



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

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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 2007-2018 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 2007 à 2018, 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 measures¹ 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 2018 in Part A and cumulative data in Part B.

2. Results

Part A: Report relating to 2018 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 2018 data

Part B: Cumulative Report

Part B: Cumulative Report relating to 2018 data

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

Year: 2018

Country	Production		Subsea ^d	Other ^e	Total	Number of wells drilled ^f
	Oil ^b	Gas ^c				
Denmark	21	0	0	0	21	1
Germany	1	1	0	0	2	1
Ireland	0	1	1	0	2	0
Netherlands	11	126	16	1	154	13
Norway	50	11	20	0	81	203
Spain						
United Kingdom	88	165	212	1	466	208
Total	171	304	249	2	726	426

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 B: Cumulative Report relating to 2018 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

Year: 2018

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	22,196,600	6.2	136.5	14.7	325.2	8	10,976,058
Germany	1	3,483	1.3	0.005	145.6	0.5	1	2,929,018
Ireland	2	1,653	7.1	0.01	25	0.0	0	0
Netherlands	60	5,568,984	10.0	55.7	8.4	46.9	12	5,809,976
Norway	44	133,239,937	11.2	1487	14.4	1920	24	40,406,443
Spain								
United Kingdom	117	139,116,220	16.1	2241	18.8	2580	25	59,898,306
Total	240	300,126,877	13.1	3,920	16.2	4,873	70	120,019,801

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 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).

Part B: Cumulative Report relating to 2018 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

Year: 2018

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	901,055	0.37	0.33	0.11	0.1	0	0
Germany	0						0	0
Ireland	0							
Netherlands	2	233,889	2	0.395	2	0.569	0	0
Norway	6	29,462,397	1.23	36	NI	NI	0	0
Spain								
United Kingdom	2	473,554	0.006	0.003	6.38	5.56	0	0
Total	12	31,070,895	1.2	37	0.20	6.2	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, and is discharged

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).

Part B: Cumulative Report relating to 2018 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 performance

Year: 2018

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)
Denmark/Tyra West IPF	Oil	1.1	31	0.034	0.034
Norway/AASTA HANSTEEN SPAR	Gas	0.02	94.7	0.002	0.001
Norway/ALVHEIM FPSO	Oil	1,315	30.9	41.0	1.20
Norway/HEIDRUN	Oil	90.0	33.7	3.00	0.33
Norway/HEIMDAL	Gas	8.0	31.8	0.25	0.01
Norway/OSEBERG A	Oil	84.0	52.8	4.00	1.91
Norway/OSEBERG SØR	Oil	48.0	43.7	2.00	0.66
Norway/SLEIPNER A	Gas	4.0	136	1.00	0.44
Norway/SLEIPNER T	Gas	1.0	104	0.07	0.05
UK/Rough BD Platform	Gas	2.9	120	0.35	0.26
UK/Cygnus B Platform	Gas	3.5	109	0.42	0.27
UK/Bruce PUQ Platform	Other	23.2	39.0	0.91	0.21
UK/Lomond Platform	Other	51.5	42.3	2.18	0.63
UK/Triton FPSO	Oil	2,398	47.4	113.64	41.69
UK/Alwyn North NAB Platform	Oil	29.6	46.8	1.386	0.497
UK/Excalibur A Platform	Gas	0.9	70.7	0.07	0.04
UK/Ravenspurn North CPP Platform	Gas	27.3	34.2	0.94	0.12
UK/Kittiwake A Platform	Oil	1,261.5	38.2	48.13	10.28
UK/Stella FPF-1	Oil	90.63	47.9	4.34	1.62
UK/Gryphon A	Oil	1,486	33.6	49.98	5.40
UK/Petrojarl Foinaven	Oil	2,050	32.2	65.7	4.42
Total		7,571	44.8	339	70.0

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

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 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 performance standard as

Year: 2018

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
NO/ALVHEIM FPSO	Oil	30.9	Hydrocyclones, degassing	Primarily in connection with well startup, leading to unstable conditions in water treatment, and therefore low treatment efficiency. Low water quality also means that this water can not be injected.	Periods without reinjection have been minimized by accepting higher concentrations of particles in injection water. Injection pressure has also been reduced in periods, allowing more water to be injected.
NO/HEIDRUN	Oil	33.7	Hydrocyclones, CFU, degassing	Produced water is normally reinjected. High oil density, small droplet size and fine sands makes oil and water separation challenging. The largest oil concentrations are observed prior to and following maintenance shutdown, and are consequences of additional operational challenges in these periods.	Improving regularity of water reinjection unit. Well streams from wells known to produce fine sands, are isolated as much as possible. Production is controlled to minimise sand production
NO/OSEBERG A	Oil	52.8	Separators, flotation units	Produced water is normally reinjected. The reinjection well was shut down for two weeks in 2018, in order to verify that there was no leakage in the well.	
NO/OSEBERG SØR	Oil	43.7	Hydrocyclones, degassing	Operative disturbances / instabilities in water reinjection unit. Produced water is normally reinjected	Improving regularity of water reinjection unit.
UK/Lomond Platform / Chrysaor	Other	42.3	1 of 2 Process Trains - Erskine Production Module (EPM). EPM has Gravity separation (HP & condensate separators), hydrocyclones and degasser drum.	Higher through put causing issues after increased export following new export pipeline installation. Erskine Installation fluids come in cold and slug causing process instability on start-ups.	Operator working through a series of chemical and process trials to find a solution.
UK/Triton FPSO / Dana	Oil	47.4	The Triton has 2 discharge streams, via Slops or caisson. The produced water treatment is 3 x Oil/Water separation trains through to produced water treatment, including, CFUs, Hydrocyclones and degasser vessel prior to comingled discharge	The reasons are complex, the asset receives fluids from diverse fields with differing chemistry and fluid types. The asset has also been on location now for several years and parts of the process produced water treatment could benefit from optimisation and additional intrusive maintenance.	Several operational areas are being systematically investigated to understand where the operational efficiency losses occur and how these are introduced. An extensive TAR in 2020 will also be carried out to de-sand and enter multiple vessels for intrusive vessels checks and address any necessary repairs.
UK/Kittiwake A Platform / PFML	Oil	38.2	3 stages of gravity separation, Hydrocyclones & Degasser.	Solids issues. Solids – sand & sand sludge coming back and through process causing upsets.	Intervention into vessels to clean them out, better controls on bringing on & flowing wells to try to prevent solids issues.
UK/Stella FPF-1 / Ithaca	Oil	47.8	Inlet heater, HP & LP separators, hydroclones and finally degasser. Chemical treatment applied at various points in process.	Unstable power generation and wells in early days of production. Some affect due to poor winter weather hindering good gravity separation. Basically poor design of process to meet challenges of a floating platform and produced fluids seen.	Operator working through a series of chemical and process trials to find a solution. A number of process equipment changes have just been made and time is required to see if these have an effect.
UK/Gryphon A / Maersk	Oil	33.6	First stage separator - desanding cyclones (Krebs units) - 3 x deoiling Hydrocyclones - Downstream Enhancement Vessel (DEV) - Water from the DEV is either re-injected, discharged or routed to slops.	Calcium Napthanate fouling in the 2nd stage heat exchanger has resulted in a drop off in performance such that a full heat exchanger change out is required. This heat exchanger was last replaced in April 2018. Vessel motion continues to be a contributory factor when attempting to maximise separation efficiency.	2nd stage heat exchanger replacement scheduled for October 2019. It is anticipated that the reinstatement of the required heat from the 2nd stage heat exchanger will bring the installation into permit compliance. Produced water re-injection has been maximised to minimise non-compliant discharges. Investigation to minimise future further Calcium Napthanate fouling ongoing.
UK/Petrojarl Foinaven / Teekay	Oil	32.2	Test Separator / Slug Catcher; 1st Stage Separator; Water passes to Hydrocyclones Oil passes to 2nd Stage Separator; Oil passes to Electrostatic Coalescer; Water from 2nd Stage Separator and Electrostatic Coalescer passes to 1st Stage Separator;	Sand accumulation in the topside process on the installation has been identified as the key reason for not achieving compliance.	The 2019 shutdown (TAR) scheduled for September/October 2019 has multiple workscopes to address the oil in produced water issues on the installation. In addition PWRI has been maximised to minimise discharges of Produced water to sea.

