



Department  
for Environment  
Food & Rural Affairs

# Solid waste and pollution avoided (tonnes)

Defra International (DI) KPI 5 methodology note

January 2025

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# Overview

## Summary information

### Units

Tonnes

### Type of indicator

Outcome or impact

### Headline data reported

Annual tonnes of waste or pollution reduced or removed as a result of ODA programming. The terms 'reduced' and 'removed' covers the 3 following areas for reporting the:

- overall reduction in waste or pollution produced
- overall reduction in waste or pollution entering the environment
- removal of waste or pollution from the environment

### Disaggregation

A list of disaggregation categories asked for in reporting of this indicator, as detailed in Annex 1).

- type of waste
- production reduction, environmental reduction or environmental removal
- country (if applicable)

### This indicator's wider links

- Global Biodiversity Framework (GBF) Target 7 [“Reduce Pollution to Levels That Are Not Harmful to Biodiversity”](#)
- Sustainable Development Goals (SDG): 11.6.1 [“Municipal solid waste management”](#)
- [25 Year Environment Plan](#)

## Technical definition and rationale

This indicator measures the overall reduction in waste or pollution produced, the reduction of its leakage into the environment, and the removal of environmental waste or pollution, as a result of Defra ODA funding. This indicator aims to monitor the reduction and removal

of these substance with the aim of reducing the negative impacts on the environment and biodiversity. Waste and pollution can be broadly categorised as:

- **pollution:** Substances that are deemed harmful to animals or the environment.
- **waste:** A material is waste if the holder has discarded it or is required to discard of it. These can be unwanted substances that although are not always harmful, can be when disposed of improperly. They can also be substances that are not harmful, for example food waste where food intended for human consumption is wasted anywhere throughout the supply chain from farm to households.

A broad range of waste and pollution types can be counted including pollution from nutrients, pesticides, hazardous chemicals and a range of waste types like plastics, agricultural waste, domestic waste or industrial waste (see **Annex 1** for full list). These sorts of substances can have harmful impacts on biodiversity and ecosystem functions and services if not disposed of or managed properly.

There is an international focus on the reduction of these substances. In 2022, the Kunming-Montreal Global Biodiversity Framework (GBF) identified 5 main drivers of ecosystem degradation, one of them being pollution. They created a specific target to reduce pollution levels ([Target 7](#)) stating that ‘Pollution is one of the main direct drivers of biodiversity loss’. Similarly, the Sustainable Development Goals have goal 11.6.1 that specifically targets “[Municipal solid waste management](#)” to reduce waste. Recently, at the 2022 UN Environment Assembly (UNEA-5), 175 nations agreed to develop a legally binding agreement on plastic pollution (to be agreed), highlighting its importance globally.

## Limitations

This indicator measures solid waste or pollution reductions as a result of a Defra ODA programme activity and therefore **must be directly delivered by the programme**. If a programme is delivering an activity (for example technical assistance or training) that might potentially influence or contribute indirectly to activities that target solid waste and pollution avoidance, then these results would not be reported under this KPI.

## Methodology options explained

There are 2 methodology options outlined for reporting this KPI, depending on whether your programme is reducing overall waste or pollution production, reducing the amount of it that enters the environment, or removing it from the environment. Review the relevant section based on your intervention:

## Option 1 - reduction in waste or pollution

For interventions that reduce the overall production of waste or pollution or those that reduce their leakage into the environment.

## Option 2 - removal of waste or pollution

For interventions that remove existing waste or pollution from the environment.

Programmes can report results under both options 1 and 2 if the programme is contributing to both. However, it must be clearly indicated which tonnes of waste or pollution are being reported under option 1 (reduction) or option 2 (removal) respectively. Specific tonnes must only be reported once under their respective option and cannot be reported under both options simultaneously, as this will lead to double counting.

## Option 1 method summary: reduction in waste or pollution produced or entering the environment

For this option there are a broad range of methodology examples that could be used depending on the programme's focus or intervention type. This is a new indicator, and we will be updating this over time to reflect the range of applicable methods which relevant Defra ODA programmes are using. Some examples are below:

1. **Food waste:** a programme may implement more sustainable food systems that reduce overall food waste. For this they may use the trends in food waste to determine the effect their intervention had on the tonnes of waste produced overall.
2. **Plastic waste:** a programme may directly support a policy that reduces use of single use plastics. The reduction in their use before and after the policy could be used to report overall reduction in waste produced.
3. **Other:** there are likely a range of other relevant methods used, depending on the programme. If you can clearly define methods, the ODA Hub can review its accuracy and alignment for inclusion in aggregated reporting.

