

The use of and discharge chemicals in the offshore oil and gas industry in the North-East Atlantic



Key Message: Chemicals are used in a variety of applications during drilling, production and decommissioning operations in offshore oil and gas installations in the North-East Atlantic. This fact sheet looks at the work done by OSPAR Contracting Parties to ensure and actively promote the continued shift towards the use of less hazardous substances and, as a result, reduce the overall environmental impact resulting from the use and discharge of offshore chemicals.

Background

The use of chemicals is critical for the production of oil and gas. Chemicals are used in a variety of applications during drilling, production and decommissioning operations. They may, for example, be used during drilling and well completions, injected into the process stream, used as pipeline chemicals, gas treatment chemicals, or utility chemicals, as well as those added to export flow and arriving from upstream facilities. The main discharges of chemicals arise from drilling activities and discharges of produced water which is a by-product of oil and/or gas production operations and includes formation water, condensation water and re-produced injection water. Produced water discharges contain hydrocarbons, alkyl phenols, heavy metals, radionuclides, added chemicals, and other oil related substances.

Some of the chemicals are hazardous because they contain substances that are either persistent, and/or liable to accumulate in living organisms and/or toxic.

What has OSPAR done?

A Decision on a Harmonised Mandatory Control System for the Use and Reduction of Discharge of Offshore Chemicals (HMCS) was first adopted in 1996, this was superseded by OSPAR Decision 2000/2, as amended by Decision 2005/1. The purpose of the Decision is that by application of the management mechanisms

set out, authorities shall ensure and actively promote the continued shift towards the use of less hazardous substances and, as a result, reduce the overall environmental impact resulting from the use and discharge of offshore chemicals.

The HMCS Decision, along with OSPAR Recommendation 2017/1 on a Harmonised Pre-Screening Scheme for Offshore Chemicals and OSPAR Recommendation 2010/3 on a Harmonised Offshore Chemical Notification Format (HOCNF) are key elements in OSPAR's control of offshore chemicals. They set out what kind of data and information must be notified to the competent national authorities of the Contracting Parties and provide advice with the aim of harmonising authorisation and permitting procedures for chemicals. The measures also include more detailed guidance on the substitution and ranking of chemicals.

Other relevant measures include the establishment of lists of chemicals that pose a risk for the marine environment - List of Chemicals for Priority Action (LCPA) and of those who do not pose a risk - OSPAR List of Substances Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment (PLONOR); OSPAR Recommendation 2005/2 on environmental goals for the discharge of chemicals that are or contain added substances, listed in the OSPAR List of Chemical for Priority Action (LCPA); and OSPAR Recommendation 2006/3 on environmental goals for the discharge of chemicals that are or which contain substances identified as candidates for substitution.

[OSPAR Decision 2005/1 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals](#)

[OSPAR Recommendation 2017/1 on a Harmonised Pre-screening Scheme for Offshore Chemicals](#)

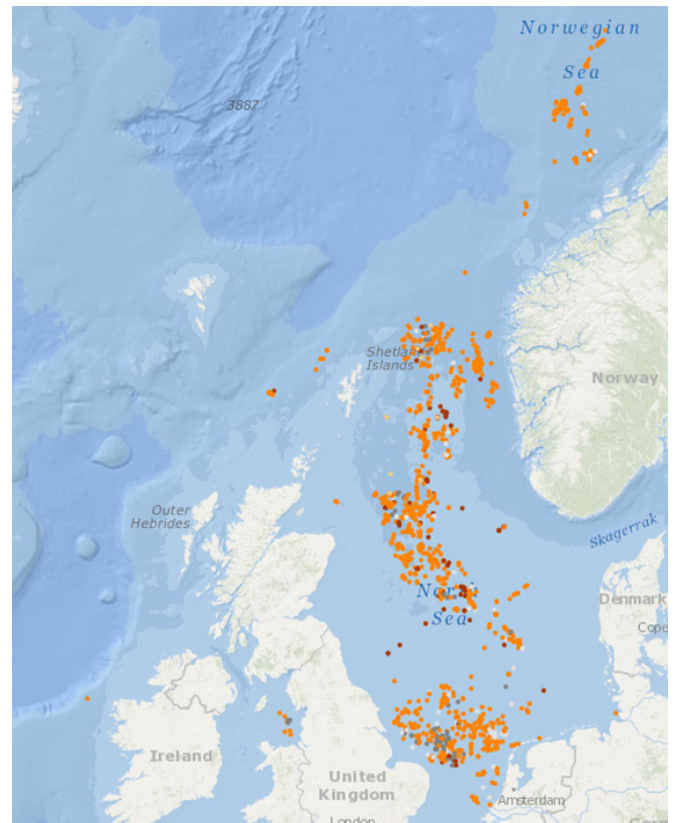
[OSPAR Recommendation 2010/03 on a Harmonised Offshore Chemical Notification Format \(HOCNF\)](#)

[OSPAR List of Chemicals for Priority Action \(LCPA\)](#)

[OSPAR List of Substances Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment \(PLONOR\)](#)

[OSPAR Recommendation 2005/2 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that Are, or Contain Added Substances, Listed in the OSPAR 2004 List of Chemicals for Priority Action](#)