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.

Part B: Cumulative Report relating to 2018 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: 2018

Country/Installation/Operator ^a	Type of installation ^b	Annual average concentration of dispersed oil mg/l ^c	Treatment equipment installed
DK/Tyrawest IPF	Oil	31	Degasser
NO/AASTA HANSTEEN SPAR	Gas	94.7	Degassing, centrifuge
NO/HEIMDAL	Gas	31.8	Hydrocyclones, CFU, degassing
NO/SLEIPNER A	Gas	136.3	Separators, degassing
NO/SLEIPNER T	Gas	103.6	Separators, degassing
UK/Rough BD Platform/Centrica	Gas	120.4	Inlet Separators, Injection Separators, Test Separator, Off-spec Condensate Vessel, De-sanding Package, Oily Water Separator
UK/Cygnus B Platform/Neptune	Gas	109.3	Separators, hydrocyclones, degasser
UK/Bruce PUQ Platform/BP Serica	Other	39.0	The process trains consist of gravity separation (Test, HP and LP), HP and LP hydrocyclone skids and final degassing and oil skimming.
UK/Alwyn North NAB Platform/Total	Oil	46.8	First stage and Test separator, LP Flash Drum, HP and LP Plate Separators, Flotation Unit Flash drum.
UK/Excalibur A Platform/Perenco	Gas	70.7	Gravity separation and degassing.
UK/Ravenspurn North CPP Platform/Perenco	Gas	34.2	Separators and bespoke filtration system with coalescer

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 B: Cumulative Report relating to 2018 data

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

Year: 2018

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	0	0	0	0	0	0	0	0	0
Germany	2,405	1	0	0	0	0	0	0	4,704
Ireland	0	0	0	0	0	0	0	0	0
Netherlands	8,311	6	0	0	0	0	0	0	1,879
Norway	145,138	146	0	0	0	0	52	31,742	76,523
United Kingdom	45,564	57	7	4,000	0.04	1.54	8	4,132	22,235
Total OBF	201,418	210	7	4,000	0.04	1.54	60	35,874	105,341

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

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 B: Cumulative Report relating to 2018 data

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

Year: 2018

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	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	0	0	0	0	0	0	0	0	0
United Kingdom	1406	3	1	897	0.11	1	0	0	392
Total non-OBF OPF	1,406	3	1	897	0.11	1	0	0	392
Grand Total OBF^h	202,824	213	8	4,897	0.05	2.54	60	35,874	105,733

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

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 B: Cumulative Report relating to 2018 data

Table 5: Accidental spillages

Year: 2018

Table 5a: Accidental spillages of oil ^a

Country	Number of oil spills		
	≤ 1 tonne	> 1 tonne	Total number
Denmark	30	2	32
Germany	0	0	0
Ireland	0	0	0
Netherlands	6	0	6
Norway	41	5	46
United Kingdom	342	3	345
Total	419	10	429

Total quantity of oil spills (tonnes)		
≤ 1 tonne	> 1 tonne	Total Quantity
2.4	20.4	22.9
0	0	0
0	0	0
0.008	0.0	0.008
3.0	28.0	31.0
20.9	6.4	27.3
26.3	54.9	81

a. Flaring spillages are included in oil spillages

Table 5b: Accidental spillages of chemicals ^{a, b}

Country	Number of chemical spillages		
	≤ 1 tonne	> 1 tonne	Total number
Denmark	26	1	27
Germany	0	0	0
Ireland	0	0	0
Netherlands	2	1	3
Norway	104	24	128
United Kingdom	171	34	205
Total	303	60	363

Total Quantity of chemicals spilled (tonnes)		
≤ 1 tonne	> 1 tonne	Total Quantity
1.4	1.0	2.4
0.0	0.0	0.0
0.0	0.0	0.0
0.8	18.0	18.8
10	1015	1025
22.2	439	462
34	1473	1,508

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.

Part B: Cumulative Report relating to 2018 data

Table 6: Emissions to air

Year: 2018

Country	CO ₂ ^a (10 ³ tonnes)	NO _x ^b (tonnes)	nmVOCs ^c (tonnes)	CH ₄ ^d (tonnes)	SO ₂ (tonnes)
Denmark	1,557	5,433	1,375	3,409	54
Germany	46.90	76.50	60.50	154.40	1.3
Ireland	38.13	122.16	1.870	529.16	1.46
Netherlands	1,248	2,721	1,553	6,573	28
Norway	12,966	44,548	40,626	15,909	518
United Kingdom	13,184	49,522	50,097	43,565	2,877
Total	29,041	102,422	93,713	70,139	3,480

a. CO₂ is carbon dioxide emitted, not the carbon dioxide equivalents of the various greenhouse gases. Carbon monoxide (CO) is not included.

b. NO_x is the sum of nitric oxide (NO) and nitrogen dioxide (NO₂) expressed as NO₂ equivalent. Nitrous oxide (N₂O) is not included as a component.

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

d. CH₄ corresponds to the methane released to the atmosphere, from any source.

