



**DECOM**  
North Sea



**GUIDELINES:  
MANAGING OFFSHORE  
DECOMMISSIONING WASTE**

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*Compiled in collaboration with D3 Consulting Ltd*



# CORRECT WASTE MANAGEMENT DOES MORE THAN PROTECT THE ENVIRONMENT; IT REDUCES THE RISK TO HUMAN HEALTH



*Martin Bjerregaard, Director of D3 Consulting Ltd.*

Decom North Sea would like to acknowledge the organisations involved in the preparation of these Guidelines. They included a broad representation from industry and the regulators. The development of the Guidelines included four industry and regulatory workshops, numerous consultations and significant support from the Peer Reviewers. With more than 400 comments, observations and suggestions involved in the preparation of this first edition of the Guidelines, Decom North Sea view this process as being a valuable contribution to the industry's further improvement in waste management in the offshore decommissioning sector.

Sincere thanks also go to D3 Consulting Ltd., and specifically Martin Bjerregaard as lead author, who has worked consistently with Decom North Sea to ensure the Guidelines are applicable to industry and supportive of safe and compliant management of wastes arising from offshore decommissioning

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# EXECUTIVE SUMMARY

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## At a glance

- Decommissioning is a highly regulated procedure.
- There are a wide range of benefits to correctly managing the materials/wastes involved.
- There are five key waste principles to follow to legally, safely and cost-effectively decommission offshore installations.

## Highly regulated

There are over 25 pieces of legislation (across Scotland and England) which must be complied with when decommissioning offshore platforms. These include laws to protect the environment and ensure safe transfer and disposal of waste. One of the most important is the Waste Framework Directive 2008/98/EC. This sets the basic concepts and definitions related to waste management, such as waste, recycling and recovery. The primary UK regulators for offshore decommissioning are the Scottish Environment Protection Agency (SEPA) and the Environment Agency (EA). A summary of duties under the various waste regulations are included in Annex 3 to these Guidelines.

## Following proper procedure brings benefits

When the 'right waste goes to the right place', operators:

- comply with regulations and legislations
- reduce the threat of legal action
- save money and time
- protect their reputation

## Five key waste principles

SEPA and the EA have highlighted five key principles necessary when managing offshore waste during decommissioning:

1. Demonstrate early engagement with the regulators and waste management sector.
2. Apply the Waste Hierarchy.
3. Ensure Duty of Care through the whole decommissioning cycle.
4. Develop and maintain robust and detailed Materials Inventories for the assets to be decommissioned.
5. Develop and maintain Active Waste Management Plans (AWMPs) for the decommissioning work.

## Clarity and consistency

These guidelines, originally developed by Decom North Sea and D3 Consulting Ltd. in 2018, aim to provide clarity and consistency with respect to materials management (including wastes) resulting from offshore decommissioning. They are under continuous review and will be further developed and updated as new information comes to light.

The authors are grateful for the input from a variety of regulatory bodies and industry stakeholders.

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## ABBREVIATIONS AND DEFINITIONS

|                |   |
|----------------|---|
| <b>AWMP</b>    | Active Waste Management Plan  |
| <b>BEIS</b>    | The Department for Business, Environment and Industrial Strategy                              |
| <b>BWM</b>     | International Convention for the Control and Management of Ships' Ballast Water and Sediments |
| <b>CAR</b>     | Controlled Activity Regulations (Scotland)  |
| <b>CLP</b>     | Classification, Labelling and Packaging of Substances and Mixtures Regulation                 |
| <b>CoP</b>     | Cessation of Production   |
| <b>COSHH</b>   | Control of Substances Hazardous to Health   |
| <b>DEFRA</b>   | Department for Environment, Food and Rural Affairs  |
| <b>DNS</b>     | Decom North Sea   |
| <b>EA</b>      | The Environment Agency  |
| <b>EAS</b>     | The Environmental Authorisations (Scotland) Regulations (2018)                                |
| <b>EDC</b>     | Engineering Down and Cleaning   |
| <b>EEMS</b>    | Environmental and Emissions Monitoring System   |
| <b>EIA</b>     | Environmental Impact Assessment   |
| <b>EP</b>      | Environmental Permit  |
| <b>EPA</b>     | Environmental Protection Act  |
| <b>EPR</b>     | Environmental Permitting Regulations  |
| <b>ESP</b>     | Electrical Submersible Pump   |
| <b>EWC</b>     | European Waste Catalogue  |
| <b>FPSO</b>    | Floating production storage and offloading unit   |
| <b>HC</b>      | Hydrocarbon   |
| <b>HSE</b>     | Health and Safety Executive   |
| <b>HWR</b>     | Hazardous Waste Regulations   |
| <b>JNCC</b>    | Joint Nature Conservation Committee   |
| <b>LA</b>      | Local Authority   |
| <b>LoW</b>     | List of Wastes  |
| <b>MCA</b>     | Maritime and Coastguard Agency  |
| <b>MS</b>      | Marine Scotland   |
| <b>NORM</b>    | Naturally Occurring Radioactive Material  |
| <b>OGA</b>     | Oil and Gas Authority   |
| <b>OPRED</b>   | Offshore Petroleum Regulator for Environment and Decommissioning                              |
| <b>OSPAR</b>   | Convention for the Protection of the Marine Environment of the North-East Atlantic            |
| <b>P&amp;A</b> | Plugging and abandonment  |
| <b>PCBs</b>    | Polychlorinated biphenyls   |
| <b>PPC</b>     | Pollution Prevention and Control (Scotland) Regulations                                       |
| <b>PPE</b>     | Personal protective equipment   |
| <b>RAMS</b>    | Risk Assessments and Method Statements  |
| <b>RPE</b>     | Respiratory protective equipment  |
| <b>RAS</b>     | Returning Activated Sludge  |
| <b>REACH</b>   | Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation       |
| <b>RSA</b>     | Radioactive Substances Act (replaced by the EAS)  |
| <b>SCAP</b>    | Supply Chain Action Plan  |
| <b>SDS</b>     | Safety Data Sheets  |
| <b>SEPA</b>    | The Scottish Environment Protection Agency  |
| <b>TFS</b>     | Transfrontier Shipment of Waste (Amendment) Regulations                                       |
| <b>UKCS</b>    | UK Continental Shelf  |
| <b>WEWS</b>    | Water Environment and Water Services (Scotland) Act   |
| <b>WML</b>     | Waste Management Licensing  |
| <b>WFD</b>     | Waste Framework Directive   |
| <b>WSR</b>     | Waste Shipment Regulations  |

# INTRODUCTION

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The management of 'materials' (i.e. any substances or objects in use or planned for use) and 'wastes' (i.e. materials being discarded or intended to be discarded) generated by offshore decommissioning involves numerous stakeholders and is governed by a large number of regulations. These are mandated by several regulatory regimes; principally the Scottish Environment Protection Agency (SEPA) and the Environment Agency (EA).

These guidelines aim to support:

- oil and gas operators
- their supply chain of contractors and suppliers
- ancillary services to the decommissioning works

by setting out the five key waste principles and the legal obligations regarding decommissioning waste; helping to manage costs and improve occupational health and safety.

The objective of these guidelines is to provide clarity and consistency with respect to materials management (including wastes) resulting from offshore decommissioning.

In this guidance the term 'installation' is used to include all aspects of the offshore facility, including the platform and subsea infrastructure.

These guidelines, developed by Decom North Sea and D3 Consulting Ltd. in 2018, are under continuous review and will be further developed and updated as new information comes to light. We welcome your comments, suggestions and case studies at <http://decomnorthsea.com/about-dns/projects-update/waste-guidelines> and Members' Portal.

## Legal definition of waste and Duty of Care

The **Waste Framework Directive** 2008/98/EC (<http://ec.europa.eu/environment/waste/framework/>) (WFD) sets the basic concepts and definitions related to waste management, such as waste, recycling and recovery. It explains when waste ceases to be waste and becomes a secondary raw material (so called 'end-of-waste' criteria), and how to distinguish between waste and by-products. It also lays down some basic waste management principles and the priority order for the waste management hierarchy.

The **Corporate Manslaughter and Corporate Homicide Act** 2007 states a "relevant duty of care, in relation to an organisation, means any of the following duties owed by it under the law of negligence—

- (a) a duty owed to its employees or to other persons working for the organisation or performing services for it;
- (b) a duty owed as occupier of premises;
- (c) a duty owed in connection with—
  - (i) the supply by the organisation of goods or services (whether for consideration or not),
  - (ii) the carrying on by the organisation of any construction or maintenance operations,
  - (iii) the carrying on by the organisation of any other activity on a commercial basis, or
  - (iv) the use or keeping by the organisation of any plant, vehicle or other thing;
- (d) a duty owed to a person who, by reason of being a person within subsection (2), is someone for whose safety the organisation is responsible."

Duty of Care applies to all those involved in the management of wastes. It is important to note that the duty is not discharged with a change of ownership of the wastes.

## Devolved regulation

Waste regulations are a devolved responsibility and therefore separate protocols are in place for Scotland, England, Wales and Northern Ireland.

As the majority UK-based decommissioning materials management activity will take place in Scotland and England, this guidance document focuses on the regulators and regulations relevant to those nations. The key regulations and a summary of the associated regulators are presented in Annex 3 and Annex 4.

If management of wastes takes place overseas then there are additional requirements, including a permit for the transfrontier shipment (TFS) of waste, and the need to abide by the regulations in that country and in any other country through which the waste passes.

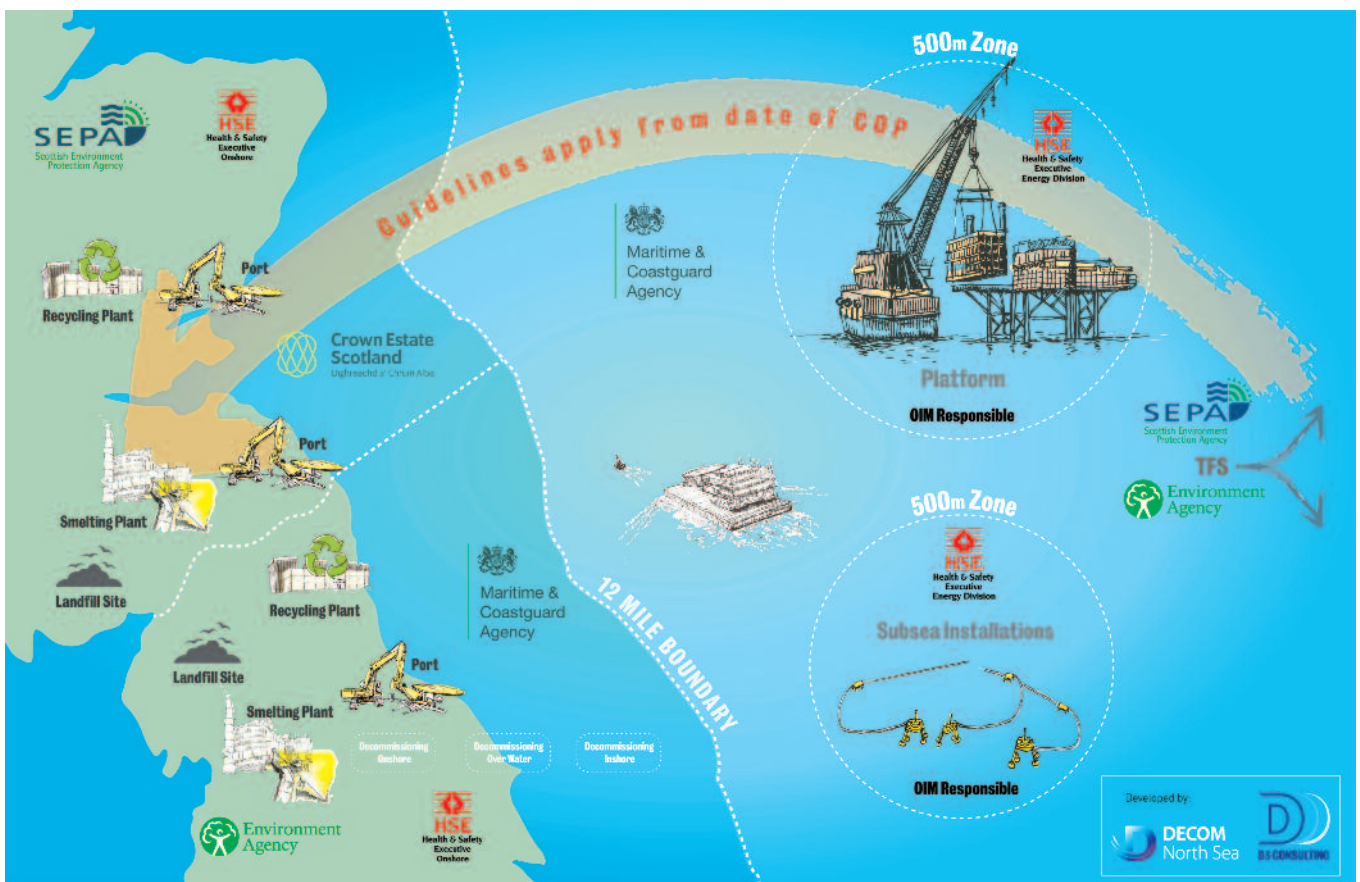


Figure 1: Offshore Decommissioning Waste Scope



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## Wide range of benefits from correct materials management

Correct waste management, also known as the 'right waste going to the right place':

- establishes management measures and protocols for wastes classification and handling, in accordance with the applicable regulations. Failure to meet these regulations can result in legal action.
- saves money and time by minimising the risk of costly delays if unexpected wastes types are discovered at a late stage and are not accounted for. Segregating hazardous from non-hazardous wastes also means lower disposal costs.
- protects the operator's reputation, ensuring wastes are dealt with in the appropriate manner.