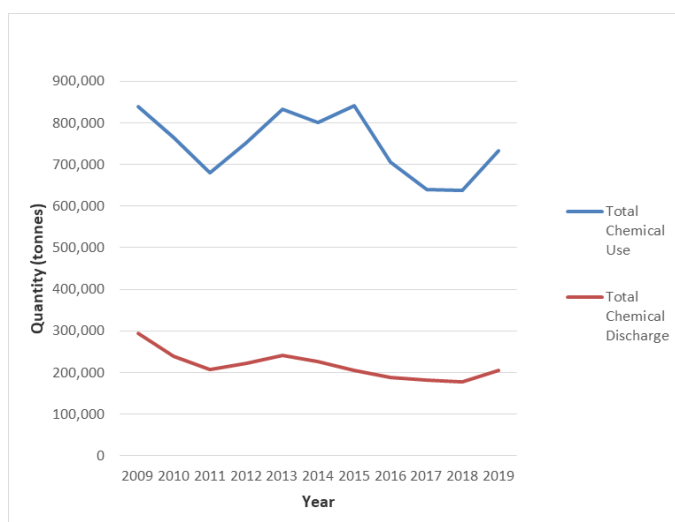
[OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that Are, or Which Contain Substances Identified as Candidates for Substitution, as amended by OSPAR Recommendation 2019/02. Consolidated text](#)



Offshore installations in the OSPAR Maritime Area (2019)

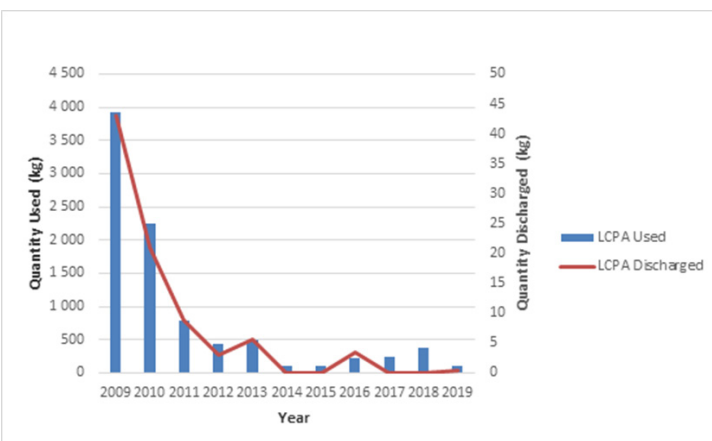
Were the measures effective?

The total quantity of chemicals used offshore has decreased from 838 111 tonnes in 2009 to 733 598 tonnes in 2019, of which 69% are on the PLONOR list and less than 1% contained substances which are candidates for substitution. The total quantity of chemicals discharged into the sea has decreased from 293 402 tonnes in 2009 to 204 570 tonnes in 2019 of which 84% are on the PLONOR list and less than 0,5% contained substances which are candidates for substitution.



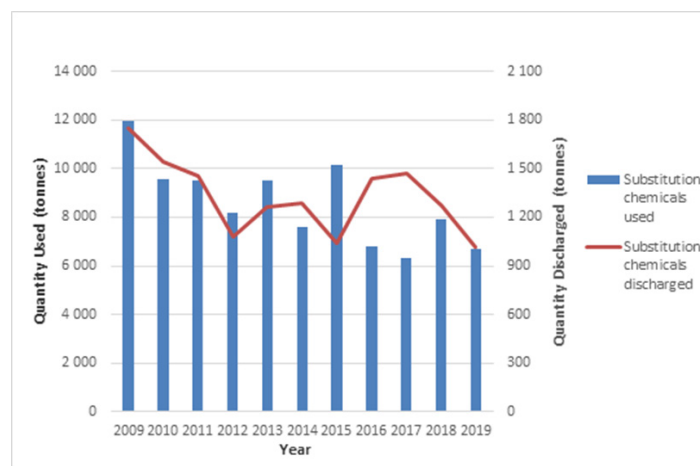
Total chemical use & discharge 2009 - 2019

The phasing of added chemicals identified for Priority Action (LCPAs) was achieved through the application of OSPAR Recommendation 2005/2 on environmental goals for the discharge by the offshore industry of chemicals that are, or contain added substances, listed in the OSPAR 2004 List of Chemicals for Priority Action.



LCPA chemicals used and discharged 2009 - 2019

The nearly 50% reduction in the use and discharge of substances carrying substitution warnings can be directly attributed to the implementation of OSPAR Recommendation 2006/3 on environmental goals for the discharge by the offshore industry of chemicals that are, or which contain substances identified as candidates for substitution.



Substitution chemicals used and discharged 2009 - 2019

OSPAR measures such as the harmonised approach to the management of offshore chemicals, harmonised notification format and harmonised pre-screening procedures for offshore chemicals, and efforts to increase harmonisation between the HMCS and REACH¹ continue to ease work of both the national competent authorities and the industry and have made regulatory decisions related to use and discharge of offshore chemicals within the OSPAR Maritime Area more transparent.

What happens next?

Whilst progress has been made in reducing the use and discharge of chemicals identified as candidates for substitution, the challenge remains to phase out the discharges of remaining substitution chemicals. The North-East Atlantic Environment Strategy 2030 set out objectives that aim to ensure that measures to eliminate discharges, emissions and losses of hazardous substances are in place to achieve or maintain good environmental status, including through working regularly with other organisations.

Also, the Strategy sets out an objective to establish the extent of the use and discharge of plastic substances, including microplastics, contained in offshore chemicals and, where possible, develop measures to control or phase out the discharge of such substances.

[1. Regulation \(EC\) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals \(REACH\)](#)