Part B: Cumulative Report relating to 2018 data

Table 7: The use and discharge of offshore chemicals^{a, b}

Year: 2018

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

Country	Prescreening Category							Total
	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	
Denmark ⁽³⁾	15,120,362	0	55,138	34,760	90	586,398	7,659,426	23,456,174
Germany	18,851	0	0	385	0	0	881	20,117
Ireland	802	0	0	4,781	47	0	3,181	8,811
Netherlands	12,920,162	0	0	98,318	31,045	808,927	3,581,547	17,439,999
Norway ^{(1) (2)}	264,171,934	0	110,223	3,199,194	636,169	0	107,133,234	375,250,754
United Kingdom	148,455,829	384	324	2,157,142	1,577,094	1,271,711	68,158,557	221,621,040
Total	440,687,939	384	165,685	5,494,580	2,244,444	2,667,036	186,536,825	637,796,895

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 EC50<1mg/l

⁽²⁾ Norway now reports firefighting chemicals

Part B: Cumulative Report relating to 2018 data

Table 7b: Quantity of offshore chemicals discharged in kg/year^{a, b}

Year: 2018

Country	Plonor	LCPA	Prescreening Category				Ranking	Total
			LC ₅₀ or EC ₅₀ < 1 mg/l	Biodegradation < 20 %	Substances meet two of three criteria	Inorganic, LC50 or EC50 > 1 mg/l		
Denmark ⁽³⁾	6,559,931	0	40,446	0	0	41,577	3,634,209	10,276,163
Germany	10,212	0	0	289	0	0	637	11,138
Ireland	802	0	0	1,386	47	0	3,181	5,416
Netherlands	5,994,055	0	0	191	5,023	18,335	541,981	6,559,585
Norway ^{(1) (2)}	84,210,708	0	70,258	122,629	15,770	0	15,217,572	99,636,937
United Kingdom	48,598,583	0	4	505,189	507,670	342,798	10,277,924	60,232,172
Total	145,374,292	0	110,708	629,684	528,510	402,710	29,675,505	176,721,409

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 EC50 < 1mg/l

⁽²⁾ Norway now reports firefighting chemicals

Part B: Cumulative Report relating to 2018 data

Table 7c: Quantity of offshore chemicals spilled in kg/year^{a, b}

Year: 2018

Country	Plonor	LCPA	Prescreening Category				Ranking	Total
			LC ₅₀ or EC ₅₀ < 1 mg/l	Biodegradation < 20 %	Substances meet two of three criteria	Inorganic, LC50 or EC50 > 1 mg/l		
Denmark	87	0	0	0	0	1,666	0	1,753
Germany	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Netherlands	20,479	0	0	300	0	300	0	21,079
Norway	743,642	0	144	1,092	1,182		52,824	798,884
United Kingdom	186,929	0	0	106	7	1,844	48,721	237,607
Total	951,137	0	144	1,498	1,189	3,810	101,545	1,059,323

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.

Part B: Cumulative Report relating to 2018 data

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

Year: 2018

Country	OSPAR Region	Pb-210	Ra-226	Ra-228
Denmark	II			
Ireland	III			
Germany	II			
Netherlands	II			
Norway	I			
Norway	II			
UK	II			
UK	III			
Total		0.00	0.00	0.00

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

Part B: Cumulative Report relating to 2018 data

Table 9a: Country reporting on RBA assessments

Year: 2018

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 identified 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							
NL ??	Horizon	Petrogas E&P Netherlands BV	Oil	Y	Y	N	Y	Production chemical	N	PEC/PNEC at 500m	N	N (not as part of RBA)	Y	
NL ??	Helder	Petrogas E&P Netherlands BV	Oil	Y	Y	N	Y	Production chemical	N	PEC/PNEC at 500m	N	N (not as part of RBA)	Y	

Part B: Cumulative Report relating to 2018 data

Table 9b: Installations included in the Risk Based Approach

Year: 2018

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 (100%)	S / C	1 (6%)	0	15 (94%)
Germany	1	1 (100%)	S / WET / C	1 (100%)	0	0
Ireland ⁽¹⁾	1	0	WET / C	NI	NI	NI
Netherlands	94	82 (87%)	S / WET / C	76 (81%)	0	6 (6%)
Norway	43	43 (100%)	S	18 (41%)	1 (2 %)	24 (56%)
Spain ⁽¹⁾	NI	NI	NI	NI	NI	NI
United Kingdom	79	76 (96%)	S / WET / WEA / C	22 (28%)	54 (68%)	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.

Part B: Cumulative Report relating to 2018 data

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 2009-2018*

Country	2009	2010	2011 ³	2012	2013	2014	2015	2016	2017	2018
Denmark ¹	20	20	18	15	14	20	20	20	21	21
Germany	3	2	2	2	2	2	2	2	2	2
Ireland	1	2	2	2	2	2	2	3	3	2
Netherlands	135	138	128	127	127	127	127	107	107	154
Norway	143	136	103	115	114	114	115	116	117	81
Spain	2	2	2	1	2	2	NI	NI	NI	NI
UK ²	439	484	487	489	496	495	500	505	477	466
Total⁵	743	784	742	751	757	762	766	753	727	726

¹ Part of the Danish reports contain the reports on number of installations from Faroe Islands: for 2010: 0,3 installatic

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 2015 data

**Table 1 (cont'd): Number of installations in the OSPAR maritime area
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	2017
Total	1167	1131	1281	1340	1495	1545	1751	1741	1714

(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 2015 data

Table 1c: Number of installations by type of installation in the OSPAR maritime area with discharges to the sea, or emissions to the air, 2009-2018*

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Oil Installations	158	169	160	162	162	169	170	167	168	171
Gas Installations	280	318	316	329	330	324	323	307	284	304
Subsea Installations	221	230	262	257	262	265	272	277	273	249
Other Installations	9	9	4	3	3	1	1	2	2	2
Total	668	726	742	751	757	759	766	753	727	726
Drilling ¹	74	57	2011	2012	2013	2014	2015	2016	2017	2018
Wells ²	-	-	380	402	416	366	381	467	490	426

¹ 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 1d: Number of installations injecting produced or displacement water, 2009-2018*

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	6	8	8	8	8	8	8	8	8	8
Germany	0	0	1	0	1	1	1	1	1	1
Ireland	0	0	0	0	0	0	0	0	0	0
Netherlands	5	8	7	8	6	9	9	14	14	12
Norway	22	22	20	22	21	21	21	24	24	24
Spain	0	0	0	0	0	0	NI	NI	NI	NI
UK	26	28	28	28	26	24	22	27	27	25
Total	59	66	64	66	62	63	61	74	74	70

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

Part B: Cumulative Report relating to 2015 data

Table 2: Oily aqueous discharges to the maritime area*

Table 2a: Oil discharged in produced and displacement water (in tonnes), 2009-2018

Country	2009 (IR)	2010 (IR)	2011 (IR)	2012 (IR)	2013 (IR)	2014 (IR)	2015 (IR)	2016 (IR)	2017 (IR)	2018 (IR)
	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾	Dispersed ⁽¹⁾
Denmark	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	0.01	0.01	0.02	0.02	0.02	0.03	NA	NA	NA	NA
Netherlands	54	NA	NA	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	394	0.01	0.02	0.02	0.02	0.03	0.00	0.00	0.00	0.00

