Norway [1] [2]	89,022,868	0	74,639	20,316	11,087	0	14,231,540	**103,360,450**
Spain								
United Kingdom	47,614,750	3	120	472,358	819,485	365,463	10,033,343	**59,305,522**
Total	**157,137,712**	**3**	**93,006**	**493,395**	**842,914**	**650,930**	**29,202,289**	**188,420,250**

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. The total quantities of specific components are reported in this table.

[1] Norway has changed classification of NaOCl from Ranking to LC50 or EC5<1mg/l

[2] Norway now reports firefighting chemicals

[3] Denmark has changed classification of NaOCl from LC50 or EC50 >1mg/l to LC50 or EC50 <1mg/l

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Table 7c: Quantity of offshore chemicals spilled in kg/year [a, b]

Year: 2016

Country	Prescreening Category							
	Plonor	LCPA	LC_{50} or EC_{50} < 1 mg/l	Biodegradation < 20 %	Substances meet two of three criteria	Inorganic, LC50 or EC50 > 1 mg/l	Ranking	Total
Denmark	41,231	0	0	0	0	0	184	**41,415**
Germany	0	0	0	0	0	0	0	**0**
Ireland	0	0	0	0	0	0	0	**0**
Netherlands	47,322	0	0	9,175	0	19	2,100	**58,616**
Norway	230,887	0	186	1,398	1,440	0	112,954	**346,865**
Spain								
United Kingdom	304,419	0	0	2,217	404	1,941	50,498	**359,480**
Total	**623,859**	**0**	**186**	**12,790**	**1,844**	**1,960**	**165,736**	**806,376**

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. The total quantities of specific components are reported in this table.

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Table 8: Discharges of radioactive substances in produced water in terabecquerel (TBq)

Year: 2016

Country	OSPAR Region	Pb-210	Ra-226	Ra-228
Denmark	II			
Ireland	III			
Germany	II			
Netherlands	II			
Norway	I			
Norway	II			
UK	II			
UK [(1)]	III			
Total		**0.00**	**0.00**	**0.00**

[(1)] Only two operators reported discharges to OSPAR Region III of Pb-210, Ra-226 and Ra-228.

More information on this data is available in the annual OSPAR Report on draft discharges of radionuclides from the non-nuclear sectors.

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Table 9: Country reporting on RBA assessments

Year: 2016

Installation OSPAR Inventory ID	Name or Identifier of Installation	Operator	Predominant Hydrocarbon (Gas/Cond/Oil)	Produced water assessment (Y/N)				Key substances or group of substances identifed in PW likely to pose the greatest risk to the marine environment, if known	Field monitoring (Y/N)	Criteria Used to assess risk	Risk adequately controlled (Y/N)	BAT/BEP assessment undertaken (Y/N)	Chemical substitution, measure or technology implemented	Comments
				Chemical Analysis	Whole Effluent Toxicity	Whole Effluent Assessment	Substance Level							
NO004	Statfjord C	Statoil Petroleum AS	Oil	Y	N	N	Y	Corrosion inhibitor	N		707	N	Y	Optimalisation of process
NO003	Statfjord B	Statoil Petroleum AS	Oil	Y	N	N	Y	Corrosion inhibitor	N		557	N	Y	Optimalisation of process
NO050	Gullfaks C	Statoil Petroleum AS	Oil	Y	N	N	Y	H2S-scavengers, BTEX	N		156	N	Y	Chemical substitution, optimalisation of process
NO089 / NO43	Ekofisk J / Ekofisk M	ConocoPhillips Skandinavia AS	Oil	Y	N	N	Y	Phenols	N		145	N	Y	Two installations analyses risk as one source
NO002	Statfjord A	Statoil Petroleum AS	Oil	Y	N	N	Y	BTEX, corrosion inhibitor	N		138	N	Y	Optimalisation of process
NO469	Alvheim FPSO	AkerBP	Oil	Y	N	N	Y	Corrosion inhibitor	N		125	N	Y	Chemical substitution, optimalisation of process
NO030	Snorre A	Statoil Petroleum AS	Oil	Y	N	N	Y	rrosion inhibitor, H2S-scavenger, B	N		110	N	N	
NO146	Norne	Statoil Petroleum AS	Oil	Y	N	N	Y	BTEX	N		108	N	Y	new riser allows higher levels of H2S, hence reduced use of H2S scavenger
NO022	Gullfaks A	Statoil Petroleum AS	Oil	Y	N	N	Y	H2S-scavenger	N		96	N	Y	Chemical substitution, optimalisation of process
NO140	Troll C	Statoil Petroleum AS	Oil	Y	N	N	Y	PAH	Y		92	N	N	tests to optimise process, with no effects so far.
NO024	Gullfaks B	Statoil Petroleum AS	Oil	Y	N	N	Y	2S-scavengers, BTEX, naphthaler	N		79	N	Y	Optimalisation of process
NO070	Brage	Statoil Petroleum AS	Oil	Y	N	N	Y	H2S-scavenger	Y		59	N	Y	ongoing work to optimise prosess
NO099	Troll B	Statoil Petroleum AS	Oil	Y	N	N	Y	Naphtalene, PAH, BTEX	Y		37	N	Y	Optimalisation of process
NO068	Veslefrikk	Statoil Petroleum AS	Oil	Y	N	N	Y	BTEX	Y		33	N	Y	
NO177	Snorre B	Statoil Petroleum AS	Oil	Y	N	N	Y	BTEX	N		17	N	N	
NO447	Kristin	Statoil Petroleum AS	Gas	Y	N	N	Y	BTEX	N		11	N	Y	
	Eldfisk S	ConocoPhillips Skandinavia AS	Oil	Y	N	N	Y	BTEX	N		6	Y	N	
NO273	Grane	Statoil Petroleum AS	Oil	Y	N	N	Y	PAH	N		5	Y	Y	Chemical optimisation, optimisation of process
NO153	Åsgard A	Statoil Petroleum AS	Oil	Y	N	N	Y	BTEX	N		4	Y	N	
NO164	Åsgard B	Statoil Petroleum AS	Gas	Y	N	N	Y	BTEX	N		4	Y	N	
NO081	Njord A	Statoil Petroleum AS	Oil	Y	N	N	Y	BTEX	N		1	Y	N	
NO035	Oseberg C	Statoil Petroleum AS	Oil	Y	N	N	Y	phenols	Y		1	Y	Y	Modification of hydrocylones
NO14	Eldfisk B	ConocoPhillips Skandinavia AS	Oil	Y	N	N	Y	phenols	N		0.2	Y	N	
NO001	Oseberg A	Statoil Petroleum AS	Oil	Y	N	N	Y		Y		0	Y	Y	Modification of floatation tanks, Chemical substitution, optimisation of process
NO040	Sleipner A	Statoil Petroleum AS	Gas	N	N	N	N		N				N	
NO078	Sleipner T	Statoil Petroleum AS	Gas	Y	N	N	Y		N		0	Y	N	
NO101	Troll A	Statoil Petroleum AS	Gas	N	N	N	N		N				N	
No ID Yet	Maersk Inspirer (on Volve Fi	Statoil Petroleum AS		Y	N	N	Y		N		0	Y	Y	
NO537	Gudrun	Statoil Petroleum AS	Oil	Y	N	N	Y		N		0	Y	N	
NO154	Balder FPU	ExxonMobil Exploration & Produ	Oil	N	N	N	N		N			N	Y	
NO041	Draugen	A/S Norske Shell	Oil	N	N	N	N		N				N	
NO042	Heidrun	Statoil Petroleum AS	Oil	N	N	N	N		N				Y	Optimisation of process. Chemical optimisation
NO139	Jotun A	ExxonMobil Exploration & Produ	Oil	N	N	N	N		N				Y	
NO167	Oseberg Sør	Statoil Petroleum AS	Oil	N	N	N	N		Y				N	
NO547	Skarv FPSO	AkerBP	Gas	N	N	N	N		N				N	New field producing from 2012
NO028	Ula PP	AkerBP	Oil	N	N	N	N		N				Y	Optimisation of process
NO504	Valhall PH	AkerBP	Oil	N	N	N	N		N				Y	Optimisation of process
NO143	Varg	Talisman Energy Norge AS	Oil	N	N	N	N		N				N	
NO507	Gjøa	Engie	Oil	N	N	N	N		N				N	
NO39	Gyda	Repsol	Oil	N	N	N	N		N				N	