Decom North Sea and D3 Consulting Ltd. have developed these Guidelines because SEPA and the EA have both observed that decommissioning programmes so far undertaken have not included enough detail and wastes have ended up in unlicensed sites. The waste regulators require full reporting of wastes volumes and content for re-use, recycling, recovery and disposal so that they can ensure it is dealt with legally. Attention is on ensuring that waste is dealt with at licensed and permitted sites and that it has been treated with no unacceptable risk to the environment.

### Why not waste?

In line with the Waste Hierarchy – which drives waste regulation in the UK and Europe – and to support circular economy principles (Annex 6), operators are required to assess as much of the offshore installation as possible as materials when planning for decommissioning. Producing a 'Materials Inventory', which covers both wastes and non-wastes, removes the need for separate inventories. With this in mind, this guidance focuses on Materials Inventories.

### Materials and waste reconciliation

The assets (materials) and potential wastes on an installation need to be assessed at the beginning of the decommissioning process and recorded in a Materials Inventory. This is essential to ensure that no unexpected material arrives onshore or is delivered to the wrong place. Over the course of decommissioning – which can take years – this dynamic Inventory needs to be regularly reviewed and updated to ensure and maintain its accuracy (as an Active Waste Management Plan).

Looking at components and equipment for the inventory, rather than just 'material' has the potential to facilitate improved re-use. To date, these inventories have sometimes been too vague. Onshore decommissioning contractors have not had a good enough understanding of what is coming to be able to find new markets, with the result that it ends up being treated as scrap materials.

An accurate Materials Inventory also means that, at the end of the decommissioning process, it is possible to reconcile the materials and waste expected against what arose/was dealt with. It is then possible to assess any variances between the two and analyse why these arose. This improves industry knowledge, meaning future decommissioning exercises become easier to manage and therefore more cost effective. For example, information gathered and analysed means that the industry will become better at estimating volumes, tonnages, arisings, characterisation of materials and wastes. Selling components for reuse rather than scrap should also bring a higher value and ultimately reduce costs.

Precise inventories also mean that waste management companies who have the permits and facilities, and bid for contracts are clearer on what they are bidding for and can identify likely recovery/disposal routes etc.

## Classification

Wastes can be classified as hazardous or non-hazardous. For more details see the Waste Classification Criteria (Annex 1) of this guidance. Non-hazardous waste is subject to Duty of Care waste transfer notes. For hazardous waste the requirements include hazardous waste consignment notes, consignee returns and hazardous waste records.

These Guidelines have a particular focus on hazardous wastes. These are the most complicated to deal with correctly and the impacts of not doing so are the most severe from a financial and environmental perspective.

Typical hazardous materials for oil and gas installations may be categorised according to their chemical composition, use on the platform and manageability. Waste Classification: Guidance on the classification and assessment of waste (Technical Guidance WM3 v1.1) can also assist with the characterisation and classification process. Table 1 below lists examples of typical types of hazardous waste to be found on offshore platforms (Source: Kjell Arne Stålevik, Kvaerner Stord 'Inventory Mapping of Hazardous Materials' OH2016, Glasgow).

|   |  |
|---|--|
| <p><b>1. Drill cuttings</b><br/>           Mix of cuttings and mud<br/>           Diesel<br/>           Oil-based mud<br/>           Synthetic oils<br/>           Reservoir fluids<br/>           Residuals in pipelines and drilling equipment<br/>           Drill floor</p>   | <p><b>6. Radioactive sources</b><br/>           Smoke detectors<br/>           Illumination signs<br/>           Sealed radioactive sources</p>  |
| <p><b>2. Reservoir fluids</b><br/>           Process reservoir fluids<br/>           Well stream<br/>           Produced oil<br/>           Produced gas<br/>           Produced water<br/>           Drains<br/>           Vessel and tanks - Separators<br/>           Sludge tanks<br/>           Coolers<br/>           Scrubbers</p> | <p><b>7. Hazardous fibres</b><br/>           Fire dampers<br/>           Heating, Ventilation &amp; Air Conditioning (HVAC) gasket<br/>           Pipe gaskets<br/>           Pipe insulation<br/>           Electrical cables<br/>           Bestobells: pipe and module sealing<br/>           Fire walls<br/>           Door insulation<br/>           Galbestos<br/>           Pipe insulation</p>   |
| <p><b>3. Contaminated scale, NORM/Hg</b><br/>           Produced water<br/>           Hydrocarbons<br/>           Well flow (crude oil)<br/>           Separators<br/>           Produced gas (Pb-210)<br/>           Topside process pipe work drains systems and discharge caissons<br/>           Pyrophoric scale (iron sulphide)</p> | <p><b>8. Hazardous construction materials</b><br/>           Chlorinated paraffins (wall penetration - Polychlorinated Naphthalenes)<br/>           Lead encapsulation<br/>           PCB sealing<br/>           Brominated flame retardants (BFRs)<br/>           Cell foam BFRs<br/>           Polychlorinated Biphenyl (PCB)<br/>           Chlorofluorocarbon (CFC)<br/>           Phthalates, flooring<br/>           Heavy metals (Cadmium, Chromium, Lead, Mercury)</p> |
| <p><b>4. Process chemicals</b><br/>           Methanol<br/>           Monoethylene glycol and Triethylene glycol (MEG/TEG)<br/>           Scavengers (acids)<br/>           Inhibitors<br/>           Biocides (chlorine)<br/>           Aqueous film-forming foam (AFFF)<br/>           Refrigerants and flame retardants</p>            | <p><b>9. Paint</b><br/>           Most paint systems contain polyurethane, which will generate isocyanates when exposed to thermal treatment (hot cutting)<br/>           Orange: Pb 33 000 mg/kg<br/>           Red paint on Glass reinforced plastic (GRP):<br/>           Pb 11400 mg/kg<br/>           Yellow: Pb 32 800 mg/kg</p>   |
| <p><b>5. Oils and fuels</b><br/>           Diesel and helifuel<br/>           Hydraulic oil<br/>           Seal and lube oil</p>  | <p><b>10. Waste Electrical and Electronic Equipment (WEEE)</b><br/>           Electrical components shall be segregated from the waste stream as they may contain hazardous materials (Asbestos, Mercury, Acids)<br/>           Cables<br/>           Cabinets<br/>           Batteries<br/>           Lighting</p>  |

**Table 1:** Typical types of hazardous waste found on offshore installations

## FIVE KEY WASTE PRINCIPLES

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SEPA and the EA have highlighted five key principles of managing offshore waste during decommissioning:

- 1. Demonstrate early engagement with the regulators and waste management sector**
- 2. Apply the Waste Hierarchy**
- 3. Ensure Duty of Care through the whole decommissioning cycle**
- 4. Develop and maintain robust and detailed Materials Inventories for the assets to be decommissioned**
- 5. Develop and maintain Active Waste Management Plans (AWMPs) for the decommissioning work**

These principles have been developed to:

- Improve overall management control of decommissioning waste over the full life cycle, ensuring the waste goes to the right place; removing the potential for Duty of Care and other offences to be committed.
- Remove the possibility of double handling of hazardous waste.
- Help operators assess the full risks and consequences of handling and transporting waste.
- Reduce illegal waste management and the opportunities for the involvement of serious organised crime.

### 1. Early Engagement with the Regulator and Waste Management sector

Operators should speak to the appropriate regulator as early in the decommissioning process as they can. Early engagement by the operator during the planning for decommissioning works – as well as development of the decommissioning programme – allows them to take effective investment decisions, ensure permits and infrastructure are in place and ensure they gather and submit all relevant information as required by the regulators.

There is also an opportunity to draw on industry expertise regarding potential reuse/repurposing opportunities in advance of decommissioning.

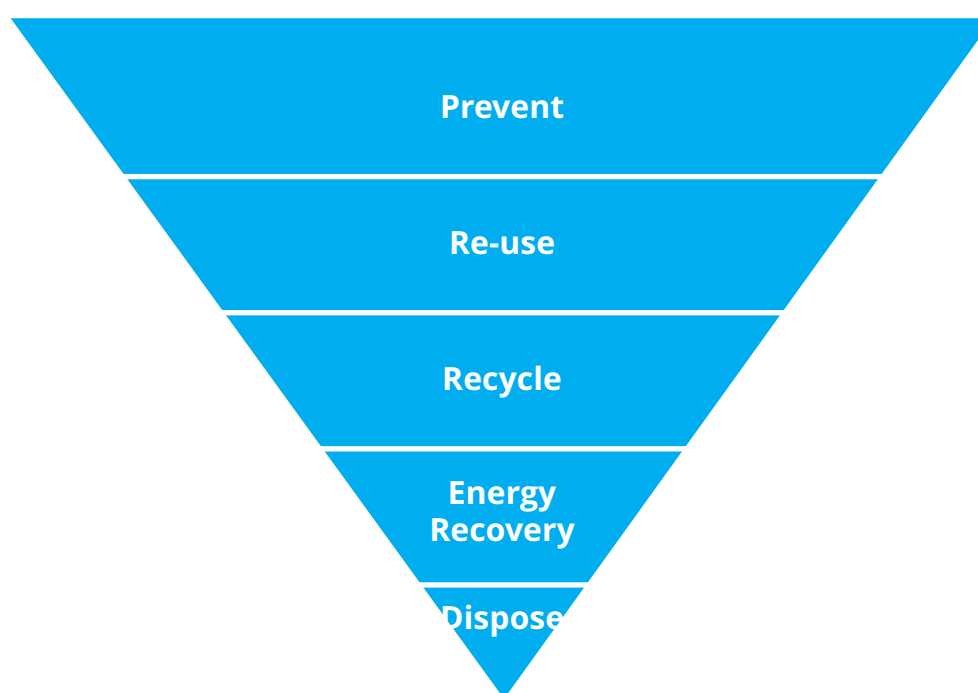
Through early engagement:

- Operators can better understand the capability and competence of the waste industry to manage the wastes and materials that will arise from decommissioning. This is particularly relevant with the increasing quantities of wastes and materials coming to shore placing a potential burden on the waste management capacities and capabilities in the UK. For example, the ability of the supply chain to deal with NORM and marine growth is a current topic of concern.
- The waste management industry has growing experience in dealing with materials and wastes from offshore decommissioning and can feed this back to operators during the early planning of decommissioning works (and the development of the decommissioning programmes). The industry can integrate lessons learned and best practices across waste management and provide operators with improved solutions.
- Technologies and systems for waste reuse, recycling and treatment are constantly evolving and by engaging early with the waste management industry, operators can benefit from new and innovative waste systems that could reduce cost and risk in offshore decommissioning projects. Furthermore, with advanced notice, supply chain contractors can integrate the types of waste and quantities into their planned research and development programmes.

- By sharing projected waste and materials from offshore decommissioning works, operators can invite the supply chain to seek opportunities for campaigns across several decommissioning programmes leading to increased collaboration. Campaigning across multiple decommissioning projects can reduce costs (through, for example, reduced mobilisation/demobilisation costs and time) as well as economies of scale in adoption of waste management technologies and approaches.