Country	2009 (GC-FID)	2010 (GC-FID)	2011 (GC-FID)	2012 (GC-FID)	2013 (GC-FID)	2014 (GC-FID)	2015 (GC-FID)	2016 (GC-FID)	2017 (GC-FID)	2018 (GC-FID)
	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed	Dispersed
Denmark	NA	214	165	116	178	162	195	200	171	137
Germany	0.16	0.19	0.29	0.4	0.2	0.1	0.17	0.04	0	0
Ireland	NA	NA	NA	NA	NA	NA	0.01	0.02	0.04	0.01
Netherlands	54	83	56	75	60	37	57	62	86	56
Norway	1,542	1,490	1,529	1,593	1,595	1,805	1,859	1,736	1,655	1,523
Spain	NA	NA	NA	NA	NA	NA	NI	NI	NI	NI
UK	2,900	3,008	2,493	2,267	2,176	1,997	2,412	2,017	2,139	2,241
Total	4,496	4,795	4,244	4,052	4,009	4,001	4,523	4,014	4,051	3,957

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

Dissolved from 2009

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	Dissolved	Dissolved	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX
Denmark	195	216	165	136	89	93	145	99	276	325
Germany	0.395	0.672	0.78	0.8	0.6	0.6	0.3	0.5	0	0.5
Ireland	0.025	0.290	0.37	0.3	0.1	0.1	0.2	0.1	0.3	0.04
Netherlands	61.649	75.59	67.7	64.4	54.5	49	48	73	45.55	47.47
Norway	1,954	1,820	1,675	1,855	1,920	1,910	2,269	2,221	2,106	1,920
Spain	NA	NA	NA	NA	NA	NA	NI	NI	NI	NI
UK ⁽¹⁾	2,619	2,115	2,477	2,178	4,010	2,432	2,508	2,140	2,656	2,586
Total	4,830	4,228	4,386	4,235	6,074	4,485	4,971	4,534	5,084	4,879

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 2015 data

Table 2: Oily aqueous discharges to the maritime area *

Table 2b: Annual quantity of produced and displacement water discharged to the sea (in m³), 2009-2018

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	27,607,788	26,948,864	26,125,942	25,148,540	24,747,426	25,317,353	24,855,270	24,179,336	26,176,823	23,097,655
Germany	12,139	15,706	18,182	19,182	15,283	9,595	6,238	7,887	9,829	3,483
Ireland	1,286	1,577	1,538	1,696	1,359	1,126	827	1,070	739	1,653
Netherlands	30,373	9,646,665	8,479,610	9,490,079	4,123,842	2,710,189	2,555,797	8,998,656	6,166,636	5,802,873
Norway	166,337,259	162,796,616	155,576,354	162,401,528	159,533,151	174,237,224	182,012,250	168,612,674	162,917,450	162,702,334
Spain	0	0	0	0	0	0	NI	NI	NI	NI
UK	196,622,027	197,379,720	174,871,616	155,833,156	149,964,142	156,734,693	165,286,189	155,463,057	143,389,382	139,589,774
Total	390,610,872	396,789,148	365,073,242	352,894,181	338,385,203	359,010,180	374,716,571	357,262,680	338,660,859	331,197,772

* 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 m³/year), 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
PW*	365,677,026	361,133,229	335,320,487	318,496,588	304,073,595	323,650,889	339,234,298	322,236,467	307,723,365	300,126,877
DPW**	35,989,804	35,655,541	29,752,755	34,397,593	34,311,608	35,359,291	35,482,273	35,026,213	30,938,354	31,070,895
IPW***	88,027,421	86,744,890	91,006,849	98,399,905	91,227,430	90,182,176	103,401,193	110,720,198	113,838,307	120,019,801
Total	489,694,251	483,533,660	456,080,091	451,294,086	429,612,633	449,192,356	478,117,764	467,982,878	452,500,026	451,217,573

* 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 2015 data

Table 3: Installations which do not meet OSPAR performance standard for dispersed oil in aqueous discharges^{a*}

Table 3a^a: Number of installations with discharges exceeding the 30 mg oil/l performance standard, valid from 2008 onwards, and quantity of oil discharged by these installations (in tonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total number of installations with discharges in the Convention area	743	811	742	752	756	759	766	753	727	724
Number of installations exceeding 30 mg/l	31	20	20	17	19	16	19	17	19	21
Quantity of dispersed oil discharged	340	276	101	206	244	94	112	109	126	339

"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 2015 data

Table 3: Installations which do not meet OSPAR performance standard for dispersed oil in aqueous discharges *

Table 3b: Number of installations with discharges exceeding the 30 mg oil/l performance standard, valid from 2008 onwards and quantity of oil discharged by these installations (in tonnes), in excess of the 30 mg/l performance standard

Country	2009		2010		2011		2012		2013	
	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	2	7	1	1	0	0	1	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	7	4	0	0	3	0.1	1	0.0	2	0.3
Norway	0	0	3	1.6	4	1.1	4	3.0	3	3.3
Spain	0	0	0	0	0	0	0	0.0	0	0
UK	22	99.4	16	130.4	13	33.9	11	44.1	14	77.3
Total	31	110	20	133	20	35	17	47	19	81

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

Country	2014		2015		2016		2017		2018	
	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	0.006	2	0.3	0	0	0	0	1	0.034
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	2	0.014	1	0.03	0	0.00	0	0
Norway	4	10.5	4	3.1	5	15.7	6	3.6	8	4.6
Spain	0	0	NI	NI	NI	NI	NI	NI	NI	NI
UK	11	14.5	11	15.2	11	5.7	13	13.8	12	65.4
Total	16	25	19	19	17	21	19	17	21	70

Part B: Cumulative Report relating to 2015 data

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), 2009-2018*

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	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 ²	Total OPF ²
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	9	0	0	0
Spain	0	0	0	0	0	0	NI	NI	NI	NI
UK	0.3	1	4	5	3	2	14	23	15	3
Total	0.3	1	4	5	3	2	23	23	15	3

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 20

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

Part B: Cumulative Report relating to 2015 data

Table 4b: Number of wells drilled with OBF & OPF, with discharge of contaminated cuttings to the maritime area, 2009-2018*

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

Country	2009		2010		2011		2012		2013	
	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	Other 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	1	0	11	0	11	0	8	0	9	0
Total	1	0	11	0	11	0	8	0	8	0

Country	2014		2015		2016		2017		2018	
	OBF	Other OPF	OBF	Other OPF	OBF	Other OPF	OBF	Other OPF	OBF	Other OPF
Denmark	1	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	4	0	0	0	0	0	0	0
Spain	0	0	NI	NI	NI	NI	NI	NI	NI	NI
United Kingdom	9	0	16	0	17	0	13	0	7	1
Total	10	0	20	0	17	0	13	0	7	1

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

Part B: Cumulative Report relating to 2015 data

Table 5: Spillage of oil and chemicals *

Table 5a: Number of oil spills, 2009-2018 - Spills less than 1 tonne (≤ 1 T) and spills above 1 tonne (> 1 T) ^a