Part B: Cumulative Report relating to 2016 data

Table 1a: Number of installations in the OSPAR maritime area with discharges to the sea, or emissions to the air 2007-2016*

Country	2007	2008	2009	2010	2011[3]	2012	2013	2014	2015	2016
Denmark [1]	19	18	20	20	18	15	14	20	20	20
Germany	3	3	3	2	2	2	2	2	2	2
Ireland	2	2	1	2	2	2	2	2	2	3
Netherlands	130	132	135	138	128	127	127	127	127	107
Norway	125	128	143	136	103	115	114	114	115	116
Spain	1	1	2	2	2	1	2	0	0	
UK [2]	444	457	439	484	487	489	496	495	500	505
Total[5]	**725**	**741**	**743**	**784**	**742**	**751**	**757**	**760**	**766**	**753**

[1] 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: 0,3 installation.

[2] UK revised its criteria for counting subsea installations in 2010.

[3] From 2011 drilling activity has been excluded from this total.

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

Part B: Cumulative Report relating to 2016 data

in accordance with OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations

Table 1b: Total number of installations as detailed in the "Inventory of oil and gas offshore installations in the OSPAR maritime area" [(1)]

	2003	2005	2007	2009	2011	2013	2015	2016
Total	1167	1131	1281	1340	1495	1545	1751	1741

(1) The total number of installations includes all current and historic infrastructure in the OSPAR maritime area as defined by OSPAR decision 98/3

Part B: Cumulative Report relating to 2016 data

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Oil Installations	154	155	158	169	160	162	162	169	170	167
Gas Installations	274	276	280	318	316	329	330	324	323	307
Subsea Installations	206	220	221	230	262	257	262	265	272	277
Other Installations	11	11	9	9	4	3	3	1	1	2
Total	**645**	**662**	**668**	**726**	**742**	**751**	**757**	**759**	**766**	**753**

Drilling[1]	85	84	74	57	2011	2012	2013	2014	2015	2016
Wells[2]	-	-	-	-	380	402	416	366	381	467

[1] From 2011 number of wells drilled is reported rather than 'drilling years' as in previous years

[2] From 2011, the number of wells completed in that calendar year are reported.

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

Table 1d: Number of installations injecting produced or displacement water, 2007-2016*

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark	6	6	6	8	8	8	8	8	8	8
Germany	1	0	0	0	1	0	1	1	1	1
Ireland	0	0	0	0	0	0	0	0	0	0
Netherlands	5	5	5	8	7	8	6	9	9	14
Norway	17	18	22	22	20	22	21	21	21	24
Spain	1	1	0	0	0	0	0	0	0	
UK	23	24	26	28	28	28	26	24	22	27
Total	53	54	59	66	64	66	62	63	61	74

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

Part B: Cumulative Report relating to 2016 data

Table 2a: Oil discharged in produced and displacement water (in tonnes), 2007-2016

Country	2007 (IR)	2008 (IR)	2009 (IR)	2010 (IR)	2011 (IR)	2012 (IR)	2013 (IR)	2014 (IR)	2015 (IR)	2016 (IR)
	Dispersed	Dispersed[1]	Dispersed[2]	Dispersed[2]	Dispersed[2]	Dispersed[2]	Dispersed[2]	Dispersed[2]	Dispersed[2]	Dispersed[2]
Denmark	386	380	340	NA	NA	NA	NA	NA	NA	NA
Germany	0.12	0.11	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	0.03	0.04	0.01	0.01	0.02	0.02	0.02	0.03	NA	NA
Netherlands	156	140	54	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UK	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	**542**	**520**	**394**	**0.01**	**0.02**	**0.02**	**0.02**	**0.03**	**0.00**	**0.00**