## 2. The Waste Hierarchy

The international Waste Hierarchy (Figure 2) is a conceptual framework enshrined in the Waste Framework Directive (2008/98/EC) (WFD). It ranks the options for dealing with waste, beginning with its prevention. If unwanted material cannot be prevented, re-used or recycled, it is mandatory to consider recovering its energy as electricity and/or heat before selecting a disposal option.



**Figure 2:** Waste Hierarchy

The adoption of the Waste Hierarchy is clearly defined as a principle in BEIS Guidance Notes (May 2018) as a requirement of the Decommissioning Programme to:

*“Describe the decommissioning solution for each item explaining why the solution has been selected, providing appropriate supporting evidence. In doing this, the programme must consider how the principles of the waste hierarchy will be met and show the extent to which the installation, including the topsides and the materials contained within the installation, will be re-used, recycled or disposed of on land”.*

To demonstrate adoption of the Waste Hierarchy, it is necessary to plan for and execute effective source segregation of the materials and wastes into the different waste streams for onward recycling and recovery.

See <https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy> for further guidance on applying the hierarchy.

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## Re-use

The WFD draws a clear distinction between 're-use' and 'preparing for re-use'. Re-use is an activity which does not involve waste and preparing for re-use is an activity which does involve waste. The WFD defines these terms as follows:

**Re-use** means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived. (NB the term 'repurposing' is sometimes used when the material is to be reused in a different sector/for a different purpose).

**Preparing for re-use** means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.

It should be noted that in the BEIS Guidance Notes, the option to re-use a complete installation is *"first in the order of preferred decommissioning options. OPRED is keen to encourage the re-use of facilities wherever this is practical and cost effective, and the decommissioning programme must demonstrate that the potential for re-use has been examined and discussed with the OGA, who would give OPRED a view on the reuse option"* (Section 6.9)

**Certainty of future use** A substance or object is not waste when it is being used for the purpose for which it was conceived. There must be a genuine demand for it, which may be shown through the existence of contracts. If there is no demand, the owner may have to store it for a significant period while waiting for a customer. In those circumstances, the substance or object is regarded as a burden on the holder and hence can be considered waste.

Specifically for the **offshore decommissioning market**, items for potential reuse have been identified as included in Appendix C to the ABB report 'Offshore Oil and Gas Decommissioning' (<https://library.e.abb.com/public/d689c2f70f0c447586610ac566c9aa7e/ABB-Offshore-Oil-and-Gas-Decommissioning-2015.pdf>). These include:

- Power generation equipment.
- Standalone process modules – Glycol regeneration, desalination etc.
- Rotating equipment.
- High value or long lead time fixed items.
- Tubulars e.g. for piling.

If an object was classified as an offshore oil and gas installation/pipeline, but is not re-used or decommissioned, its disposal would need to be approved in a decommissioning programme.

Items that are not an oil and gas installation/pipeline, such as furniture, do not fall under the decommissioning programme and could be donated to local charities, for example.

For items to be successfully re-used for their original intended purpose, there needs to be robust equipment information and documentation available. This should detail the equipment's age, specification, condition and design details, as well as maintenance information. For safety purposes more details and testing information may be needed to demonstrate the item is suitable for re-use.

In order to realise these opportunities for re-use thus supporting Circular Economy principles (Annex 6), whilst also complying with the obligations of the WFD, the operator is required to demonstrate early in the decommissioning cycle which materials, items and equipment are being re-used.

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This will be included in the Materials Inventory and updated in the subsequent AWMP until all re-use options have been exhausted. Subsequently the materials, items and equipment will be classed as waste and managed as such.

### When waste ceases to be waste

Materials that are waste can become non-waste in certain circumstances. This is called 'end of waste' and may involve a range of activities from a simple check to extensive processing.

The Department of Agriculture, Environment and Rural Affairs (DEFRA) has developed guidance from Article 6 of the WFD detailing conditions to be satisfied for a certain specified waste to cease to be waste (see <https://www.daera-ni.gov.uk/articles/end-waste-regulations>) namely:

- *the substance or object is commonly used for specific purposes.*
- *a market or demand exists for such a substance or object.*
- *the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products.*
- *the use of the substance or object will not lead to overall adverse environmental or human health impacts.*

End of waste can normally be determined using one of three methods:

- *compliance with end of waste regulations.*
- *meeting a quality protocol.*
- *a successful determination for an end of waste submission, for example by the EA's End of Waste panel (see <https://www.gov.uk/guidance/turn-your-waste-into-a-new-non-waste-product-or-material>).*

Every decision on whether an item or substance is waste is taken on the circumstances of the individual case. The purpose is always to ensure that the aims of the WFD (protection of the environment and human health) are not undermined.

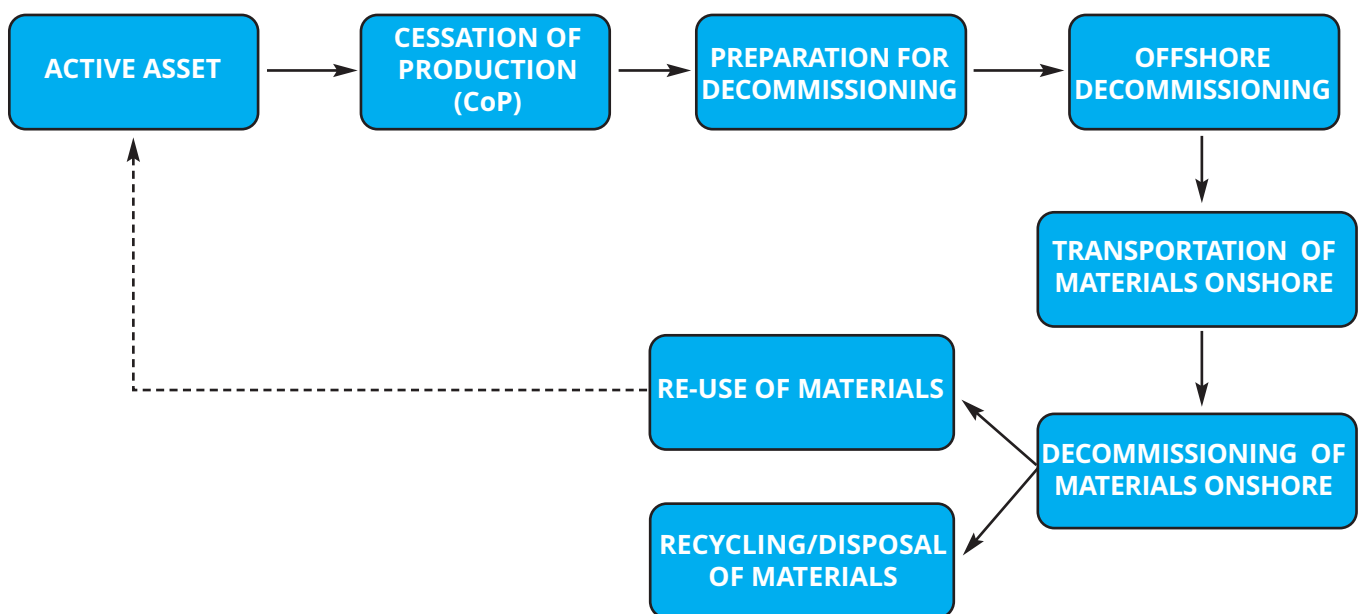


Figure 3: The decommissioning process

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### 3. Materials Inventory

An essential part of the waste management process is understanding the materials and wastes that are expected to require management.

The waste regulators, SEPA and the EA, require a comprehensive Materials Inventory, to be produced in the same timeline as the decommissioning programme and will be included in the decommissioning programme as reviewed by the relevant waste regulator(s). The inventory summary required by BEIS for the decommissioning programme is less complex, involving a simple characterisation and assurance that the waste regulations will be followed.

The Materials Inventory is a document which needs to be fit for purpose and timely. As the decommissioning programme develops, so does the Materials Inventory, as decisions are made as to which materials will be re-used (and are thus not waste) and which will be discarded and thus become classified as waste. The Materials Inventory is only for materials and wastes to be removed from the installation and the field. However, for the decommissioning programme, all materials and wastes that are proposed to remain in situ are also to be documented and submitted within the decommissioning programme, underpinned by the comparative assessment.

The Material Inventory's contents should be determined by the results of offshore surveys, sampling and evidence-based study, and should include all substances, including mercury and NORM. It must be finalised, as far as practicable, at the point of removal ashore and contain sufficient information to meet all waste permitting, waste licensing, waste notification and waste transfer documentation. The authorities require this detail to code and classify hazardous waste, for Duty of Care and to check if the destination site/person is authorised to accept it.

It is important to note that if information is not provided to the waste authority and waste contractor, the waste will be held onshore, quarantined pending full identification, and dealt with appropriately at the port of entry only once its composition has been determined.

The waste regulators' expectations are that operators and the decommissioning supply chain provide an accurate description of the waste when it changes custody. In earlier decommissioning projects, the Materials Inventory summary has been considered too simple to meet the requirements of waste stakeholders and waste contractors. It is prudent for the Operators and their supply chain to share the completed Stage 2 Materials Inventory for an asset with the relevant waste regulator before materials and wastes are actually removed and brought to shore. This will allow for the relevant waste regulator to understand better what materials and wastes will be brought to shore and thus have oversight of the waste movements.

Annex C, Section 5 of the BEIS Guidance Notes of May 2018 set out the requirements. Any further details on these requirements should be sought directly from BEIS.

All assets and pipelines etc should be recorded and included (including subsea) in the Materials Inventory, unless they are decommissioned in situ.

As far as decommissioning is concerned, anything removed from the asset after the date of Cessation of Production (CoP) is 'decommissioning waste' unless it has already been identified for re-use, with certain knowledge that it will be re-used. The point at which a material is deemed waste with no re-use option available can be right up to its removal from the installation for disposal. However, once removed it cannot be brought

to shore as a 'material' in the hope it will be re-used later. If the material is being removed from the installation for potential re-use, then it needs to go straight to a re-use yard/contractor and not to an onshore disposal contractor.

Since the decommissioning cycle follows a multi-year and multi-activity pathway, the Materials Inventory is not a static listing. The following three stages in the development and adoption of a Materials Inventory are relevant:

- Stage 1 covers development during the preparation of a draft decommissioning programme.
- Stage 2 takes place at or near to CoP.
- Stage 3 is finalised when the asset or installation arrives at the quayside so that detailed verification surveys and sampling can provide actual waste streams and quantities.



**Figure 4:** Offshore sampling as part of Stage 2 Materials Inventory preparation.  
Source: D3 Consulting Ltd.



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## Stage 1 Materials Inventory

The Stage 1 Inventory feeds into the comparative assessment, environmental impact assessment (EIA) and energy-and-emissions calculations required by the programme.

It may be desk-based but may also require a physical assessment of the installation if insufficient information is available. Information generally needed to create the Stage 1 inventory includes:

- A weight report.
- A chemical inventory.
- A Safety Data Sheet (SDS) for chemicals.
- The Asbestos Register (if the installation construction date is pre-1999).

Note that at this stage, the asset is assumed to be still operating and thus hydrocarbon (HC) quantification will be largely estimates based on type of asset and planned engineer down and clean (EDC) works.

The SDS must be used to assess if any of the materials would be regarded as hazardous. Guidance on this process can be found in Waste Classification: Guidance on the classification and assessment of waste (Technical Guidance WM3 v1.1) and <https://www.gov.uk/how-to-classify-different-types-of-waste>.

Enough information must be gathered to satisfy the requirements of the AWMP. At a minimum, this should include:

- **Area:** The material's whereabouts on the installation – this is especially important if the asset is to be dismantled offshore or subject to piece small decommissioning
- **Functional Category:** A description of the type of material, based on its function.
- **Description:** A description of the item and identification of any hazardous components both known – e.g. asbestos and polychlorinated biphenyls (PCBs) – and potential – e.g. lead paint, sludges contaminated with HCs. NORM levels should also be reported, if known; unless evidence is seen to prove NORM is not present on the asset it should be assumed to be present.
- **European Waste Catalogue (EWC) code:** An EWC code (or codes) must be allocated.
- **EWC classification:** Hazardous or Non-Hazardous; at this stage, without sampling, the nature of some materials may be unknown, so any material that might be hazardous must be considered as hazardous until proven otherwise. Pipes and valves may have been flushed, but could still contain hazardous material, such as scale or hydrocarbons, within them.
- **Weight:** In tonnes.
- **Waste Hierarchy:** Early indication of reuse, recycling and recovery options.
- **Comments**

The example table below shows a typical layout of a Stage 1 Materials Inventory.