Country	2009		2010		2011		2012		2013	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark ⁽¹⁾	23	2	21	0	30	0	42	0	47	1
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	1	0	1	0	4	0	1	0
Netherlands ⁽²⁾	14	1	34	0	13	1	12	0	10	0
Norway ⁽³⁾	142	4	133	7	129	1	118	4	112	5
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom ⁽⁴⁾	291	8	265	6	270	10	239	8	299	9
Total	470	15	454	13	443	12	415	12	469	15

Country	2014		2015		2016		2017		2018	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark ⁽¹⁾	74	3	54	0	43	0	35	1	30	2
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	3	0	1	0	0	0
Netherlands ⁽²⁾	17	0	13	0	22	0	9	0	6	0
Norway ⁽³⁾	60	8	41	6	36	3	44	3	41	5
Spain	0	0	NI	NI	NI	NI	NI	NI		
United Kingdom ⁽⁴⁾	404	6	350	8	348	5	296	13	342	3
Total	555	17	458	14	452	8	385	17	419	10

⁽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 - From 2018 Norway reports in tonnes rather than m3.

⁽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 2015 data

Table 5: Spillage of oil and chemicals *

Table 5b: Total quantity of oil spilled, in tonnes, 2009-2018

Country	2009		2010		2011		2012		2013	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	2	4	2	0	1	0	2	0	0	3
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0.001	0	0.01	0	0.8	0	0.001	0
Netherlands ⁽¹⁾	0.6	22	0.1	0	0.1	1	0.4	0	0.7	0
Norway ⁽²⁾	8	88	6	105	8.7	10	7.0	9	6.2	34
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom	15.0	39	9.8	14	12.8	249	11.4	510	17.3	111
Total	26	154	18	119	23	260	22	519	24	148

Country	2014		2015		2016		2017		2018	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	2	43	1.9	0	1	0	1.09	2	2.42	20
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0.001	0	0.002	0	0	0
Netherlands ⁽¹⁾	0.3	0	0.8	0	0.8	0	0.004	0	0.008	0
Norway ⁽²⁾	9.4	134	6.0	34	2.0	15	5.1	7	3.0	28
Spain	0	0	NI	NI	NI	NI	NI	NI		
United Kingdom ⁽³⁾	22.5	19	14.1	25	11.6	14	11.9	41	21	6
Total	34	196	23	59	15	29	18	50	26	55

⁽¹⁾ Netherlands - oil spills include spills of OBF

⁽²⁾ Norway - From 2018 Norway reports in tonnes rather than m3.

⁽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 2015 data

Table 5: Spillage of oil and chemicals *

Table 5c: Number of chemical spills, 2009-2018 - Spills less than 1 tonne (≤ 1 T) and spills above 1 tonne ($>$)

Country	2009		2010		2011		2012	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	1	2	4	2	3	0	26	0
Germany	0	0	0	0	0	0	0	0
Ireland	0	0	1	0	0	0	1	0
Netherlands ⁽¹⁾	3	0	5	3	1	0	7	1
Norway ⁽²⁾	119	43	126	32	123	28	110	38
Spain	0	0	0	0	0	0	0	0
United Kingdom	132	54	119	56	204	36	224	49
Total	255	99	255	93	331	64	368	88

Country	2014		2015		2016		2017	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	28	2	38	1	35	2	25	2
Germany	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	2
Netherlands	16	3	5	2	8	4	4	0
Norway ⁽¹⁾	203	19	130	43	138	25	111	29
Spain	0	0	NI	NI	NI	NI	NI	NI
United Kingdom ⁽²⁾	182	35	177	25	206	40	185	29
Total	429	59	350	71	387	71	325	62

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⁾ Norway - From 2018 Norway reports in tonnes rather than m3.

⁽²⁾ UK - UK data now includes data from 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 2015 data

Table 5: Spillage of oil and chemicals *

Table 5d: Total quantity of chemical spills, in tonnes, 2009-2018

Country	2009		2010		2011		2012		20
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T
Denmark	0	29	1	11	1	0	1	0	2
Germany	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0	0.1
Netherlands ⁽¹⁾	0.01	0	1	27	0	0	0.9	1.2	13
Norway ⁽²⁾	23	13,057	20	6,245	25	176	15	350	18
Spain	0	0	0	0	0	0	0	0	0
United Kingdom	25	1,330	20	573	36	490	32	1,192	29
Total	48	14416	42	6856	62	666	50	1543	63

Country	2014		2015		2016		2017		20
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T
Denmark	2	9	1.33	116	1.1	42.2	1.1	2.6	1.44
Germany	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	11.41	0
Netherlands	0.2	3.9	0.7	5.6	1.5	57.4	0.8	0.0	0.8
Norway ⁽¹⁾	22.0	736	16.0	1,563	19.0	313	16.0	899	10.0
Spain	0	0	NI	NI	NI	NI	NI	NI	
United Kingdom ⁽²⁾	41.3	285	25.1	425	65.1	510	25.9	497	22.2
Total	66	1,034	43	2109	87	923	44	1409	34

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⁾ Norway - From 2018 Norway reports in tonnes rather than m³.

⁽²⁾ UK - UK data now includes one incident in 2014 which had previously been under investigation. One incident in 2014 is still under investigation

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

Part B: Cumulative Report relating to 2015 data

Table 5e: Total of dispersed oil discharged and oil spilled to the sea, in tonnes

Year: 2009-2018

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	346	216	166	118	181	207	196	201	174	160
Germany	0.2	0.2	0.3	0.4	0.2	0.10	0.2	0.04	0.01	0
Ireland	0.01	0.03	0.03	0.80	0.00	0.03	0.01	0.02	0.02	0.01
Netherlands ⁽¹⁾	131	83	57	76	61	38	57	62	86	56
Norway ⁽²⁾	1,639	1,601	1,548	1,609	1,635	1948	1899	1753	1667	1554
Spain	0	0	0	0	0	0	NI	NI	NI	
United Kingdom	2,954	3,031	2,991	2,789	2,304	2038	2451	2042	2192	2268
Total	5,614	5,070	4,931	4,763	4,593	4,180	4,231	4,604	4,119	4,038

⁽¹⁾Netherlands - oil spills include spills of OBF

⁽²⁾Norway - From 2018 Norway reports in tonnes rather than m³.