Country	2007 (GC-FID)	2008 (GC-FID)	2009 (GC-FID)	2010 (GC-FID)	2011 (GC-FID)	2012 (GC-FID)	2013 (GC-FID)	2014 (GC-FID)	2015 (GC-FID)	2016 (GC-FID)
	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed
Denmark	NA	NA	NA	214	165	116	178	162	195	200
Germany	NA	NA	0.16	0.19	0.29	0.40	0.20	0.10	0.17	0.04
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	0.01	0.02
Netherlands	NA	NA	54	83	56	75	60	37	57	62
Norway	1,626	1,627	1,542	1,490	1,529	1,593	1,595	1,805	1,859	1,736
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	
UK	2,960	3,160	2,900	3,008	2,493	2,267	2,176	1,997	2,412	2,017
Total	**4,586**	**4,787**	**4,496**	**4,795**	**4,244**	**4,052**	**4,009**	**4,001**	**4,523**	**4,014**

(1) The Netherlands have reported on IR in 2007 and on a mixture of IR and GC in 2009.
(2) The Netherlands went over to the new GC-FID on 1st July 2009.

Dissolved from 2007

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	Dissolved	Dissolved	Dissolved	Dissolved	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX
Denmark	353.39	202.38	195	216	165	136	89	93	145	99
Germany	0.591	0.545	0.395	0.672	0.78	0.8	0.6	0.6	0.3	0.5
Ireland	0.050	0.011	0.025	0.290	0.37	0.3	0.1	0.1	0.2	0.1
Netherlands	72	66.835	61.649	75.59	67.7	64.4	54.5	49	48	73
Norway	1,879	1,852	1,954	1,820	1,675	1,855	1,920	1,910	2,269	2,221
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	
UK[1]	2,273	3,783	2,619	2,115	2,477	2,178	4,010	2,432	2,508	2,140
Total	**4,578**	**5,905**	**4,830**	**4,228**	**4,386**	**4,235**	**6,074**	**4,485**	**4,971**	**4,534**

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.
(1) The UK data for 2013 is high due to sampling & analysis error for one installation, however it is not possible to provide corrected data.
*These data are taken from Tables 2a & 2b in Part A.
NI - No Information
NA - Not Applicable

Part B: Cumulative Report relating to 2016 data

Table 2b: Annual quantity of produced and displacement water discharged to the sea (in m^3), 2007-2016

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark	27,449,366	30,456,486	27,607,788	26,948,864	26,125,942	25,148,540	24,747,426	25,317,353	24,855,270	24,179,336
Germany	8,573	8,291	12,139	15,706	18,182	19,182	15,283	9,595	6,238	7,887
Ireland	2,177	1,997	1,286	1,577	1,538	1,696	1,359	1,126	827	1,070
Netherlands	38,391	12,607,963	30,373	9,646,665	8,479,610	9,490,079	4,123,842	2,710,189	2,555,797	8,998,656
Norway	203,906,043	185,022,927	166,337,259	162,796,616	155,576,354	162,401,528	159,533,151	174,237,224	182,012,250	168,612,674
Spain	992	0	0	0	0	0	0	0		
UK	202,861,251	197,688,091	196,622,027	197,379,720	174,871,616	155,833,156	149,964,142	156,734,693	165,286,189	155,463,057
Total	**434,266,793**	**425,785,755**	**390,610,872**	**396,789,148**	**365,073,242**	**352,894,181**	**338,385,203**	**359,010,180**	**374,716,571**	**357,262,680**

* 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^3/year), 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
PW*	401,516,892	385,158,923	365,677,026	361,133,229	335,320,487	318,496,588	304,073,595	323,650,889	339,234,298	322,236,467
DPW**	46,723,197	40,626,832	35,989,804	35,655,541	29,752,755	34,397,593	34,311,608	35,359,291	35,482,273	35,026,213
IPW***	87,721,185	84,083,816	88,027,421	86,744,890	91,006,849	98,399,905	91,227,430	90,182,176	103,401,193	110,720,198
Total	**535,961,274**	**509,869,571**	**489,694,251**	**483,533,660**	**456,080,091**	**451,294,086**	**429,612,633**	**449,192,356**	**478,117,764**	**467,982,878**

* 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

Part B: Cumulative Report relating to 2016 data

Table 3a[a]: 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	2012	2013	2014	2015	2016
Total number of installations with	730	746	743	811	742	752	756	759	766	753
Number of installations exceeding 30 mg/l	22	31	31	20	20	17	19	16	19	17
Quantity of dispersed oil discharged	319	297	340	276	101	206	244	94	112	109

"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
a. Data in Table 3a refers 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
* These data are taken from table 3 of Part A of the report.

Part B: Cumulative Report relating to 2016 data

Table 3b: 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/l 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
Netherlands	4	0.36	7	0.6	7	4	0	0	3	0.1
Norway	2	4.3	4	12	0	0	3	1.6	4	1.1
Spain	0	0	0	0	0	0	0	0	0	0
UK	16	35.8	20	204.8	22	99.4	16	130.4	13	33.9
Total	**22**	**40**	**31**	**217**	**31**	**110**	**20**	**133**	**20**	**35**

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

Country	2012		2013		2014		2015		2016	
	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	1	0.3	0	0	1	0.006	2	0.3	0	0
Germany	0	0.0	0	0	0	0	0	0	0	0
Ireland	0	0.0	0	0	0	0	0	0	0	0
Netherlands	1	0.0	2	0.3	0	0	2	0.014	1	0.03
Norway	4	3.0	3	3.3	4	10.5	4	3.1	5	15.7
Spain	0	0.0	0	0.0	0	0	0	0		
UK	11	44.1	14	77.3	11	14.5	11	15.2	11	5.7
Total	**17**	**47**	**19**	**81**	**16**	**25**	**19**	**19**	**17**	**21**

Part B: Cumulative Report relating to 2016 data

Table 4a: Quantities of oil and other organic-phase fluids discharged via cuttings (in tonnes), 2007-2016*

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]	Total OPF[1]
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	9	0
Spain	0	0	0	0	0	0	0	0		
UK	0	0	0	1	4	5	3	2	14	23
Total	0.0	0.0	0.3	1.3	4.1	5.0	3.0	1.9	22.6	23.0

[1] Total OPF is the sum of OBF and non-OBF OPF. No oil-based mud contaminated cuttings have been discharged since 1996 except in accordance with OSPAR Decision 2000/3.