### Example Stage 1 Materials Inventory

| Area    | Functional Category | Description                | EWC Code  | EWC Classification | Weight [Te] | Waste Hierarchy                 | Comments                 |
|---------|---------------------|----------------------------|-----------|--------------------|-------------|---------------------------------|--------------------------|
| Topside | Plant and Equipment | Powder extinguisher        | 16 05 09  | Non-Haz            | 0.001       | Reuse                           |                          |
| Topside | Plant and Equipment | Lead acid batteries        | 16 06 01* | Haz                | 0.002       | Recovery                        |                          |
| Topside | Plant and Equipment | Separator                  | 17 04 05  | Non-Haz            | 1.2         | Recycling (once decontaminated) | Assume NORM contaminated |
| Topside | Plant and Equipment | Gas Turbine Generator Skid | 16 02 14  | Non-Haz            | 0.91        | Reuse                           |                          |
| Topside | Plant and Equipment | Corrosion inhibitor        | 16 03 05* | Haz                | TBC         | Treatment                       |                          |
| Jacket  | Structural          | Jacket structural steel    | 17 04 05  | Non-Haz            | 10000       | Recycling                       |                          |

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## Stage 2 Materials Inventory

This stage of the Materials Inventory should be done pre-contract award so that the operator can be assured that its prospective decommissioning contractor(s) can appropriately manage the wastes. It also means the prospective contractor can ensure it is able to accept and manage the wastes at the location(s) and in the required timescales. The purpose of the Stage 2 Inventory is to refine and improve on the Stage 1 Inventory and should include offshore verification and sampling where possible. The main object of this stage is to gain a fuller understanding of the quantity and location of hazardous materials on the asset and to confirm or correct any assumptions made during Stage 1.

The Stage 2 Materials Inventory, if used correctly, can also be used to inform the decommissioning supply-chain of upcoming opportunities, and allow them to identify reuse/repurposing opportunities.

Information needed at this stage includes sampling results from any potentially hazardous materials.

The main purposes of the Stage 2 Materials Inventory are to:

- Provide data for the disposal tender process. Ideally by this point the inventory is of a level of detail/quality that means realistic decisions can be made regarding re-use routes as part of the tender process.
- Ensure that any disposal contractors being considered have the capacity and capability to handle the wastes.
- Supply important information for the TFS paperwork if transfrontier movements are involved.

At this stage the installation may still be producing, so a fully intrusive survey may not be possible. Samples should be taken of paints, coating, contaminated surfaces and equipment where access allows.

The example table below shows a typical layout of a Stage 2 Materials Inventory.

## Example Stage 2 Materials Inventory

| Area                   | Functional Category | Description                 | EWC Code  | EWC Classification | Weight [Te] | Waste Hierarchy | Comments  |
|------------------------|---------------------|-----------------------------|-----------|--------------------|-------------|-----------------|---|
| Main Deck Battery Room | Plant and Equipment | Powder extinguisher         | 16 05 09  | Non-Haz            | 0.001       | Reuse           |   |
| Main Deck Battery Room | Plant and Equipment | Lead acid batteries         | 16 06 01* | Haz                | 0.02        | Recovery        |   |
| Main Deck Battery Room | Plant and Equipment | Separator                   | 17 04 05  | Non-Haz            | 1.2         | Recycling       |   |
| Main Deck              | Plant and Equipment | Separator contents - scale  | NORM      | N/A                | 0.1         | Disposal        | Volume estimated. Sludge contaminated with NORM and Mercury             |
| Main Deck              | Plant and Equipment | Separator contents - liquid | 13 05 07* | Hazardous          | 0.02        | Recovery        | Volume estimated. Liquid contents Water/Oil mix                         |
| Main Deck              | Plant and Equipment | Gas Turbine Generator Skid  | 16 02 14  | Non-Haz            | 0.91        | Reuse           | Specifications/Documentation located and item issued for potential sale |
| Mezzanine Level        | Plant and Equipment | Corrosion inhibitor         | 16 03 05* | Haz                | 0.05        | Treatment       |   |
| Jacket                 | Structural          | Jacket structural steel     | 17 04 05  | Non-Haz            | 10000       | Recycling       |   |
| Jacket                 | Structural          | Marine growth on jacket     |           |                    | 1.5         | Recovery        | Estimate based on Consultant Report                                     |

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## Stage 3 Materials Inventory

This survey is undertaken by the decommissioning facility upon receipt of the materials. The Stage 3 Inventory is used to verify types, locations and quantities of waste. It also informs the contractor's safe working processes.

At this stage the following information should be available and must be added to the inventory:

- Asbestos demolition survey.
- Full Hazardous Materials Survey, including the locations and amounts of all hazardous wastes.
- Records of any cleaning or removals undertaken offshore.
- Any items added for lifting or shipping.

The Stage 3 Materials Inventory provides a vital link in the Duty of Care process, as it is a final acceptance that the listed wastes are present. It must be accurate enough to enable reconciliation on the disposal routes once the project finishes.

The example table below shows a typical layout of a Stage 3 Materials Inventory.

### Example Stage 3 Materials Inventory

| Area                   | Functional Category | Description                  | EWC Code  | EWC Classification | Weight [Te] | Waste Hierarchy | Comments  |
|------------------------|---------------------|------------------------------|-----------|--------------------|-------------|-----------------|---|
| Main Deck Battery Room | Plant and Equipment | Powder extinguisher          | N/A       | N/A                | 0.001       | Reuse           | To be re-certified and reused - not waste                   |
| Main Deck Battery Room | Plant and Equipment | Lead acid batteries          | 16 06 01* | Haz                | 0.01        | Recovery        | Amount confirmed by Hazmat survey                           |
| Main Deck              | Plant and Equipment | Separator                    | 17 04 05  | Non-Haz            | 1.2         | Recycling       |   |
| Main Deck              | Plant and Equipment | Separator contents - scale   | NORM      | N/A                | 0.1         | Disposal        | Volume estimated. Sludge contaminated with NORM and Mercury |
| Main Deck              | Plant and Equipment | Separator contents - liquid  | 13 05 07* | Hazardous          | 0.02        | Treatment       | Volume estimated.<br>Liquid contents Water/Oil mix          |
| Mezzanine level        | Plant and Equipment | Corrosion inhibitor          | 16 03 05* | Haz                | 0.05        | Treatment       | Volume confirmed by Hazmat survey                           |
| Jacket                 | Structural          | Jacket structural steel      | 17 04 05  | Non-Haz            | 10,000      | Recycling       |   |
| Jacket                 | Structural          | Marine growth on jacket      |           | Non-Haz            | 0.02        | Recovery        | Original estimate too high or amount lost during lifting    |
| Jacket                 | Structural          | Strengthening added for lift | 17 04 05  | Non-Haz            | 15          | Recycling       | Information from HLV contractor                             |

## Overview of Materials Inventory Stages

| Stage                                   | Stage 1 Materials Inventory   | Stage 2 Materials Inventory   | Stage 3 Materials Inventory   |
|---|---|---|---|
| <b>When</b>                             | Development of Decommissioning Programme  | Near to or at CoP   | For single lift, when the asset arrives on the quayside<br>For piece small, when the asset is cold and dark, prior to decommissioning works   |
| <b>Information needed at this stage</b> | Weight control reports<br>Asbestos Register<br>COSHH information<br>Drawings<br>SDS<br>Offshore verification reports and survey and sampling results  | Offshore sampling and surveys<br>Residual Waste register/survey   | Intrusive sampling Demolition Asbestos Survey<br>Full Hazmat survey (if not completed for Stage 2)<br>Decontamination/EDC reports including certificates of cleanliness   |
| <b>Uses</b>                             | Early Engagement with Regulators and Waste Management sector<br>Environmental Appraisal - Energy and Emissions<br>Comparative Assessment<br>Disposal/Recycling site selection and tendering | Inform offshore EDC and removal works (health & safety, human health risks, modular separation work)<br>Inform onshore disposal/recycling site with updated waste and materials characterisations and classifications<br>Enable waste tracking and Duty of Care to be fulfilled | Risk Assessments for offshore dismantling<br>Inform dismantling procedures and Risk Assessments and Method Statements (RAMS)<br>Enable waste tracking and Duty of Care to be fulfilled<br>Ensure correct environmental protection and worker protection measures taken during works |

## 4. Duty of Care

Anyone who produces, keeps, stores, (the 'waste producer/holder'); imports, transports (the 'waste carrier'); treats or disposes of waste (the 'waste consignee') must take all reasonable steps to ensure that waste is managed properly. Duty of care for decommissioning waste is fundamentally no different to any other waste.

Duty of Care lies with the operator and relies on the assurance of the supply chain throughout the waste life cycle. It ends when the waste is finally disposed of or ceases to be classified as waste. Further reference can be sought from The Scottish Government's Duty of Care – A Code of Practice (<https://www.gov.scot/resource/0040/00404095.pdf>) or (for England and Wales) the DEFRA Waste Duty of Care Code of Practice (<https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice>).

Note that the Duty of Care continues even if the waste is involved in TFS under TFS regulations.

Duty of Care requirements include ensuring accurate and appropriate paperwork is completed (for example transfer notes). SEPA and the EA have guidance to help operators with this requirement.

(See [https://www.sepa.org.uk/media/36660/consigning\\_special\\_waste.pdf](https://www.sepa.org.uk/media/36660/consigning_special_waste.pdf) or <https://www.gov.uk/guidance/hazardous-waste-consignment-note-supplementary-guidance>).

There is also a data collection implication for the offshore works, including that when the material arrives onshore the correct information and documentation should have been collected and passed on into the waste management supply chain.

Section 34 of the EPA requires waste holders to take all reasonable measures to:

- Prevent unauthorised or harmful deposit, treatment or disposal of waste.
- Prevent a breach (failure) by any other person to meet the requirement to have an environmental permit, or a breach of a permit condition.
- Prevent the escape of waste from the waste holder's control.
- Ensure that any person to whom the waste is transferred has the correct authorisation.
- Provide an accurate description of the waste when it is transferred to another person.

The information required on a Waste Transfer Note in Scotland is prescribed in the Environmental Protection (Duty of Care) (Scotland) Regulations 2014. In Scotland, there is a further duty to take reasonable steps to promote high-quality recycling.

It is good practice for waste producers to work with other organisations and sectors to develop innovative sustainable approaches to the re-use and recycling of waste, and to pilot new technologies and techniques to maximise its economic value.

Waste holders have a responsibility to take all reasonable steps to ensure that when they transfer waste to another waste holder that the waste is managed correctly throughout its complete journey to disposal or recovery. A breach of the duty of care could lead to an unlimited fine if convicted.





**Figure 5:** Receipt of pipelines at shore with considerable oil content.  
Source: Scotoil Services Limited (A Tradebe Company).

When selecting a waste management company/site, it is important for operators to ensure that a valid waste management licence (WML) or environmental permit (EP) is in place and that the company/site is appropriate for types/quantities of waste being generated etc.

Carrier/Broker Licence information can be checked at:

- SEPA website: <http://apps.sepa.org.uk/rocas/> (Scottish sites).
- EA website: <https://environment.data.gov.uk/public-register/view/index> (English sites).

## How to Comply with Duty of Care: an example

To comply with the Duty of Care, the operator should:

- Accurately describe all wastes (this will be done in the Materials Inventory).
- Check that all parties involved with transporting or holding the waste do so in a safe and secure manner, are correctly licensed and are aware of their duty of care.
- Check that the onshore destination site is authorised to take the waste, including checking waste carrier/broker licences and Pollution Prevention and Control (PPC) and WML permits (Scotland), or EP (England).
- Ask the receiving facility where it is going to store the waste and what its limits are under its permits. For example, if the site limit is 10,000 tonnes of scrap per year will they have sufficient capacity for the waste to be disposed of?
- Make detailed checks, such as requesting evidence (for example Duty of Care notes and consignment notes) that the waste has arrived at its subsequent intended destination and that it has been adequately described to allow for its safe management, treatment and disposal.