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 2015 data

Table 6: Emissions to air, 2009-2018*

CO₂ (in million of tonnes)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	2.20	1.94	1.76	1.84	1.78	1.77	1.80	1.77	1.63	1.56
Germany	0.04	0.05	0.05	0.05	0.05	0.04	0.03	0.03	0.04	0.05
Ireland	0.04	0.05	0.05	0.05	0.06	0.04	0.03	0.03	0.04	0.04
Netherlands	1.49	1.39	1.54	1.96	2.43	2.27	1.93	1.40	1.35	1.25
Norway	12.44	12.00	12.28	12.44	11.57	12.06	13.85	13.34	13.19	12.97
Spain	0.00	2.00	0.001	0.001	0.001	0.001	NI	NI	NI	NI
United Kingdom	15.44	15.00	14.02	13.08	13.17	12.59	13.77	13.40	14.14	13.18
Total	32	32	30	29	29	29	31	30	30	29

NO_x (in thousand of tonnes)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	8.10	7.00	6.32	7.22	7.28	7.81	7.64	8.71	6.44	5.43
Germany	0.05	0.05	0.04	0.08	0.05	0.04	0.06	0.07	0.09	0.08
Ireland	0.12	0.21	0.16	0.18	0.58	0.14	0.08	0.10	0.29	0.12
Netherlands	4.17	3.70	5.27	4.97	5.22	4.17	3.95	3.75	3.39	2.72
Norway	50.00	50.00	51.49	50.44	50.45	51.78	46.76	44.71	42.90	44.55
Spain	0.01	0.00	0.01	0.01	0.01	0.01	NI	NI	NI	NI
United Kingdom	49.50	53.00	47.49	47.01	46.40	46.07	52.81	51.86	56.52	49.52
Total	112	114	111	110	110	110	111	109	110	102

nmVOCs (in thousands of tonnes)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	2.00	2.61	1.22	1.89	1.77	2.17	2.25	2.43	1.62	1.37
Germany	0.12	0.12	0.30	0.39	0.14	0.15	0.06	0.08	0.14	0.06
Ireland	0.001	0.05	0.003	0.00	0.02	0.003	0.001	0.002	0.01	0.002
Netherlands	5.00	4.16	4.12	3.23	5.14	3.67	3.02	3.45	3.03	1.55
Norway ⁽²⁾	45.61	37.00	30.58	33.02	32.76	48.18	47.34	42.50	35.25	40.63
Spain	0.00	0.00	0.01	N/D	0.01	0.01	NI	NI	NI	NI
United Kingdom	41.30	33.30	35.43	37.96	38.08	38.10	37.31	32.12	38.29	50.10
Total	94	77	72	76	78	92	90	81	78	94

* 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 2010: 16 000 tonnes of CO₂, 14 tonnes of NO_x, 0,3 tonne of nmVOC.

For 2012: 15 000 tonnes of CO₂, 0,5 tonne of NO_x, 0,002 tonne of nmVOC.

For 2014: 6000 tonnes of CO₂, 130 tonnes of NO_x, 9 tonnes of nmVOCs.

Part B: Cumulative Report relating to 2015 data

Table 6: Emissions to air, 2009-2018* (cont'd)

CH₄ (in thousand of tonnes)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	3.00	4.96	3.19	4.11	4.01	3.72	3.85	3.86	3.41	3.41
Germany	3.13	1.34	0.55	0.72	0.24	0.29	0.12	0.15	0.36	0.15
Ireland	0.45	0.37	0.40	0.37	0.36	0.36	0.34	0.34	0.38	0.53
Netherlands	14.48	13.04	12.41	9.67	14.33	12.74	7.88	9.56	8.56	6.57
Norway ⁽¹⁾	29.63	28.04	28.58	25.66	23.47	28.25	29.05	19.47	16.29	15.91
Spain	0.00	0.00	0.11	0.14	0.12	0.12	NI	NI	NI	NI
United Kingdom	45.30	47.90	44.86	44.12	45.69	43.08	41.70	42.15	43.29	43.56
Total	96	96	90	85	88	89	83	76	72	70

SO₂ (in tonnes)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	100	112.0	86.0	92.0	116	145	99	160	80	54
Germany	0.20	0.0	0.0	4.0	0.5	0.3	0.8	1.0	1.4	1.3
Ireland	1.77	6.0	6.9	1.4	29	2.6	0.9	1.5	13.4	1.5
Netherlands	103	112	133	253	350	290	263	42	59	28
Norway	500	600	899	822	914	862	736	584	516	518
Spain	0.0	0.0	N/D	N/D	N/D	N/D	NI	NI	NI	NI
United Kingdom	2,170	2,600	1,923	2,561	2,208	2,241	2,864	2,506	3,100	2,877
Total	4,138	2,875	3,048	3,733	3,617	3,540	3,964	3,295	3,770	3,480

⁽¹⁾ The Norwegian emissions of CH₄ which were reported for 2009 and 2010 were incorrect. Therefore the figures presented here differ from the reports from these two years.

Part B: Cumulative Report relating to 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	45,732,541	32,364,501	31,661,190	34,759,511	26,031,851	32,965,260	31,824,783	47,972,604	23,698,150	15,120,362
Germany	2,425	1,565,002	478	252,562	1,387	1,522,980	6,795	13,666	13,666	18,851
Ireland	1,020,082	1,904,711	836,841	936,836	2,783,230	878,846	540,229	62,995	1,784,962	802
Netherlands	29,127,105	41,713,369	36,110,148	46,550,994	34,616,138	42,614,129	49,608,209	17,848,041	13,436,194	12,920,162
Norway	289,681,616	286,277,021	273,273,649	282,848,186	346,516,261	322,304,630	311,861,617	283,520,496	238,399,889	264,171,934
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	255,518,585	188,510,604	155,542,997	189,057,474	207,602,076	185,467,972	211,799,667	150,546,941	165,314,789	148,455,829
Total	621,082,354	552,335,208	497,425,302	554,405,563	617,550,942	585,753,816	605,641,300	499,964,744	442,647,650	440,687,939

Country	Quantity discharged									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽²⁾	24,603,595	11,838,770	13,966,161	12,334,663	7,978,977	8,694,006	8,806,814	12,160,682	10,118,377	6,559,931
Germany	2,220	1,059,928	478	6,573	1,275	130,691	6,116	12,299	12,299	10,212
Ireland	125,905	754,568	423,274	604,132	1,040,237	673,680	376,623	13,839	637,645	802
Netherlands	8,989,344	17,462,642	12,281,563	17,441,780	16,144,242	18,269,435	16,128,611	8,313,274	7,553,982	5,994,055
Norway	111,268,937	111,268,937	99,503,072	104,495,858	114,256,578	107,667,490	94,071,979	89,022,868	79,853,130	84,210,708
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	113,184,172	69,422,728	52,216,290	56,070,241	70,139,373	58,222,340	52,492,691	47,614,750	49,308,449	48,598,583
Total	258,174,174	211,807,573	178,390,838	190,953,247	209,560,682	193,657,642	171,882,834	157,137,712	147,483,883	145,374,292

* 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).

⁽¹⁾ Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: 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 2010: 1 057 980 kg.
For 2012: 1 103 867 kg; For 2014: 654086 kg.