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

Part B: Cumulative Report relating to 2016 data

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

	2007		2008		2009		2010		2011	
Country	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	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
Total	**0**	**0**	**0**	**0**	**1**	**0**	**11**	**0**	**11**	**0**

	2012		2013		2014		2015		2016		
Country	OBF	Other OPF	OBF	Other OPF	OBF	Other OPF	OBF	Other OPF	OBF	Other OPF	
Denmark	0	0	0	0	1	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	0
Norway	0	0	0	0	0	0	4	0	0	0	
Spain	0	0	0	0	0	0					
United Kingdom	8	0	9	0	9	0	16	0	17	0	
Total	**8**	**0**	**8**	**0**	**10**	**0**	**20**	**0**	**17**	**0**	

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

Part B: Cumulative Report relating to 2016 data

Table 5a: Number of oil spills, 2007-2016 - Spills less than 1 tonne (≤ 1 T) and spills above 1 tonne (> 1 T) [a]

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 [1]	30	1	24	2	23	2	21	0	30	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	3	0	1	0	0	0	1	0	1	0
Netherlands[2]	35	0	20	1	14	1	34	0	13	1
Norway[3]	155	12	164	9	142	4	133	7	129	1
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom[4]	270	9	262	8	291	8	265	6	270	10
Total	**493**	**22**	**471**	**20**	**470**	**15**	**454**	**13**	**443**	**12**

Country	2012		2013		2014		2015		2016	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark [1]	42	0	47	1	74	3	54	0	43	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	4	0	1	0	0	0	0	0	0	0
Netherlands[2]	12	0	10	0	17	0	13	0	22	0
Norway[3]	118	4	112	5	60	8	41	6	36	3
Spain	0	0	0	0	0	0				
United Kingdom[4]	239	8	299	9	404	6	350	8	348	5
Total	**415**	**12**	**469**	**15**	**555**	**17**	**458**	**14**	**449**	**8**

0 | 0

[1] Part of the Danish reports contain the reports on number of oil spills from Faroe Islands: for 2012, 1 spill.

[2] Netherlands - oil spills include spills of OBF

[3] Norway - Reports m^3 rather than tonnes

[4] UK - UK quantity data now includes one incident from 2011 and two incidents in 2012 which had previously been under investigation

* These data are taken from Table 5 in Part A

Part B: Cumulative Report relating to 2016 data

Table 5b: Total quantity of oil spilled, in tonnes, 2007-2016

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	0.001	0	0.01	0
Netherlands[(1)]	1.2	0	0.7	3	0.6	22	0.1	0	0.1	1
Norway[(2)]	10	3,805	7.5	156	8	88	6	105	8.7	10
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	12	47	17	20	15.0	39	9.8	14	12.8	249
Total	**25**	**3,882**	**27**	**278**	**26**	**154**	**18**	**119**	**23**	**260**

Country	2012		2013		2014		2015		2016	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	2	0	0	3	2	43	1.9	0	1	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0.8	0	0.001	0	0	0	0	0	0.001	0
Netherlands[(1)]	0.4	0	0.7	0	0.3	0	0.8	0	0	0
Norway[(2)]	7.0	9	6.2	34	9.4	134	6.0	34	2.0	15
Spain	0	0	0	0	0	0				
United Kingdom [(3)]	11.4	510	17.3	111	22.5	19	14.1	25	11.6	14
Total	**22**	**519**	**24**	**148**	**34**	**196**	**23**	**59**	**15**	**29**

[(1)]Netherlands - oil spills include spills of OBF

[(2)] Norway - Reports m^3 rather than tonnes.

[(3)] UK - UK quantity data now includes two incidents from 2011 (Gannet 218,19T & Banff 1,57T) and two incidents from 2012 (Elgin 405,3T & Osprey 15,1T) which had previously been under investigation, as well as updated data for 2013.

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

Part B: Cumulative Report relating to 2016 data

Table 5c: Number of chemical spills, 2012-2016 - Spills less than 1 tonne (≤ 1 T) and spills above 1 tonne (> 1 T) [a]

Country	2012		2013		2014		2015		2016	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark [(1)]	26	0	36	4	28	2	38	1	35	2
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	1	0	2	1	0	0	0	0	0	0
Netherlands	7	1	6	1	16	3	5	2	8	4
Norway[(2)]	110	38	126	31	203	19	130	43	138	25
Spain	0	0	0	0	0	0				
United Kingdom[(3)]	224	49	169	48	182	35	177	25	206	40
Total	**368**	**88**	**339**	**85**	**429**	**59**	**350**	**71**	**387**	**71**

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

[(1)] Part of the Danish reports contain the reports on number of oil spills from Faroe Islands: for 2012, 1 spill.

[(2)] Norway - Reports m^3 rather than tonnes.

[(3)] UK - UK data now includes data from two incidents in 2012 and one incident in 2014 which had previously been under investigation.

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

Part B: Cumulative Report relating to 2016 data

Table 5d: Total quantity of chemical spills, in tonnes, 2012-2016

Country	2012		2013		2014		2015		2016	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark[(1)]	1	0	2	26	2	9	1.33	116	1.1	42.2
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0.0001	0	0.1	5.1	0	0	0	0	0	0
Netherlands	0.9	1.2	13.3	7.7	0.2	3.9	0.7	5.6	1.5	57.4
Norway[(2)]	15.4	350	18.4	1,267	22.0	736	16.0	1,563	19.0	313
Spain	0	0	0	0	0	0				
United Kingdom[(3)]	32.4	1191.5	29.4	493	41.3	285	25.1	425	65.1	510
Total	**50**	**1543**	**63**	**1799**	**66**	**1,034**	**43**	**2109**	**87**	**923**

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

[(1)] Part of the Danish reports contain the reports on number of oil spills from Faroe Islands: for 2012, 1 spill.