Each holder in the waste chain shares the Duty of Care obligations. (See Table 2).

| Roles  | Duty of Care  |
|--|---|
| Heavy lift Contractor<br><br>Removals Contractor | Waste Carrier – Responsible for ensuring waste is kept secure and does not escape their control<br><br>If contracting disposal yard, must ensure the destination is correctly permitted<br><br>(If receiving waste from the offshore installation operator) co-operate with previous waste holders in any measures that they are taking to comply with their Duty of Care; this includes supplying evidence that previous holders may need to ascertain that their waste has been recovered or recycled at a particular site. |
| Dismantling Yard                                 | Duty to follow the waste hierarchy<br><br>Waste Transfer – Must ensure all destinations waste is sent to and carriers are correctly permitted<br><br>Waste Disposal - Must ensure all destinations waste is sent to and carriers are correctly permitted  |

**Table 2:** Duty of Care obligations.

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## Duty of Care Audits

Audits should be conducted by the operator and any organisation further down the supply chain that is responsible for passing waste to another entity. Remember all parties in the waste management chain have duty of care and it cannot be passed on by means of a contract.

The purpose of these audits is to ensure and document that operators have taken all reasonable steps to be compliant throughout the waste chain. Audits should include:

- Checking that waste is handled and stored safely and securely.
- Obtaining copies of current licences and permits for sites receiving waste to ensure they are permitted to take it; it is important at this stage that all wastes are correctly classified.
- Checking that by sending waste to a site that it will not lead to a breach of permit or licence conditions, for example if the site has a capacity limit which would be exceeded.  
Checking that wastes are accurately classified and described, using EWC codes, and that this does not need amending following treatment at some point in the waste chain.
- Checking that the duty to apply the Waste Hierarchy has been fulfilled and that considerations to re-use, recycle, recover or dispose have been documented and for example that recyclable materials are being recycled.
- Check that waste documents are retained for the correct timescales.

Oil and Gas UK, the trade association that speaks for the sector, is looking at audits and joint audits as a demonstrated assurance process.

## 5. Active Waste Management Plans

To gain and maintain oversight of the waste management processes and to demonstrate compliance with Duty of Care, the waste regulators require operators to provide an Active Waste Management Plan (AWMP) that specifically states the destinations of all materials and waste leaving the offshore location and provides for the monitoring of the handling and management of the materials and wastes arising from the decommissioning works. This requirement is specified in section 9.5 in the BEIS Guidance Notes 'Decommissioning of Offshore Oil and Gas Installations and Pipelines'.

The requirements for an AWMP are presented in the SEPA Guidance: Regulation of Offshore Oil and Gas Waste (WST-G-059 version 1 August 2018) as:

"This follows on from the creation of the waste inventory and charts the movement of all the waste arising as part of the decommissioning project from arrival onshore to final destination for recycling or recovery. It should be managed by a competent person and regularly reviewed as the decommissioning programme progresses. The active waste management plan will highlight early in the process where any waste (including topsides, modules, fluids, etc.) is to be exported and this should be discussed with the relevant waste regulator."

The AWMP should encompass:

- The operator's intentions for the active management of offshore waste, outlining the transition from the operational phase to decommissioning and thus encompassing the whole decommissioning cycle

- A process for advising the various waste regulators (onshore and transboundary) of changes in a waste stream's volume or location
- The process by which the operator will actively monitor compliance with regulatory requirements through the whole supply chain
- Identification and categorisation of the waste streams (including non-hazardous materials, steels, hazardous materials, radioactive materials), with a clear statement of the endpoint with regards to the WFD.

Table 3 details an AWMP contents example.

|   |   |
|---|---|
| <p>1. PROJECT DETAILS</p> <p>    1.1 Operator</p> <p>    1.2 Field/Installation</p> <p>2.0 ABBREVIATIONS AND DEFINITIONS</p> <p>3.0 INTRODUCTION TO THE PLAN</p> <p>4.0 PURPOSE/OBJECTIVE</p> <p>5.0 SCOPE</p> <p>6.0 REGULATORY</p> <p>7.0 ROLES AND RESPONSIBILITIES</p> <p>    7.1 Waste Competent Person</p> <p>    7.2 Offshore Waste Manager</p> <p>8.0 MANAGEMENT OF WASTE</p> <p>    8.1 The Waste Hierarchy</p> <p>    8.2 Waste Management Terms</p> <p>    8.3 Waste Management Criteria</p> <p>    8.4 The Waste Management Process</p> <p>        8.4.1 What is waste?</p> <p>        8.4.2 Waste streams</p> <p>    8.5 Hazardous or Special Waste</p> <p>        8.5.1 Weight records</p> <p>        8.5.2 Audit trail</p> | <p>8.6 Offshore Waste Handling Strategy</p> <p>    8.6.1 Waste Segregation and Storage</p> <p>    8.6.2 Waste Protocols</p> <p>    8.6.3 Waste Documentation</p> <p>    8.6.4 Consigning Waste</p> <p>8.7 Onshore Waste Handling Strategy</p> <p>    8.7.1 Waste Segregation and Storage</p> <p>    8.7.2 Waste Protocols</p> <p>    8.7.3 Waste Documentation</p> <p>    8.7.4 Consigning Waste</p> <p>8.8 Performance Management</p> <p>    8.8.1 Reporting</p> <p>    8.8.2 Non-conformances</p> <p>    8.8.3 Waste audits</p> <p>    8.8.4 Training</p> <p>9.0 SUMMARY OF MATERIALS INVENTORY</p> <p>10.0 ACTIVE WASTE AND MATERIALS INVENTORY</p> <p>11.0 RECONCILIATION</p> |
|---|---|

**Table 3:** AWMP – an example of contents

# OPERATOR ROLES AND RESPONSIBILITIES

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## Waste classification

Operators must classify the waste to inform the determination of the most appropriate management route. See Annex 1 for further information.

## On-site management

Operators to ensure all relevant waste and material information is shared and passed on to supply chain contractors to inform correct waste management procedures.

Ensure the recycling and disposal yard(s) have the applicable permits and licences in place to receive and manage the materials and wastes from the offshore decommissioning works, as well as constraints or limitations on holding the materials and wastes for periods of time. The length of time materials or waste can be stored will be determined by the terms of the yard's permit or licence. Note that some yards include the inshore water at the quay as part of the permitted area.

Additional guidance on the various types of permits and licences applicable in Scotland are provided in the SEPA Guidance: Regulation of Offshore Oil and Gas Waste (WST-G-059 version 1 August 2018).



**Figure 6:** Decommissioning of the Buchan Alpha at .Dales Voe by Veolia.  
Source: Veolia.

## The information flow

The information flow is essential to ensure waste is correctly categorised, transported and processed, and to demonstrate legal compliance, including Duty of Care, at every stage of the process.

A detailed and updated Materials Inventory is the minimum requirement from the Operator to the supply chain where the Active Waste Management Plan will ensure that the inventory is maintained with the pertinent information and data/documentation.

Key to the information flow for business as usual practices and especially waste management are 'Pickup plans' which are documents that are kept (sometimes for years) until used again later in the cycle. These pickup plans could include historical data on NORM readings from the operational period of the platform (to inform potential NORM occurrences), quantification details on how materials and wastes within the Materials Inventory have been calculated and asbestos surveys.

It is also important to have a waste competent person and experts in place throughout the process.

OPRED requires operators to provide annual waste returns, broken down into Drilling, Operational and Decommissioning Environmental and Emissions Monitoring System (EEMS) returns data for disposals for each calendar year to be submitted to the UK Oil Portal by 1 March on an annual basis.

The provision of any available certification documents etc. along with material inventories would improve chances of reuse/repurposing rather than scrap recycling.

### **Operator (or Tier One) to the removals contractor**

- Robust and accurate Materials Inventory – point in time defined as well as updated through access to the Active Waste Management Plan.
- Ensure hazardous wastes are considered / sampled for i.e. mercury. Consideration should be given to any 'unknowns' within the waste inventory to help identify gaps.
- NORM analysis to understand activity levels so can match with final disposal site capabilities.
- Copy of the topside cleaning certificates – definition for state of cleanliness.
- Ensure the asbestos survey is a Refurbishment & Demolition Asbestos Survey and not just a Management Survey. In the Refurbishment & Demolition Survey take note of any caveats.
- Ask for condition of plant, equipment etc on the topside re: stored energy, de-pressurised, preparatory work since risks/hazards may still be present.
- Ask for the operator's nominated waste competent person as point of contact for all waste related issues.
- Ask for the installation (operational) waste management procedures since contractor taking over waste management albeit under decommissioning.

### **Removals contractor to their sub-contractors, and their sub-contractors....**

#### ***Onshore recycling and disposal yards***

Ensure the onshore recycling facility has the correct and applicable permit:

- Does the permit allow them to carry out the activities they are proposing to undertake and name all waste types expected from the client?
- Does the permit have sufficient allowance for the volume of both hazardous and non-hazardous wastes?
- Do they hold all relevant licences for wastes?
- Nominated technically competent manager's (TCM) certification up to date?

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Early mapping by the onshore facility is recommended good practice so that it knows what to expect. It also allows for improved reuse, by preparing potential buyers in-advance regarding material availability.

In addition, operators should be aware that HSE is looking at the application of Construction (Design and Management) Regulations 2015 for all onshore disposal works.

### **Offshore contractors**

Offshore (support) contractors such as pile cutting/welding or contractors impacting waste:

- The contractor's procedures and systems in case of waste escaping their control, i.e. asbestos, oils spillages or leaks during the works.
- Confirmation that the contractor's personnel are aware of risks and hazards associated with wastes.
- Confirmation that the contractor understands the surveys provided (i.e. asbestos) and the caveats included.
- If there is a contractual gap between the operator and the onshore disposal contractor, all documentation should be in good order and be kept in a single location.

### **Waste transfer, consignee returns hazardous waste records**

The Operator and supply chain must ensure that the correct documentation follows the materials and wastes as they pass through the decommissioning cycle, with the applicable transfer notes, consignment notes and associated record keeping. This includes:

- Classifying waste to check if it is hazardous.
- Separating and storing hazardous waste safely.
- Using authorised businesses to collect, recycle or dispose of hazardous waste – check that waste carriers are registered and waste sites have environmental permits.
- Filling in the parts of the consignment note that apply – keep one copy and give two copies to the carrier collecting waste.
- Keeping records (known as a 'register') for three years at the premises that produced or stored the waste.

Operators must keep copies of:

- Consignment notes.
- Consignee returns – these come from businesses that receive waste (consignees).
- Any related documents, for example 'carrier schedules' (list of carriers when there is more than one), records of rejected loads.
- If these documents are not accurate or complete, a record must be kept of any missing information.

See <https://www.sepa.org.uk/regulations/waste/special-waste/> (Scotland) or <https://www.gov.uk/dispose-hazardous-waste> for more information.



**Figure 7:** Management of marine growth a key issue at recycling and disposal yards.  
Source: Scotoil Services Limited (A Tradebe Company).

## Transfrontier Shipment

Any movement of waste from, or to, the UK Continental Shelf (UKCS) is deemed to be a transboundary movement, subject to TFS waste regulations. Unless wastes are exempt from the scope of either Council Regulation No 1013/2006 (the WSR) or the UK Plan for Shipments of Waste, any movements for disposal are prohibited. While wastes generated by the normal operation of oil installations may be exempt from the scope of the WSR, decommissioned installations, oily waters, drilling muds, and almost all other operational wastes are not.

Hazardous and unlisted waste shipments require prior written notification to, and the written consent of, the competent authorities involved in the shipment. Given the highly specialised nature of waste shipment controls, operators planning to carry out any decommissioning or an activity involving waste generated on offshore installations should contact the relevant agency.

Operators should note that the procedure to obtain authorisation can often be a long one. The statutory determination period under the Environmental Authorisations (Scotland) Regulations (2018) (EAS) is four months, but it can take even longer if insufficient or inaccurate information is provided and depending on the



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destination country. Operators should ensure they submit high quality and detailed applications – with the correct financial guarantees and contracts in place – as these will be processed more quickly.

Further details are available at <https://www.sepa.org.uk/regulations/waste/transfrontier-shipment-of-waste/> and for England <https://www.gov.uk/guidance/importing-and-exporting-waste>, as well as additional guidance in the SEPA Guidance: Regulation of Offshore Oil and Gas Waste (WST-G-059 version 1 August 2018).