Part B: Cumulative Report relating to 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	11,660,616	3,992,862	2,207,877	1,663,514	1,386,349	2,367,795	816,411	2,105,204	374,282	586,398
Germany	0	33,406	0	77	0	450	0	0	0	0
Ireland	138	3,944	0	0	53,685	0	300	0	3,588	0
Netherlands	817,256	277,442	784,501	459,251	309,021	950,654	1,009,744	147,130	259,501	808,927
Norway ⁽³⁾	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	NI	NI	NI	
United Kingdom ⁽⁴⁾	1,657,961	2,478,527	1,181,268	2,313,743	3,146,799	2,116,846	2,494,697	1,342,891	2,179,745	1,271,711
Total	14,135,971	6,786,181	4,173,646	4,436,585	4,895,854	5,435,745	4,321,152	3,595,224	2,817,115	2,667,036

Country	Quantity discharged									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽²⁾	431,845	304,808	146,321	123,525	142,595	522,361	233,232	223,153	112,930	41,577
Germany	0	2,408	0	53	0	0	0	0	0	0
Ireland	110	2,207	0	0	4,697	0	290	0	313	0
Netherlands	105,070	112,448	41,875	79,976	50,794	81,835	119,708	62,314	45,176	18,335
Norway ⁽³⁾	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	NI	NI	NI	
United Kingdom ⁽⁴⁾	594,504	676,648	439,121	384,226	858,274	463,057	475,932	365,463	543,690	342,798
Total	1,131,529	1,098,519	627,317	587,780	1,056,360	1,067,253	829,162	650,930	702,108	402,710

⁽¹⁾ Part of the Danish reports contains the report on the use of offshore chemicals from Faroe Islands: For 2014: 183 977 kg.

⁽²⁾ Part of the Danish reports contains the reports on the discharge of offshore chemicals from Faroe Islands: For 2014: 167 804 kg.

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

Part B: Cumulative Report relating to 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	15,781,594	13,053,202	13,372,128	19,414,662	12,578,135	15,602,959	14,630,468	18,138,083	12,258,371	7,659,426
Germany	2,993	2,318	1,527	3,690	4,471	60,926	1,808	1,177	1,177	881
Ireland	358,021	572,265	12,992	88,555	1,509	20,915	23,213	21	934,791	3,181
Netherlands	6,388,029	9,901,488	11,563,870	12,289,133	8,731,380	12,819,428	17,814,944	4,422,648	2,808,238	3,581,547
Norway ⁽³⁾	92,409,851	103,061,375	80,140,772	82,880,656	101,039,980	95,147,120	104,211,550	111,064,657	99,720,887	107,133,234
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	75,977,678	70,401,312	63,098,455	69,690,462	79,106,416	78,631,851	84,134,667	62,469,981	72,200,124	68,158,557
Total	190,918,166	196,991,960	168,189,744	184,367,158	201,461,891	202,283,199	220,816,650	196,096,567	187,923,587	186,536,825

Country	Quantity discharged									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽²⁾	4,980,606	1,503,163	4,500,000	4,751,780	5,148,251	4,786,125	4,556,915	4,664,838	5,605,816	3,634,209
Germany	0	0	24	349	12	1,174	71	339	339	637
Ireland	1,827	8,752	8,534	24,555	1,509	15,577	20,987	22	19,965	3,181
Netherlands	584,237	694,870	819,255	955,649	595,553	578,461	460,649	272,207	316,096	541,981
Norway ⁽³⁾	14,700,303	11,727,338	12,304,885	13,532,911	14,022,764	14,551,415	14,417,695	14,231,540	14,719,655	15,217,572
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	12,074,628	11,446,089	10,005,461	10,609,116	10,341,731	10,074,380	11,571,081	10,033,343	11,375,557	10,277,924
Total	32,341,601	25,380,212	27,638,159	29,874,360	30,109,820	30,007,132	31,027,398	29,202,289	32,037,428	29,675,505

*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 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 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 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	0	0	0	0	0	0	22	0	0	0
Germany	0	1,273	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	2	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway	20	6	0	3	6	0	0	0	0	0
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	1,267	974	783	440	496	108	88	223	247	384
Total	3,929	2,253	783	443	504	108	110	223	247	384

Country	Quantity discharged									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
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	58	0	0	3	6	0	0	0	0	0
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	89	21	9	0	0	0	0	3	0	0
Total	43	21	9	3	6	0	0	3	0	0

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

Part B: Cumulative Report relating to 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	8,550	0	0	0	0	0	9	29,425	49,104	55,138
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	8	400	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway ⁽¹⁾	53	0	0	30	92	120	49,672	134,810	102,232	110,223
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	856	1,155	365	1,848	253	546	294	291	298	324
Total	12,222	1,155	365	1,886	746	666	49,976	164,526	151,634	165,685

Country	Quantity discharged									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	0	0	0	0	0	0	0	18,247	30,306	40,446
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	1	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway ⁽¹⁾	0	0	0	21	0	30	43,684	74,639	62,551	70,258
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	0	137	345	1,643	90	79	179	120	20	4
Total	1,598	137	345	1,665	90	109	43,863	93,006	92,876	110,708

Part B: Cumulative Report relating to 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	515,528	538,181	178,803	351,620	110,595	168,585	176,849	226,188	600	34,760
Germany	5,906	6,932	0	0	0	19,570	0	0	0	385
Ireland	3,498	22,790	0	300	2,275	6	375	0	4,346	4,781
Netherlands	162,510	244,482	349,002	231,545	150,205	203,370	464,791	155,040	59,975	98,318
Norway	2,144,671	2,386,670	1,493,063	1,287,072	1,636,733	1,820,950	2,330,299	2,397,250	2,324,256	3,199,194
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	2,581,413	1,924,708	2,881,197	1,784,069	2,042,658	1,644,336	3,504,469	1,170,337	1,417,466	2,157,142
Total	7,376,126	5,123,763	5,123,763	3,654,606	3,942,466	3,856,817	6,476,783	3,948,815	3,806,644	5,494,580

Country	Quantity discharged									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽²⁾	1,061	7,852	4,244	357	42	360	0	460	114	0
Germany	37	750	0	0	0	1,898	0	0	0	289
Ireland	0	64	0	100	11	6	375	0	2,785	1,386
Netherlands	19,730	19,179	4,542	3,627	913	1,094	1,235	261	654	191
Norway	16,318	14,455	6,403	3,600	2,957	5,220	14,083	20,316	21,425	122,629
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	608,549	404,545	375,566	305,385	576,846	345,846	294,371	472,358	508,941	505,189
Total	734,394	446,845	446,845	313,068	580,769	354,424	310,065	493,395	533,918	629,684

⁽¹⁾ Part of the Danish report contains the report on the use of offshore chemicals from Faroe Islands: 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 2010: 1 207 kg. For 2012: 0 kg.