[(2)] Norway - Reports m^3 rather than tonnes.

[(3)] UK - UK data now includes two incidents in 2012, and one incident in 2013 and 2014 which had previously been under investigation. One incident in 2014 is still under investigation and is excluded.

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

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark	418	481	346	216	166	118	181	207	196	201
Germany	0.21	0.11	0.2	0.2	0.3	0.4	0.2	0.10	0.2	0.04
Ireland	0.23	0.42	0.01	0.03	0.03	0.80	0.00	0.03	0.01	0.02
Netherlands[(1)]	157	144	131	83	57	76	61	38	57	62
Norway[(2)]	5,441	1,791	1,639	1,601	1,548	1,609	1,635	1948	1899	1753
Spain	0	0	0	0	0	0	0	0		
United Kingdom	3,019	3,198	2,954	3,031	2,991	2,789	2,304	2038	2451	2042
Total	**9,035**	**5,614**	**5,070**	**4,931**	**4,763**	**4,593**	**4,180**	**4,231**	**4,604**	**4,058**

[(1)]Netherlands - oil spills include spills of OBF

[(2)] Norway - Data for spills are supplied in m^3.

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

Part B: Cumulative Report relating to 2016 data

CO_2 (in million of tonnes)

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[(1)]	2.11	2.07	2.20	1.94	1.76	1.84	1.78	1.77	1.80	1.77
Germany	0.06	0.04	0.04	0.05	0.05	0.05	0.05	0.04	0.03	0.03
Ireland	0.06	0.09	0.04	0.05	0.05	0.05	0.06	0.04	0.03	0.03
Netherlands	1.39	1.40	1.49	1.39	1.54	1.96	2.43	2.27	1.93	1.40
Norway	11.07	13.77	12.44	12.00	12.28	12.44	11.57	12.06	13.85	13.34
Spain	0.04	0.05	0.00	2.00	0.001	0.001	0.001	0.001		
United Kingdom	16.96	15.60	15.44	15.00	14.02	13.08	13.17	12.59	13.77	13.404
Total	**32**	**33**	**32**	**32**	**30**	**29**	**29**	**29**	**31**	**30**

NO_x (in thousand of tonnes)

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[(1)]	8.90	8.50	8.10	7.00	6.32	7.22	7.28	7.81	7.64	8.71
Germany	0.03	0.05	0.05	0.05	0.04	0.08	0.05	0.04	0.06	0.07
Ireland	0.25	0.52	0.12	0.21	0.16	0.18	0.58	0.14	0.08	0.10
Netherlands	4.00	3.80	4.17	3.70	5.27	4.97	5.22	4.17	3.95	3.75
Norway	54.00	51.00	50.00	50.00	51.49	50.44	50.45	51.78	46.76	44.71
Spain	0.01	0.11	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
United Kingdom	52.00	52.30	49.50	53.00	47.49	47.01	46.40	46.07	52.81	51.86
Total	**119**	**116**	**112**	**114**	**111**	**110**	**110**	**110**	**111**	**109**

nmVOCs (in thousands of tonnes)

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[(1)]	2.00	2.25	2.00	2.61	1.22	1.89	1.77	2.17	2.25	2.43
Germany	0.22	0.12	0.12	0.12	0.30	0.39	0.14	0.15	0.06	0.08
Ireland	0.01	0.04	0.001	0.05	0.003	0.00	0.02	0.003	0.001	0.002
Netherlands	4.00	4.68	5.00	4.16	4.12	3.23	5.14	3.67	3.02	3.45
Norway[(2)]	73.00	50.00	45.61	37.00	30.58	33.02	32.76	48.18	47.34	42.50
Spain	0.10	0.11	0.00	0.00	0.01	N/D	0.01	0.01		
United Kingdom	54.00	40.67	41.30	33.30	35.43	37.96	38.08	38.10	37.31	32.12
Total	**133**	**98**	**94**	**77**	**72**	**76**	**78**	**92**	**90**	**81**

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

(1) Part of the Danish reports contains the reports on the emissions to air from Faroe Islands: For 2006: 11 000 tonnes of CO_2, 250 tonnes of NOx, 18 tonnes of nmVOC; For 2008: 10 000 tonnes of CO_2, 10 tonnes of NOx, 0,2 tonne of nmVOC; For 2010: 16 000 tonnes of CO_2, 14 tonnes of NOx, 0,3 tonne of nmVOC. For 2012, 15 000 tonnes of CO_2, 0,5 tonne of No_x, 0,002 tonne of nmVOC. For 2014: 6000 tonnes of CO_2, 130 tonnes of NO_x, 9 tonnes of nmVOCs.

(2) Norway: there was a substantial reduction the last years due to nmVOC recovery requirements on tankers. The Norwegian emissions of CH_4 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.

Part B: Cumulative Report relating to 2016 data

CH_4 (in thousand of tonnes)

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark	2.00	3.00	3.00	4.96	3.19	4.11	4.01	3.72	3.85	3.86
Germany	1.06	0.54	3.13	1.34	0.55	0.72	0.24	0.29	0.12	0.15
Ireland	0.79	0.58	0.45	0.37	0.40	0.37	0.36	0.36	0.34	0.34
Netherlands	14.00	15.97	14.48	13.04	12.41	9.67	14.33	12.74	7.88	9.56
Norway[(1)]	25.20	31.00	29.63	28.04	28.58	25.66	23.47	28.25	29.05	19.47
Spain	0.40	0.43	0.00	0.00	0.11	0.14	0.12	0.12		
United Kingdom	48.00	41.57	45.30	47.90	44.86	44.12	45.69	43.08	41.70	42.15
Total	**91**	**93**	**96**	**96**	**90**	**85**	**88**	**89**	**83**	**76**

SO_2 (in tonnes)