**For TFS, when the notifier has everything in place, approximately four to five weeks is needed to finalise the shipment. The system does not include an assessment of the yards in the recipient country (this assessment is done according to the receiving country's legislation).**

## GLOSSARY

**Circular Economy** A move away from the linear 'extract – use – dispose of' model to one which keeps resources in use (including change of use) for as long, and at as high a value, as possible. See Annex 6.

**Common Waste** Waste which has been processed to the point at which it cannot be distinguished as having come from any individual source or provider.

**Comparative Assessment** A BEIS detailed process that assesses the impact on the environment, safety, technical feasibility, other users of the sea and cost of various decommissioning options for pipelines for a possible leave 'in situ' option or for derogation categories for OSPAR.

**Controlled/Hazardous Waste** The Controlled Waste Regulations classify household, industrial or commercial waste as 'controlled waste' meaning it is subject to laws and regulations. Each regulation authority must establish and maintain a register of carriers of controlled waste. Hazardous or special waste is controlled waste, but not all controlled waste is hazardous/special.

**Controlled Waters** These are fully defined in Section 104 of the Water Resources Act 1991. They include in summary:

- Relevant territorial waters which extend seaward for three miles from the low-tide limit from which the territorial sea adjacent to England and Wales is measured.
- Coastal waters from the low-tide limit to the high-tide limit or fresh-water limit of a river or watercourse.
- Inland freshwaters
  - o Natural and artificial lakes, ponds, reservoirs, rivers or watercourses above the fresh-water limit.
  - o Natural and artificial underground rivers and watercourses.
  - o Surface water sewers, ditches and soakaways that discharge to surface or groundwater.
  - o It also includes those that may be currently dry.
  - o Groundwaters – any waters contained in underground strata.
- They do not include any public sewer or any drain that enters a public sewer (foul sewer).

Controlled waters extend to three miles from a defined baseline in England and Wales, as detailed in the Water Resources Act 1991. Coastal waters extend to three miles from a defined baseline in Scotland, as detailed in the WEWS. Other named activities under Crown control are outlined in the Continental Shelf Act 1964.

**COSHH** The law that requires employers to control substances that are hazardous to health. Most businesses use substances, or products that are mixtures of substances. Some processes create substances that could cause harm to employees, contractors and other people.

**Disposal** Any operation that is not re-use, recycling or recovery, even where its secondary consequence is the reclamation of substances or energy.

**Engineer down and clean** The preparation and make-safe of all materials prior to decommissioning and removal.

**Jacket** Stable platforms used mainly for oil and gas production facilities. These can range from very small structures carrying only meteorological equipment to extremely large production platforms.

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**Materials Inventory** A list of all objects and substances that will be reused or recycled post-decommission.

**Other recovery** This is not specifically defined in the revised WFD, although energy recovery is referenced as an example. It can be assumed, because the definition of recycling excludes materials to be used as fuels or for backfilling operations, their processing comes under the heading of other recovery.

**Piece small decommissioning** Structures are decommissioned offshore and then brought ashore for further waste management processing.

**Preparing for re-use** Checking, cleaning or repair activities to prepare waste products (or their components) so that they can be cost effectively re-used without further processing. The key difference between 're-use' and 'preparing for re-use' is that in the former case the material or object has not become a waste, whereas in the case of 'preparing for re-use', the material in question has become waste.

**Recovery** Any operation with the principal intention of making waste serve a useful purpose by replacing materials which would otherwise have been used to fulfil a function in, for example, a production plant or in the wider economy.

**Recycling** Any recovery operation to reprocess materials no longer required into products, other materials or substances that can be used for their original or new purposes. Recycling includes the reprocessing of organic material but not energy recovery or reprocessing into materials to be used as fuels or for backfilling operations.

**Re-use** The process enabling non-waste products or components to be used again for their original purposes. Re-use is a means of waste prevention; it is not a waste management operation. Operators should look to find re-use options wherever possible.

**Topside** Includes the drilling, production and processing modules, the helicopter deck and the accommodation for the crew.

**Waste broker** Any person, business or organisation that arranges waste transportation and management of waste on behalf of another party, such as organisations contracting out waste collection services e.g. local authorities, supermarkets and producer responsibility compliance schemes.

**Waste carrier** Any person, who normally and regularly collects, carries or transports waste in the course of business or with a view to profit, including those that produce and transport their own waste e.g. builders and landscape gardeners.

**Waste dealer** Any person, business or organisation that buys waste with the aim of subsequently selling it, including in circumstances where the dealer does not take physical possession of the waste.

**Waste holder** Any person who imports, produces, carries, keeps, treats or disposes of waste.

**Waste manager** Any person involved in the collection, transport, recovery or disposal of controlled waste, including the supervision of these operations, the after-care of disposal sites and actions taken as a dealer or broker.

**Waste producer** Any person whose activities produce waste. This includes private sector businesses, public sector services, as well as charities and voluntary and community groups. It also includes permitted operations or exempt facilities that produce waste as part of their activities. If you carry out a waste operation that changes the nature or composition of the waste, you are regarded as a producer of the waste.

# ANNEX 1: WASTE CLASSIFICATION

## Waste Classification Criteria

Waste can be classified as hazardous or non-hazardous, dependent on its composition and its potential effects on human health and the environment.

- Hazardous Waste Material with properties that may make it harmful to human health or the environment; for example, gauges containing mercury
- Non-hazardous Waste Material that is not classed as hazardous and does not fall within the hazardous waste classification; examples are timber and paper.

The methods used to classify the wastes likely to be generated during decommissioning are required to be in accordance with pertinent UK legislation.

## European Waste Catalogue

The EWC was established by European Commission Decision 2000/532/EC dated 3 May 2000 and has undergone amendments since then. The List of Wastes (LoW) contains 20 chapters, each based on the source that generated the waste or on the type of waste. Each chapter is identified by a two-digit number (e.g., 17 Construction and Demolition Wastes). Waste producers have a Duty of Care to classify and describe their waste correctly; this includes selecting the most appropriate six-digit code from the list. Coding of materials should be in accordance with WM3 and EWC codes. See:

[https://www.sepa.org.uk/media/163421/ewc\\_guidance.pdf](https://www.sepa.org.uk/media/163421/ewc_guidance.pdf) and

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/719394/Waste-classification-technical-guidance-WM3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719394/Waste-classification-technical-guidance-WM3.pdf)

When waste material cannot be conclusively classified it must undergo laboratory testing to determine its waste classification.

Although produced for the shipping industry, the European Maritime Safety Agency (EMSA) Guidance on the Inventory of Hazardous Materials provides a useful reference point for hazardous materials in accordance with Article 5 and Article 12 of the Regulation (EU) 1257/2013 of the European Parliament and the Council on ship recycling (SRR). See <http://emsa.europa.eu/emsa-homepage/2-news-a-press-centre/news/3003-emsa-guidance-on-the-inventory-of-hazardous-materials.html>.

## Identifying the hazard statement code

As stated previously, the presence of a hazardous substance (one with a hazard statement code) can require waste to be classified as hazardous waste. The hazard statement code for a substance can be found from the following sources:

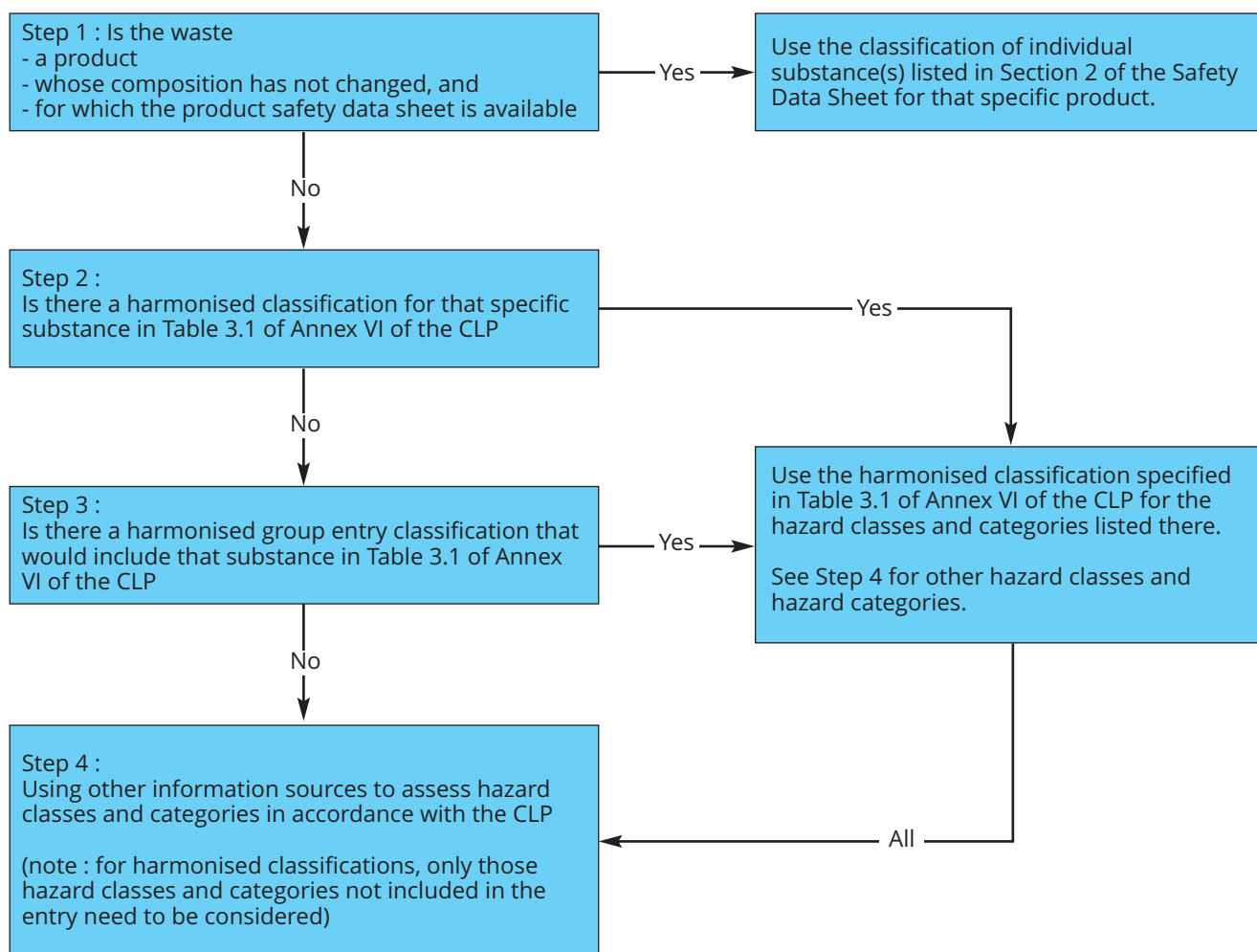
- The Classification, Labelling and Packaging of Substances and Mixtures Regulation 1272/2008 (CLP), Annex VI, Table 3
- SDSs – these should be used with discretion as they may be out of date, not REACH compliant or for non-European products
- Reliable data sources that have been peer-reviewed

Classification given in the CLP takes precedence over a classification found elsewhere. The CLP contains both Harmonised and Non-Harmonised entries, and in the first instance only Harmonised entries should be used, as these have been agreed at a European level and take legal precedence over other information sources. The

CLP may be incomplete, so other sources must also be considered. The next step is to gather any information from other sources relevant to working out the substance classification. The information should be researched from:

- Data generated from any test methods appropriate to the CLP.
- Epidemiological data and experience on the effects on humans, such as occupational data and data from accident databases.
- Any other information generated in accordance with the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) Regulation.
- Any new scientific information.
- Any other information generated under internationally recognised chemical programmes.

The flowchart below shows how each source should be applied.



**Figure 8:** Applying information sources (from WM3 v1.1)

This process will provide the hazard class, hazard category and hazard statement code for each substance in the waste.

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**Hazard class** the nature of the hazard. For example, a carcinogen is 'Carc.'

**Hazard category** a sub-category of the hazard class that describes the severity of the hazard. For example, a carcinogen could be '1A', '1B' or '2'.

**Hazard statement code** is the code assigned to the hazard class and category. For example, a carcinogen could be 'H350' or 'H351'.

### *Identifying the relevant threshold concentrations*

Once the composition of the waste is known, the next step is to find out if a hazardous substance is present in the waste above the threshold concentrations that would make the waste (as a whole) hazardous. Further information relating to the thresholds applicable to hazardous waste classification can be found in Technical Guidance WM3: Guidance on the classification and assessment of waste (2018).