Part B: Cumulative Report relating to 2015 data

Table 7: The use and discharge of offshore chemicals

Year: 2009-2018

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

Country	Quantity used									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark ⁽¹⁾	241,892	281,108	293,815	172,230	42,840	29,135	21,028	84,478	4,836	90
Germany	0	0	6,355	5,582	0	24,437	863	510	0	0
Ireland	1,271	3,340	3,317	3,400	815,176	107	0	18	0	47
Netherlands	979,280	770,136	1,566,448	452,277	531,900	116,197	114,339	52,088	35,127	31,045
Norway	1,061,115	506,942	348,519	1,506,167	1,326,315	1,351,210	1,410,717	1,040,438	719,249	636,169
Spain	0	0	0	0	0	0	NI	NI	NI	NI
United Kingdom	3,142,275	2,862,101	2,685,217	2,370,810	2,826,647	2,204,106	2,064,376	1,481,436	1,576,541	1,577,094
Total	4,582,500	4,423,627	4,413,085	4,510,466	5,542,878	3,725,192	3,611,322	2,658,968	2,335,753	2,244,444

Country	Quantity discharged									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018
Denmark ⁽²⁾	63,222	7,300	21,960	5,651	6,960	6,070	7,440	7,390	6,517	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	3,693	391	0	2,917	730	2,945	34	0	0	47
Netherlands	28,462	37,089	57,636	13,976	22,960	23,195	16,642	6,656	5,826	5,023
Norway	4,579	5,152	1,584	1,710	5,018	3,399	9,040	15,868	11,087	15,770
Spain	0	0	0	0	0	0	0	NI	NI	NI
United Kingdom	918,515	1,046,561	930,855	738,516	648,520	896,187	646,476	818,122	819,485	507,670
Total	1,018,471	1,096,493	1,005,095	762,769	684,188	931,796	679,632	848,035	842,914	528,510

Grand total SUB Chemicals Discharged	1,754,463	1,543,475	1,452,285	1,077,502	1,265,047	1,286,329	1,033,559	1,434,437	1,469,709	1,268,902
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* 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 2015 data

Table 7h: Quantity of chemicals spilled^a in kg per year, 2009 - 2018

Prescreening category	2009	2010	2011	2012	2013	2014	2015	2016	2017 ⁽¹⁾	2018
PLONOR	7,251,474	1,001,352	621,219	1,351,550	1,201,755	705,579	844,650	623,859	990,073	951,137
List of Chemicals for Priority Action	1,600	0	0	0	0	0	8	0	0	0
Inorganic LC ₅₀ or EC ₅₀ < 1 mg/l	0	863	0	72	0	360	0	186	247	144
Biodegradation < 20%	353,271	2,123	1,590	16,785	9,027	3,361	9,913	12,790	1,659	1,498
Substance meets two of three criteria	244	31,129	1,251	17,223	3,016	3,573	5,913	1,844	5,814	1,189
Inorganic, LC ₅₀ or EC ₅₀ > 1 mg/l	3,217	108	328	1,014	472	171	242	1,960	242	3,810
Ranking	6,330,759	250,475	133,103	1,270,125	1,180,123	220,305	363,842	165,736	138,246	101,545
Total	13,940,565	1,286,050	757,491	2,656,769	2,394,393	933,349	1,224,568	806,375	1,136,282	1,059,323

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

⁽¹⁾ UK has included 67kg of substances in 'Inorganic, LC₅₀ or EC₅₀ >1mg/l' that were on The Candidate List of Substances of Very High Concern for Authorisation to REACH (EC1907/2006) considered subs

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 2015 data

Table 8: Discharges of radioactive substances in produced water in terabecquerel (TBq), 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total alpha	7.4	7.6	7.6	8	6.5	6.1	6.7	7.1	7.2	
Total beta	5.02	4.94	5.03	5.2	4.34	4.1	4.4	4.7	4.8	

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 2015 data

Table 9: Total production in oil equivalents, (toeq)

Year: 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	21,136,996	19,428,193	17,757,812	16,290,666	13,674,575	13,035,469	12,662,022	11,769,054	11,639,294	9,075,918
Germany	1,323,703	1,142,193	1,245,520	1,129,230	1,158,020	1,099,947	1,043,589	1,038,094	1,040,213	915,000
Ireland	392,584	408,678	361,130	367,540	336,618	332,647	288,212	2,210,232	2,517,825	2,491,032
Netherlands	17,931,997	16,562,387	17,160,297	17,147,270	18,176,106	14,725,986	13,415,377	13,392,326	9,161,000	10,797,787
Norway	246,686,000	213,000,000	170,723,267	170,552,545	161,574,251	161,363,160	178,379,964	184,471,764	190,916,970	183,766,952
Spain	0	41,176	39,044	58,115	40,269	16,337	NI	NI	NI	NI
United Kingdom	121,700,000	125,612,217	99,391,433	86,480,357	78,304,262	78,229,908	80,859,966	102,538,306	82,375,071	93,218,686
Total	409,171,280	376,194,844	376,194,844	292,025,723	273,264,101	268,803,454	286,649,130	315,419,776	297,650,373	300,265,375

Table 10: Installations included in the Risk Based Approach

Year: 2014-2018

Country	2014			2015			2016		
	No. of Installations included within RBA process ^a	No. of Installations where risk is adequately controlled ^b	No. of Installations where action is to be taken ^c	No. of Installations included within RBA process ^a	No. of Installations where risk is adequately controlled ^b	No. of Installations where action is to be taken ^c	No. of Installations included within RBA process ^a	No. of Installations where risk is adequately controlled ^b	No. of Installations where action is to be taken ^c
Denmark	16	NI	NI	16	NI	NI	16	1	ND
Germany	1	NI	NI	1	1	0	1	1	0
Ireland	2	NI	NI	2	NI	NI	2	NI	NI
Netherlands	77	11	1	85	9	2	85	9	2
Norway	41	19	22	41	20	21	46	22	24
Spain	NI	NI	NI	NI	NI	NI	NI	NI	NI
United Kingdom	105	1	0	105	1	ND	105	1	ND
Total	242	31	23	250	31	23	255	34	26

Country	2017			2018		
	No. of Installations included within RBA process ^a	No. of Installations where risk is adequately controlled ^b	No. of Installations where action is to be taken ^c	No. of Installations included within RBA process ^a	No. of Installations where risk is adequately controlled ^b	No. of Installations where action is to be taken ^c
Denmark	16	1	ND	16	1	15
Germany	1	1	0	1	1	0
Ireland	2	NI	NI	1	NI	NI
Netherlands	85	76	4	94	76	6
Norway	46	22	24	43	18	24
Spain	NI	NI	NI	NI	NI	NI
United Kingdom	88	18	ND	79	22	ND
Total	238	118	28	234	118	45

^a No of installations: Numbers change over time due to commissioning & decommissioning of installations with PW discharges

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

^c Action needed may be chemical substitution, technology or other measure implemented.

The difference between the number of installations included within the RBA process and the total number of installations where risk is adequately controlled and where action is to be taken is accounted by installations either not yet commenced the RBA assessment process or where further assessment is to be undertaken

NI - No Information

ND - Not Determined Yet



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