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark	220	200	100	112.0	86.0	92.0	116	145	99	160
Germany	0.0	0.40	0.20	0.0	0.0	4.0	0.5	0.3	0.8	1.0
Ireland	14.6	11.80	1.77	6.0	6.9	1.4	29	2.6	0.9	1.5
Netherlands	200	135	103	112	133	253	350	290	263	42
Norway	700	500	500	600	899	822	914	862	736	584
Spain	0.0	0.41	0.0	0.0	N/D	N/D	N/D	N/D	N/D	N/D
United Kingdom	1,740	3,290	2,170	2,600	1,923	2,561	2,208	2,241	2,864	2,506
Total	**2,875**	**4,138**	**2,875**	**3,430**	**3,048**	**3,733**	**3,617**	**3,540**	**3,964**	**3,295**

[(1)] The Norwegian emissions of CH4 which were reported for 2009 and 2010 were incorrect. Therefore the figures presented here do not agree with
the reports from these two years.

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

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

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [1]	66,356,341	55,035,267	45,732,541	32,364,501	31,661,190	34,759,511	26,031,851	32,965,260	31,824,783	47,972,604
Germany	710,225	503,527	2,425	1,565,002	478	252,562	1,387	1,522,980	6,795	13,666
Ireland	3,876,616	6,274,318	1,020,082	1,904,711	836,841	936,836	2,783,230	878,846	540,229	62,995
Netherlands	27,052,063	27,200,803	29,127,105	41,713,369	36,110,148	46,550,994	34,616,138	42,614,129	49,608,209	17,848,041
Norway	253,122,000	259,360,628	289,681,616	286,277,021	273,273,649	282,848,186	346,516,261	322,304,630	311,861,617	283,520,496
Spain	0	0	0	0	0	0	0	0		
United Kingdom	294,780,970	252,351,135	255,518,585	188,510,604	155,542,997	189,057,474	207,602,076	185,467,972	211,799,667	150,546,941
Total	**645,898,215**	**600,725,678**	**621,082,354**	**552,335,208**	**497,425,302**	**554,405,563**	**617,550,942**	**585,753,816**	**605,641,300**	**499,964,744**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [2]	30,919,208	31,370,942	24,603,595	11,838,770	13,966,161	12,334,663	7,978,977	8,694,006	8,806,814	12,160,682
Germany	342,003	503,282	2,220	1,059,928	478	6,573	1,275	130,691	130,691	130,691
Ireland	1,660,002	4,203,349	125,905	754,568	423,274	604,132	1,040,237	673,680	376,623	13,839
Netherlands	8,191,288	12,878,422	8,989,344	17,462,642	12,281,563	17,441,780	16,144,242	18,269,435	16,128,611	8,313,274
Norway	73,624,000	76,539,183	111,268,937	111,268,937	99,503,072	104,495,858	114,256,578	107,667,490	94,071,979	89,022,868
Spain	0	0	0	0	0	0	0	0		
United Kingdom	104,733,835	110,746,879	113,184,172	69,422,728	52,216,290	56,070,241	70,139,373	58,222,340	52,492,691	47,614,750
Total	**219,470,336**	**236,242,057**	**258,174,174**	**211,807,573**	**178,390,838**	**190,953,247**	**209,560,682**	**193,657,642**	**172,007,409**	**157,256,104**

* 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, udpate 2008).

[1] Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 2 202 480 kg; For 2010: 1 145 498 kg.
For 2012: 3007 003 kg; For 2014: 977583 kg.

[2] Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 1 670 557 kg; For 2010: 1 057 980 kg.
For 2012: 1 103 867 kg; For 2014: 654086 kg.

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

Table 7b: Quantity of inorganic substances with LC50 or EC50 > 1 mg/l used and discharged in kg/year

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [1]	7,996,987	14,435,908	11,660,616	3,992,862	2,207,877	1,663,514	1,386,349	2,367,795	816,411	2,105,204
Germany	0	0	0	33,406	0	77	0	450	0	0
Ireland	2,252	745	138	3,944	0	0	53,685	0	300	0
Netherlands	367,282	815,948	817,256	277,442	784,501	459,251	309,021	950,654	1,009,744	147,130
Norway [3]	1,860,000	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0		
United Kingdom	2,326,787	4,150,103	1,657,961	2,478,527	1,181,268	2,313,743	3,146,799	2,116,846	2,494,697	1,342,891
Total	**12,553,308**	**19,402,704**	**14,135,971**	**6,786,181**	**4,173,646**	**4,436,585**	**4,895,854**	**5,435,745**	**4,321,152**	**3,595,224**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [2]	169,353	1,484,608	431,845	304,808	146,321	123,525	142,595	522,361	233,232	223,153
Germany	0	0	0	2,408	0	53	0	0	0	0
Ireland	870	545	110	2,207	0	0	4,697	0	290	0
Netherlands	179,066	169,047	105,070	112,448	41,875	79,976	50,794	81,835	119,708	62,314
Norway [3]	143,000	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0		
United Kingdom	483,930	594,504	594,504	676,648	439,121	384,226	858,274	463,057	475,932	365,463
Total	**976,219**	**2,248,704**	**1,131,529**	**1,098,519**	**627,317**	**587,780**	**1,056,360**	**1,067,253**	**829,162**	**650,930**

[1] Part of the Danish reports contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 178 401 kg; For 2014: 183 977 kg.

[2] Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 168 270 kg; For 2014: 167 804 kg.

[3] Norway - "Inorganic, LC50 or EC50 >1 mg/l" is included in "Ranking".