## ANNEX 2: KEY WASTE STREAMS

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### NORM

Naturally Occurring Radioactive Materials (NORM) occur in the Earth's crust. NORM wastes arise when these materials are concentrated through industrial activities such as oil and gas extraction. This NORM contains uranium and thorium radioactive decay products that emit alpha, beta and gamma radiation.

NORM waste can also present significant chemical hazards because the processes that cause the natural radioactivity to be concentrated often also cause concentration of other pollutants such as mercury. On an offshore installation, NORM is commonly found in:

- Produced water pipelines.
- Well flow (crude oil).
- Separators.
- Produced gas (Pb-210).

NORM can be found in any areas where process fluids are present, especially where there is a change in flow, pressure or temperature and in subsea infrastructure, such as well tubulars.

Additional guidance can be found for the management of NORM in SEPA Guidance: Regulation of Offshore Oil and Gas Waste (WST-G-059 version 1 August 2018).

### What information is needed?

Its nature means that it is often not possible to make an accurate inventory of NORM materials until the asset has been decontaminated onshore, but the operator should be able to provide (as a minimum):

- Evidence of the presence or absence of NORM.
- Other contaminants present (heavy metals).
- If present, the expected activity levels.
- If present, the isotopes found.
- Form of NORM (liquid, sludge, scale).

These factors affect the handling of the waste when it comes ashore as well as the cost of dealing with it.

NORM analysis and waste disposal records can be used to help determine expected quantities and activities.

### Regulations governing NORM

The Waste Hierarchy applies to radioactive waste and operators should take account of this when considering dealing with NORM.

On the 1st September 2018 SEPA introduced new legislation in Scotland. The EAS introduced different rules for NORM waste. The Storage and Treatment of NORM waste now requires registration and compliance with standard conditions.

Storage, treatment and disposal of NORM wastes are controlled under the EPR in England (Southern North Sea and Irish Sea are regulated by the EA). Both regulations require a site to have specific procedures for handling NORM wastes. Regulators also require a Best Available Technique (BAT) assessment for dealing with the NORM to be produced.

Production of oil and gas is a 'NORM Industrial Activity'. A permit is required before the flow of oil and gas starts. However, a bespoke permit is required when decommissioning facilities.

Radioactive waste permits require the permit holder to consult with a certified radioactive waste adviser. Waste disposal by transfer needs at least two letters of agreement in principle from the authorised waste person.

Unless it has been proved that an asset contains no NORM, all waste should be sent to a facility with the correct permit and procedures to handle NORM waste. Monitoring should then confirm the presence or absence of NORM. This must be carried out 'in situ'. A permit is required before the asset or any radioactive waste/material is moved to an onshore location.

Generators of radioactive waste must ensure that waste carriers/decontamination facilities have suitable facilities and arrangements such that waste:

- is housed inside a permanent building
- is protected against the environment
- storage is banded or other secondary containment to prevent spills and leaks
- storage is segregated so that radioactive waste is secured.

As with all waste, the consignor is responsible for ensuring appropriate packaging of the waste. Operators should use permit conditions to gauge the suitability of decontamination facilities.

The Office for Nuclear Regulation (ONR) is the regulator for movements of radioactive waste. The HSE is the regulator for radiation protection.

Some radioactive waste will also be Directive Waste – that is hazardous and non-hazardous waste – and thereby other environmental permits might be required.

Carriers of radioactive waste are not allowed to repackage, compact or otherwise handle waste in transit. In addition, there must be no storage beyond two weeks for radioactive waste in transit from the waste generator to the authorised waste receiver.

If an installation is sent from the UK to another country, then it is important to note that radioactive waste may need to be returned to the UK for disposal depending on the recipient country and whether it can be recovered. This is unless it does not add materially to the wastes needing to be disposed of in that country. Repatriation of concentrated NORM entails high costs.

NORMs must be traceable, but there is nothing to prohibit them being mixed when an onshore disposal yard manages the decommissioning of more than one asset, as long as the mixing isn't intended to dilute them.

Once ashore, any NORM-contaminated infrastructure cannot be sent back offshore for disposal.

## Marine Growth

After submersion in the sea, oil and gas structures are colonised by marine organisms, including seaweeds such as kelp, anemones, and barnacles, that adhere to the structure. These colonies are termed 'marine growth'. This marine growth must be managed when it is brought onshore as part of the decommissioning project. Disposal yards adopt marine growth practices appropriate to local circumstances.



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DECC states that: “The cold-water coral, *Lophelia pertusa* and the reef forming worm *Sabellaria* are known to exist on or around offshore installations. [They] are species of conservation interest and surveys may be necessary to establish their presence. As with all marine species, if there is a significant growth... the potential impact of operations on these species should be assessed in the EIA” [Environmental Impact Assessment].

There is currently no evidence to suggest that non-native species occur on oil and gas structures in the North Sea. The Animal and Plant Health Agency has confirmed that marine growth is not regulated as an Animal By-Product, so no action is currently required during decommissioning.

For further information see Oil & Gas UK’s report ‘The Management of Marine Growth during Decommissioning’ <https://oilandgasuk.co.uk/wp-content/uploads/2015/05/OP086.pdf>.

## Waste from Well Plugging and Abandonment

The following waste types arise from the plugging and abandonment (P&A) of wells. Management of these wastes will be included in the next revision of the Guidelines:

- Steel alloy XTs – Also contaminated with NORM
- Control systems combined with control fluids, seals, electronic components
- Steel wellheads, guidebases and over trawlable structures, with cement
- Steel Tubulars with potential plastic coating, and HCs, NORM and scale contamination
- Steel/Cast Iron Completion components (some completions have a level of chrome also) with electronic components, electrical cabling and thermoplastic resin coatings, rubber sealing
- Down hole safety valves which are charged and need a specialist to de energise
- Electrical submersible pumps (ESPs) which may need to be hot tapped as there can be trapped pressure (but this can be done at the field)
- Control line with control fluids
- Plastic and metal control clamps
- Oil based muds contaminated with barites
- Water based muds contaminated with barites
- HC and solids contaminated brines
- HC/mud contaminated casing swarf
- HC and solids contaminated filtration unit cartridges
- Cement possibly if plug needs to be drilled out
- A large proportion of the subsea components, subsea trees and well heads are heavily contaminated in marine growth
- Drill cuttings piles (subsea) are looked at as part of the comparative assessment and if they are below the leech rate they are left in situ.

Reference is made the Oil & Gas UK new guidelines on Wells Decommissioning which are accessible: <https://oilandgasuk.co.uk/product/op105/>.

## Mattresses

SEPA Guidance: Regulation of Offshore Oil and Gas Waste (WST-G-059 version 1 August 2018) includes a section on the management of materials and wastes from the decommissioning of mattresses.

## Hazardous or Special Waste

Hazardous Waste (Special Waste in Scotland) is waste with hazardous properties. If such waste is mismanaged, it has a greater potential than non-hazardous waste to cause harm to the environment and human health. From the point of its production, strict controls apply to its movement, management and recovery (or disposal).

Not all hazardous materials are to be treated as waste. For instance, ceramic fibres are an occupational risk and a hazardous material, but not a hazardous waste until such time as they need to be disposed of.

SEPA and EA control these wastes under:

- The Special Waste Regulations 1996 (as amended) (Scotland only).
- The Hazardous Waste Regulations (as amended) (England and Wales).

## Sealed radioactive sources

A sealed source is defined as a radioactive source containing radioactive material where the structure is designed to prevent, under normal use, any dispersion of radioactive substances.

Sealed sources can be found on offshore facilities where they are used for liquid level and density gauges. The use of these sealed sources requires a permit under the ESA in Scotland or EPR in England. All sealed sources must be registered.

When a sealed source is no longer required or is beyond its recommended working life it becomes waste.

SEPA and the EA have produced guidance on when waste sealed radioactive sources can be stored under an exemption,

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/731733/RSL\\_Guidance\\_update\\_BEIS\\_format\\_v5\\_180803.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/731733/RSL_Guidance_update_BEIS_format_v5_180803.pdf). and for SEPA

[https://www.sepa.org.uk/media/101285/waste\\_sealed\\_radioactive\\_sources.pdf](https://www.sepa.org.uk/media/101285/waste_sealed_radioactive_sources.pdf).

Waste sealed radioactive sources should be disposed of as soon as reasonably practical but can be stored for up to 26 weeks while disposal is arranged. The storage must be in a dedicated store, which is suitable for use and does not produce an unacceptable radiation dose to people on the premises.

The container housing the waste sealed source should be marked or labelled as radioactive and should have a label giving details of the source inside (radionuclide, activity, reference date, source ID number).

Records must be maintained of each waste sealed source stored, and regular inventory checks of the waste sealed sources in the waste store should be conducted.

An entity which holds a permit to accept the waste must dispose of the waste sealed sources or return to the supplier if they offer this service.

Records relating to the disposal of each waste sealed source must be kept and retained for at least four years after the permit under which they were held for keeping and use is surrendered (in England and Wales) or cancelled (in Scotland and Northern Ireland).

These records must include: the source ID number, radionuclide, activity, date of disposal and person to whom it was transferred.

## ANNEX 3: SUMMARY OF DUTIES UNDER WASTE REGULATIONS

| Legislations  | Duties  |
|---|---|
| <b>Waste Hierarchy</b>                                    | Anyone producing, handling or managing hazardous waste must take all reasonable measures to apply the Waste Hierarchy.  |
| <b>Consignment Notes</b>                                  | To ensure safe handling, any organisation involved in moving hazardous waste must ensure that the transfer is covered by a Consignment Note. These notes plus the 'consignee return' provide details of each party involved in the transfer and of the type of waste being moved. They must be kept on file for at least three years.   |
| <b>The Environmental Protection Act 1990 (in England)</b> | <p>Any person who produces, imports, carries, keeps, treats or disposes of controlled waste – or acts as a broker having control of such waste – is under a Duty of Care to ensure that the waste is adequately described so that it is managed properly, recovered or disposed of safely, does not cause harm to human health or pollution of the environment and is transferred only to someone authorised to receive it. It is also the waste producer's duty to prevent the escape of the waste from their control.</p> <p>Breach of the Duty of Care is an offence, with a penalty of up to £10,000 on summary conviction or an unlimited fine on conviction on indictment.</p> <p>Those concerned with controlled waste must take all reasonable steps to ensure that when they transfer waste to another waste holder that it is managed correctly throughout its complete journey to disposal or recovery. This includes ensuring the correct documentation is completed for waste movement and only an authorised person (registered waste carrier/permitted or exempt site) takes receipt of the waste and that the site of destination holds the appropriate environmental permit or waste exemption. This responsibility extends to destinations in other countries where the correct notification and movement paperwork must be completed and authorised.</p> |
| <b>Registration of Carriers</b>                           | All organisations, businesses and companies involved in waste management who transport controlled waste within Great Britain as part of their business (or in any other way for profit) must register with the EA as carriers of controlled waste.  |
| <b>Waste classification</b>                               | Operators are required to classify their waste. See the Waste Classification Criteria section for more information.   |

| Legislations  | Duties  |
|---|---|
| <p><b>Transfrontier Shipment of Waste Regulations 2007 (as amended)</b></p>   | <p>The TFS details the procedures, offences, penalties and relevant enforcement authorities for transboundary movements of waste.</p> <p>Operators are required to consult the appropriate agency when considering decommissioning activities that involve transboundary movements of waste. The end disposal route needs to be defined which requires early engagement to determine the regulations they are working under. The regulations are enforced by SEPA (Scotland), the EA (England and Wales), and NI Environment Agency (Northern Ireland).</p> <p>Council Directive 2006/117/Euratom, transposed by the TFS Regulations, excludes NORM wastes and the shipment of disused sources to authorised storage.</p> <p>In Scotland, SEPA is responsible for the regulation of the management of radioactive substances, including NORM, produced from industrial activities.</p> <p>For more information see <a href="https://www.sepa.org.uk/regulations/waste/transfrontier-shipment-ofwaste/">https://www.sepa.org.uk/regulations/waste/transfrontier-shipment-ofwaste/</a> (Scotland) or <a href="https://international-wasteshipments.service.gov.uk">https://international-wasteshipments.service.gov.uk</a> (England – registration required).</p> |
| <p><b>Environmental Authorisations (Scotland) Regulations 2018 / Environmental Protection Regulations 2016 (in England)</b></p> | <p>Operators must have an authorisation from the appropriate regulatory body (SEPA in Scotland, the EA in England and Wales) for the accumulation, storage or disposal of radioactive waste or be able to demonstrate compliance with the conditions contained in specific exemption orders. The regulations apply to offshore installations.</p>   |
| <p><b>Control of Substances Hazardous to Health (COSHH)</b></p>   | <p>Any company working with hazardous materials needs to carry out assessments and keep records of the safety measures taken. Sometimes substances are easily recognised as harmful. Common substances such as paint, bleach or dust from natural materials may also be harmful.</p>  |
| <p><b>Water Resources Act 1991, and Water Environment and Water Services (Scotland) Act 2003 / EPR 2016 (in England)</b></p>    | <p>Operators must not cause or knowingly permit any poisonous noxious or polluting matter to enter any ‘controlled’ waters.</p>   |

## ANNEX 4: REGULATORS

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### **SEPA: Scottish Environment Protection Agency and the EA: Environment Agency (Onshore)**

Although powers are devolved, essentially both agencies' roles are the same and encompass:

- The enforcement of environmental protection.
- Regulation and authorisation of water, air, radioactive and waste activities and TFS.
- Registration of waste carriers, waste movement and hazardous waste.