**Figure 1: Summary of the methodology steps for option 1 of this indicator**

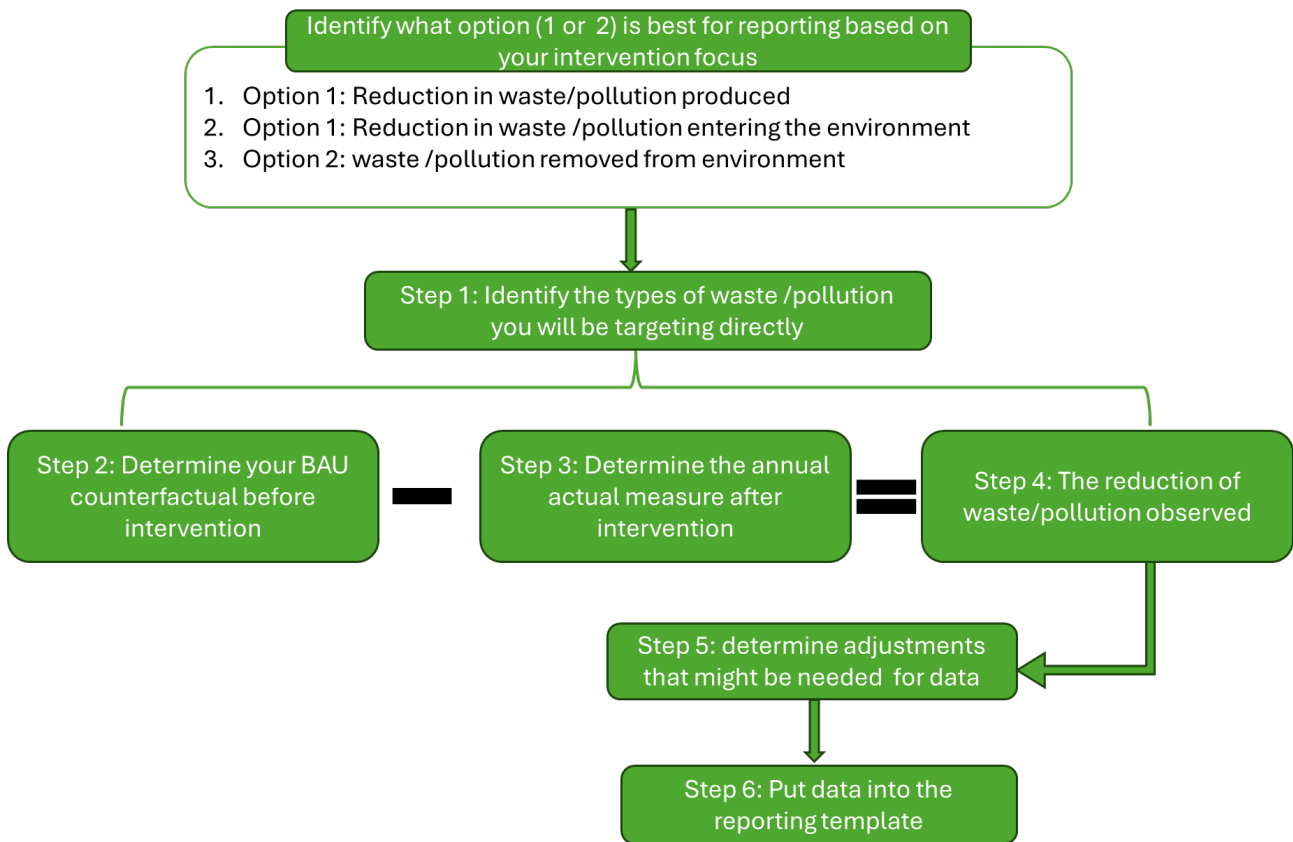


Figure 1 shows summary of the methodology steps for option 1 of this indicator. First, identify if option 1 or 2 under this KPI is best for reporting based on your programme intervention focus. Step 1 identify the types of waste/pollution you will be targeting directly; Step 2 determine your business as usual (BAU) counterfactual before intervention; Step 3 determine your actual measure after intervention; Step 4 calculate the reduction that was observed; Step 5 determine adjustment factors that might be needed; Step 6 put data into the reporting template.

## Option 1: Methodology steps

### Step 1: Define which type(s) of waste or pollution will be targeted by your programme

This indicator measures the waste or pollution effects as a result of a Defra ODA programme activity and therefore the change must be directly delivered by the programme. If a programme is delivering an activity (for example technical assistance or training) that may indirectly lead to the reduction in waste/pollution in an area, this may not be reported under this KPI.

Review **Annex 1** to identify the type(s) of waste your programme will be reporting based on what you are targeting through your intervention. You must disaggregate the tonnes you are reporting by the type of waste, so please ensure you are able to report this. If this is too complex to report all types of waste by their respective tonnes, please indicate the main type of waste your intervention is focused on instead.