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

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

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[1]	12,038,892	14,694,228	15,781,594	13,053,202	13,372,128	19,414,662	12,578,135	15,602,959	14,630,468	18,138,083
Germany	124,599	4,333	2,993	2,318	1,527	3,690	4,471	60,926	1,808	1,177
Ireland	151,051	722,136	358,021	572,265	12,992	88,555	1,509	20,915	23,213	21
Netherlands	5,443,977	7,572,521	6,388,029	9,901,488	11,563,870	12,289,133	8,731,380	12,819,428	17,814,944	4,422,648
Norway [3]	93,313,000	95,347,550	92,409,851	103,061,375	80,140,772	82,880,656	101,039,980	95,147,120	104,211,550	111,064,657
Spain	0	0	0	0	0	0	0	0		
United Kingdom	100,834,384	78,776,917	75,977,678	70,401,312	63,098,455	69,690,462	79,106,416	78,631,851	84,134,667	62,469,981
Total	**211,905,903**	**197,117,685**	**190,918,166**	**196,991,960**	**168,189,744**	**184,367,158**	**201,461,891**	**202,283,199**	**220,816,650**	**196,096,567**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[2]	4,623,920	3,827,988	4,980,606	1,503,163	4,500,000	4,751,780	5,148,251	4,786,125	4,556,915	4,664,838
Germany	3,659	52	0	0	24	349	12	1,174	1,174	1,174
Ireland	61,016	242,717	1,827	8,752	8,534	24,555	1,509	15,577	20,987	22
Netherlands	263,184	435,387	584,237	694,870	819,255	955,649	595,553	578,461	460,649	272,207
Norway[3]	11,880,000	12,956,914	14,700,303	11,727,338	12,304,885	13,532,911	14,022,764	14,551,415	14,417,695	14,231,540
Spain	0	0	0	0	0	0	0	0		
United Kingdom	13,866,642	13,596,227	12,074,628	11,446,089	10,005,461	10,609,116	10,341,731	10,074,380	11,571,081	10,033,343
Total	**30,698,421**	**31,059,285**	**32,341,600**	**25,380,212**	**27,638,159**	**29,874,360**	**30,109,819**	**30,007,132**	**31,028,502**	**29,203,124**

*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

[1] 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. For 2012: 486 757 kg; For 2014: 74 135 kg.

[2] 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. For 2012: 55 910 kg; For 2014: 72 365 kg.

[3] For Norway these figures include inorganic chemicals having a LC50 or a EC50 > 1mg/l.

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

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

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [1]	0	10	0	0	0	0	0	0	22	0
Germany	0	0	0	1,273	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	2	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway	497	146	20	6	0	3	6	0	0	0
Spain	0	0	0	0	0	0	0	0		
United Kingdom	2,128	3,773	1,267	974	783	440	496	108	88	223
Total	**2,625**	**3,929**	**1,287**	**2,253**	**783**	**443**	**504**	**108**	**110**	**223**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [2]	0	1	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	1	0	58	0	0	3	6	0	0	0
Spain	0	0	0	0	0	0	0	0		
United Kingdom	69	42	89	21	9	0	0	0	0	3
Total	**70**	**43**	**147**	**21**	**9**	**3**	**6**	**0**	**0**	**3**

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

[1] Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2008: 10 kg.

[2] Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2008: 1 kg.

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

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

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [1, 3]	9,950	10,502	8,550	0	0	0	0	0	9	29,425
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	8	400	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway [3]	20	0	53	0	0	30	92	120	49,672	134,810
Spain	0	0	0	0	0	0	0	0		
United Kingdom	910	1,720	856	1,155	365	1,848	253	546	294	291
Total	**10,880**	**12,222**	**9,459**	**1,155**	**365**	**1,886**	**746**	**666**	**49,976**	**164,526**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark [2, 3]	250	2	0	0	0	0	0	0	0	18,247
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	1	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway [3]	1	0	0	0	0	21	0	30	43,684	74,639
Spain	0	0	0	0	0	0	0	0		
United Kingdom	864	1,596	0	137	345	1,643	90	79	179	120
Total	**1,115**	**1,598**	**0**	**137**	**345**	**1,665**	**90**	**109**	**43,863**	**93,006**

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

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

(3) Norway and Denmark have changed classification of NaOCl to LC50 or EC50 <1mg/l from 2015 & 2016 respectively

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

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

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[1]	302,503	766,936	515,528	538,181	178,803	351,620	110,595	168,585	176,849	226,188
Germany	1,400	0	5,906	6,932	0	0	0	19,570	0	0
Ireland	12,319	8,730	3,498	22,790	0	300	2,275	6	375	0
Netherlands	3,173,171	303,012	162,510	244,482	349,002	231,545	150,205	203,370	464,791	155,040
Norway	3,024,000	3,141,149	2,144,671	2,386,670	1,493,063	1,287,072	1,636,733	1,820,950	2,330,299	2,397,250
Spain	0	0	0	0	0	0	0	0		
United Kingdom	3,974,251	3,156,299	2,581,413	1,924,708	2,881,197	1,784,069	2,042,658	1,644,336	3,504,469	1,170,337
Total	**10,487,644**	**7,376,126**	**5,413,526**	**5,123,763**	**4,902,065**	**3,654,606**	**3,942,466**	**3,856,817**	**6,476,783**	**3,948,815**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[2]	44,682	56,457	1,061	7,852	4,244	357	42	360	0	460
Germany	1,400	0	37	750	0	0	0	1,898	1,898	1,898
Ireland	651	0	0	64	0	100	11	6	375	0
Netherlands	6,179	5,775	19,730	19,179	4,542	3,627	913	1,094	1,235	261
Norway	13,900	10,515	16,318	14,455	6,403	3,600	2,957	5,220	14,083	20,316
Spain	0	0	0	0	0	0	0	0		
United Kingdom	660,055	661,647	608,549	404,545	375,566	305,385	576,846	345,846	294,371	472,358
Total	**726,867**	**734,394**	**645,695**	**446,845**	**390,754**	**313,068**	**580,769**	**354,424**	**311,963**	**495,293**

[1] 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. For 2012: 17 881 kg.

[2] 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. For 2012: 0 kg.