Natural Resources Wales and the Northern Ireland Environment Agency are the agencies in those nations.

### **SEPA and EA (Offshore)**

Both SEPA and the EA maintain regulatory control over radioactive substances offshore; SEPA under the ESA (2018) and the EA under EPR (2016). The two UK environment agencies also control the shipping of waste from UK territorial waters destined for final recovery outside the UK under the Waste Shipment Regulations (EC Regulation No 1013/2006 on shipments of waste) and the TFS.

### **BEIS: The Department for Business, Environment and Industrial Strategy**

The Department regulates the decommissioning of offshore structures under the Petroleum Act 1998 (as amended by the Energy Act 2008) and approves the Decommissioning Programme, which includes a brief summary of the expected waste, alongside a demonstration confirming the operator will comply with the relevant waste regulator's requirements and materials inventory.

BEIS has issued Guidance Notes for the Decommissioning of Offshore Oil and Gas Installations and Pipelines. Section 9, Treating, Keeping and Disposing of Waste, signposts the requirements of the relevant waste regulator and asks operators to liaise directly with it to provide the relevant information alongside the process of developing their decommissioning programme.

The responsibility for ensuring that the requirement of the Petroleum Act 1998 (as amended by the Energy Act 2008) and international obligations are complied with rests with the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) which sits within BEIS. OPRED is also the competent authority on decommissioning in the UK for OSPAR (international regulations) purposes. OPRED also has Competent Authority powers for SEPA regarding offshore inspection and data gathering.

### **OGA: The Oil and Gas Authority**

The OGA is committed to achieving the maximum economic extension of field life and ensuring that decommissioning is executed in a safe, environmentally sound and cost-effective manner. The OGA works with BEIS and is specifically required to provide a view on each decommissioning programme regarding value, future alternative use and collaboration.

### **OPRED: The Offshore Petroleum Regulator for Environment and Decommissioning**

See BEIS.

## **OSPAR: Convention for the Protection of the Marine Environment of the North-East Atlantic**

OSPAR is the mechanism by which 15 Governments and the EU cooperate to protect the marine environment of the North-East Atlantic. OSPAR started in 1972 with the Oslo Convention against dumping and was broadened to cover land-based sources of marine pollution and the offshore industry by the Paris Convention of 1974. These two conventions were unified, up-dated and extended by the 1992 OSPAR Convention.

OSPAR is the derogatory regime to the 1998 OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations.

## **HSE: Health and Safety Executive (onshore and offshore)**

The HSE is responsible for enforcing regulations and legislation on health and safety. Its remit extends to transport of dangerous goods, chemical hazards, toxic substances and issuing of consents and registration for hazardous substances, and the accumulation of radioactive materials. All asbestos licensing comes under the HSE.

## **LA: Local Authority (onshore)**

Local authorities are responsible for regulating the planning of new onshore oil/gas operations and onshore pipelines, enforcement of the Clean Air Act 1993, issue of consents for hazardous substances, and enforcement of noise control legislation and other statutory nuisance legislation which may affect recycling/disposal yards.

## **MS: Marine Scotland (offshore)**

MS is an executive agency of the Scottish Government. To discharge its responsibility for marine environmental protection, it consults with and advises BEIS on development of oil spill plans and the licensing of disposal of waste at sea (including pipelines and decommissioning).

## **MCA: Maritime and Coastguard Agency (offshore)**

The MCA has regulatory authority over those aspects of the offshore oil and gas industry that fall under the MARPOL Convention 73/78 (the main international convention that covers prevention of pollution of the marine environment by ships), including sewage discharges and waste at sea.

## **Scottish Natural Heritage, Natural England and Natural Resources Wales (onshore and offshore)**

These national agencies are responsible for promoting nature conservation and protecting biodiversity within their national boundaries up to 12 nautical miles from shore.

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## **JNCC – Joint Nature Conservation Committee (offshore)**

The JNCC is a UK body responsible for promoting nature conservation outside the 12 nautical-mile limit, acting as the main advisor on offshore nature conservation issues to the government and oil industry. As a consultee on the decommissioning plan, JNCC ensures that any potential for oil spills or loss of waste overboard during decommissioning is addressed and minimised.

### **Regulatory Contacts List**

SEPA – Email via <https://www.sepa.org.uk/contact/> or call 03000 99 66 99.

EA – Email [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk) or call 03708 506 506.

OGA – Email [oga.correspondence@ogauthority.co.uk](mailto:oga.correspondence@ogauthority.co.uk) or call 0300 020 1010 or 1090.

HSE – <http://www.hse.gov.uk/contact/index.htm>.

## ANNEX 5: NOTABLE LEGISLATION AFFECTING DECOMMISSIONING

Includes:

- Energy Act 2008.
- European Community (EC) Directive 2008/98/EC on Waste (Waste Framework Directive).
- European List of Waste (Commission Decision 2000/532/EC).
- The Environmental Authorisations (Scotland) Regulations 2018 (EAS).
- The Waste (Scotland) Regulations 2012.
- The Waste Management Licensing (Scotland) Regulations 2011.
- The Waste (England and Wales) Regulations 2011 (as amended) by The Waste (England and Wales) (Amendment) Regulations 2014.
- Environmental Protection Act 1990 (EPA 1990).
- The Environmental Permitting (England and Wales) (as amended).
- The Controlled Waste (England and Wales) Regulations 2012.
- The Controlled Waste Regulations 1992 (as amended) (Scotland only).
- Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991 (as amended).
- Special Waste Regulations 1996 (Scotland) (as amended).
- The Hazardous Waste (England and Wales) Regulations (as amended) (England and Wales).
- The Pollution Prevention & Control (Scotland) Regulations 2012.
- Control of Pollution (Amendment) Act 1989.
- Water Resources Act 1991.
- Water Environment and Water Services (Scotland) Act 2003 (WEWS).
- Council Regulation No 1013/2006/EC, the Waste Shipment Regulations (WSR).
- The Transfrontier Shipment of Waste Regulations 2007 (TFS).
- Council Directive 2006/117/Euratom, transposed by the Transfrontier Shipment of Radioactive Waste and Spent Fuel Regulations 2008.
- The London (Dumping) Convention is also applicable. The 1972 Convention and the later 1996 Protocol give generic guidance for any waste that can be dumped at sea. New guidelines, adopted in 2000, specify different classes of waste, including platforms and other man-made waste.



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- The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (CDG) and the European agreement "Accord européen relatif au transport international des marchandises dangereuses par route" (ADR) together regulate the carriage of dangerous goods by road.
  - Environmental Liability (Scotland) Regulations 20091.
  - The Classification, Labelling and Packaging of Substances and Mixtures Regulation 1272/2008 (CLP).
  - International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM).
  - EU Directive Ship Recycling Regulation (not yet applicable) 1257/2013.

# ANNEX 6: THE CIRCULAR ECONOMY APPROACH

In line with the Circular Economy approach, all plant, machinery, equipment etc – including subsea infrastructure – that could possibly be used somewhere else is a ‘material’ for as long as possible in the decommissioning cycle. It is only regarded as a waste once all options for re-use and recycling have been exhausted

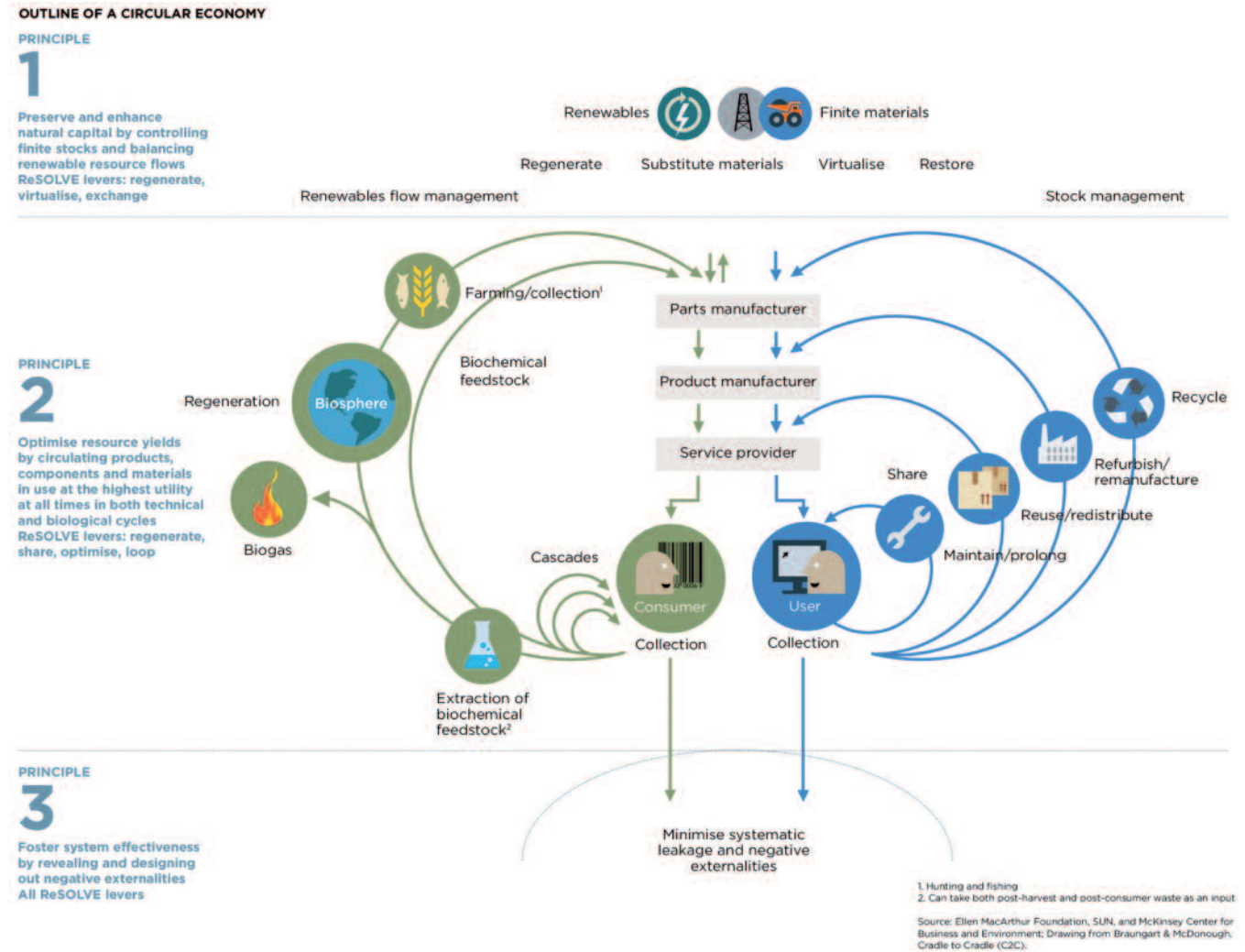


Figure 5: Illustration of a circular economy (Ellen MacArthur Foundation, 2012)





For further information on this report please contact:

**Decom North Sea**  
**21 Abercrombie Court, Prospect Road, Arnhall Business Park**  
**Westhill AB32 6FE**  
**T: +44 1224 900139**  
**E: [projects@decomnorthsea.com](mailto:projects@decomnorthsea.com)**  
**[www.decomnorthsea.com](http://www.decomnorthsea.com)**