Part B: Cumulative Report relating to 2016 data

Year: 2007-2016

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

Country	Quantity used									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[1]	586,617	468,376	241,892	281,108	293,815	172,230	42,840	29,135	21,028	84,478
Germany	879,156	6,972	0	0	6,355	5,582	0	24,437	863	510
Ireland	604,258	35,612	1,271	3,340	3,317	3,400	815,176	107	0	18
Netherlands	2,533,475	185,157	979,280	770,136	1,566,448	452,277	531,900	116,197	114,339	52,088
Norway	2,363,000	1,182,315	1,061,115	506,942	348,519	1,506,167	1,326,315	1,351,210	1,410,717	1,040,438
Spain	0	0	0	0	0	0	0	0		
United Kingdom	6,056,927	2,712,894	3,142,275	2,862,101	2,685,217	2,370,810	2,826,647	2,204,106	2,064,376	1,481,436
Total	**13,023,433**	**4,582,500**	**5,425,833**	**4,413,085**	**4,903,671**	**4,510,466**	**5,542,878**	**3,725,192**	**3,611,322**	**2,658,968**

Country	Quantity discharged									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark[2]	82,729	63,222	7,300	21,960	5,651	6,960	6,070	7,440	7,390	6,517
Germany	50	0	0	0	0	0	0	0	0	0
Ireland	880	3,693	391	0	2,917	730	2,945	34	0	0
Netherlands	10,182	28,462	37,089	57,636	13,976	22,960	23,195	16,642	6,656	5,826
Norway	9,900	4,579	5,152	1,584	1,710	5,018	3,399	9,040	15,868	11,087
Spain	0	0	0	0	0	0	0	0	0	
United Kingdom	1,234,498	918,515	1,046,561	930,855	738,516	648,520	896,187	646,476	818,122	819,485
Total	**1,338,239**	**1,018,471**	**1,096,493**	**1,005,095**	**762,769**	**684,188**	**931,796**	**679,632**	**848,035**	**842,914**

* 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.

[1] Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: For 2010: 15 400 kg.

[2] Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2010: 14 717 kg.

Part B: Cumulative Report relating to 2016 data

Table 7h: Quantity of chemicals spilled in kg per year, 2007 - 2016

Prescreening category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
PLONOR	1,000,374	895,579	7,251,474	1,001,352	621,219	1,351,550	1,201,755	705,579	844,650	623,859
List of Chemicals for Priority Action	0	0	1,600	0	0	0	0	0	8	0
Inorganic LC_{50} or EC_{50} < 1 mg/l	0	0	0	863	0	72	0	360	0	186
Biodegradation < 20%	7,119	12,800	353,271	2,123	1,590	16,785	9,027	3,361	9,913	12,790
Substance meets two of three criteria	30,516	1,980	244	31,129	1,251	17,223	3,016	3,573	5,913	1,844
Inorganic, LC_{50} or EC_{50} > 1 mg/l	77	1,661	3,217	108	328	1,014	472	171	242	1,960
Ranking	125,649	163,063	6,330,759	250,475	133,103	1,270,125	1,180,123	220,305	363,842	165,736
Total	**1,163,735**	**1,075,083**	**13,940,565**	**1,286,050**	**757,491**	**2,656,769**	**2,394,393**	**933,349**	**1,224,568**	**806,375**

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

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.

Part B: Cumulative Report relating to 2016 data

Table 8: Discharges of radioactive substances in produced water in terabecquerel (Tbq), 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total alpha	7.41	6.76	7.4	7.6	7.6	8	6.5	6.1	6.7	
Total beta	4.94	4.54	5.02	4.94	5.03	5.2	4.34	4.1	4.4	

The calculations for alpha and beta are estimates of activities discharged, rather than a measured value.
More information on this data is available in the OSPAR Report on discharges of radionuclides from the non-nuclear sectors.

Part B: Cumulative Report relating to 2016 data

Table 9: Total production in oil equivalents, in toeq, 2007-2016

Year: 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Denmark	25,034,608	25,654,788	21,136,996	19,428,193	17,757,812	16,290,666	13,674,575	13,035,469	12,662,022	11,769,054
Germany	1,724,604	1,468,139	1,323,703	1,142,193	1,245,520	1,129,230	1,158,020	1,099,947	1,043,589	1,038,094
Ireland	301,455	524,423	392,584	408,678	361,130	367,540	336,618	332,647	288,212	2,210,232
Netherlands	19,051,921	19,601,935	17,931,997	16,562,387	17,160,297	17,147,270	18,176,106	14,725,986	13,415,377	13,392,326
Norway	231,697,250	249,282,000	246,686,000	213,000,000	170,723,267	170,552,545	161,574,251	161,363,160	178,379,964	184,471,764
Spain	6,628	6,862	0	41,176	39,044	58,115	40,269	16,337		
United Kingdom	143,000,000	134,900,000	121,700,000	125,612,217	99,391,433	86,480,357	78,304,262	78,229,908	80,859,966	102,538,306
Total	**420,816,466**	**431,438,147**	**409,171,280**	**376,194,844**	**306,678,503**	**292,025,723**	**273,264,101**	**268,803,454**	**286,649,130**	**315,419,776**

Part B: Cumulative Report relating to 2016 data

Table 10: Installations included in the Risk Based Approach

Year: 2015-2016

Country	No. of Installations included within RBA process	No. of Installations Assessed to date	Assessment method [a]	No. of Installations where risk is adequately controlled [b]	No of Installations still awaiting outcome of assessment [c]	No. of Installations where action is to be taken [d]
Denmark	16	16	S / C	1	15	ND
Germany	1	1	S / WET / C	1	0	0
Ireland [(1)]						
Netherlands	85	11	S / WET / C	9	0	2
Norway	46	46	S	22	0	24
Spain[(1)]						
United Kingdom	105	48	S / WET / WEA / C	13	35	ND

[a] For assessment method, C (Chemical), WET (Whole Effluent Toxicity), WEA (Whole Effluent Assessment), S (Substance level).

[b] Determination of whether 'Risk is adequately controlled' is as described in OSPAR Recommendation 2012/5 and according to national criteria.

[c] Outcome of assessment will determine whether further action is needed or the risk is adequately controlled.

[d] Action needed may be chemical substitution, technology or other measure implemented.

[(1)] Ireland and Spain have not yet commenced any RBA assessments.

OSPAR COMMISSION

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
www.ospar.org

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