## **Step 2: Estimate the amount of waste that is normally produced or that enters the environment without your intervention – your business as usual (BAU) counterfactual**

Your business as usual (BAU) counterfactual is an estimate of the amount of waste that is normally produced without your intervention and gives an indication of what was likely to have happened without Defra ODA intervention. The counterfactual will be used to compare against the actual waste produced that your programme records over the course of the intervention or the amount you have directly reduced. This will then help estimate the waste that your intervention has avoided during reporting.

This may be different from your baseline. A baseline reflects the results achieved at the start of your programme and is a fixed point of reference that can be used for comparison. Often, if you are not funding an existing intervention that may already have done work prior to Defra funding, this will be zero. If your intervention is the only relevant work being undertaken to change the situation, your baseline may also be used as a starting point for the estimation of the BAU counterfactual in the years when your programme is implementing activities. Factors that are likely to influence waste levels over this period, or historic trends that indicate a likely increase or decrease over time even without your intervention, should be taken into account when estimating a counterfactual for programme years. If it is not possible to estimate a BAU counterfactual, you may take the baseline as the counterfactual, in which case an adjustment factor may be applied during the quality assurance process.

In most cases we assume the data required to estimate your counterfactual will be sourced from national statistics on waste as this is likely to be robust and reflect work at the regional/policy level. However, some programmes may be working in other ways or at local levels where other sources of data and evidence may be used. This includes, but is not limited to, surveys, study estimates of environmental waste trends and scaling up per-household estimates across all households in the area. Defra's ODA Hub will quality assure the methods used to ensure accuracy of your counterfactual.

**Example:** a waste management policy active in a region is ineffective with approximately 60% of household waste entering the environment annually. 1 tonne of household waste is generated per household per year and there are 10,000 households in scope – 10,000 tonnes of waste is thus estimated to have been produced. If 60% of household waste

generated enters the environment due to poor waste management, this means 6,000 tonnes of waste is estimated to enter the environment in the first year without intervention – **the BAU situation**.

### **Step 3: Estimate the amount of waste or pollution that is produced or that enters the environment during the implementation of your programme - your annual actual measure**

Depending on your application of this indicator and your programme focus, your programme will be either reducing waste production or reducing its entry into the environment. Either way, your programme will need to measure the total amount of waste that is actually being produced or flowing into these systems during the programme intervention (your annual actual measure). This will tell you what has occurred in terms of waste over the year you have implemented programming and can be compared in the next step to what was expected to have occurred without intervention.

**Example:** the programme intervention has improved the effectiveness of the waste management system, reducing the proportion of household waste that enters the environment from 60% to 10%. For the same 10,000 households the waste entering the environment is now 1,000 tonnes – the annual post-intervention measure.

### **Step 4: Calculate the amount of waste or pollution prevented from entering the environment due to your programme**

Subtract the annual actual waste or pollution level recorded (step 3) from the BAU counterfactual estimate (step 2) to determine the difference. This difference is the estimated tonnes of waste or pollution the programme has avoided.

**Example:** the BAU counterfactual for this year was estimated to be 6,000 tonnes, however through improved waste management the waste entering the environment in the first year of the programme was 1,000 tonnes.

- 6,000 tonnes - 1,000 tonnes = 5,000 tonnes avoided waste

## **Step 5: Report your results into the reporting template - determine attribution, adjustments or conversions that may be required**

The template to complete your data return can be found alongside the methodology note online. Relevant information needed to support you in reporting disaggregation for this indicator is found in **Annex 1**.

### **Attribution**

In the case of multi-donor funded programmes or multilaterals – where Defra ODA is not the sole funder of a programme – the Defra ODA attributed result reported should be calculated on the basis of Defra's share in the total programme cost or budget (for example, if Defra contributes 25% of the programme budget, report 25% of the programme's total results). In case Defra happens to be the only funder of a programme implemented by a multilateral institution, the full result can be reported; this should be explicitly mentioned in the reporting template so this is understood when your return is quality assured at the central level to confirm there is not a risk of double counting.

### **Annual reporting**

We require programmes to report the in-year and cumulative results of this indicator. For an idea of future ambition, we also ask for the following year's expected results and programme lifetime expected result, to help Defra strengthen its portfolio-level oversight and accountability.

### **Disaggregation**

For reporting of this KPI you should indicate, for all reported data if your programme is reducing or removing solid waste or pollution, the waste or pollution type and country (if able). Ensure that you use a new line when the disaggregation changes. For example, you cannot report multiple types of waste removed for a given tonne amount - instead, you would determine the tonnes of each waste type that you are reporting and report these as separate lines. In the case where this granularity is not possible, identify the primary waste type and use this category to report all results. The sum of all your disaggregation lines should sum to total the same value as your in-year achieved results.

### **Methods and data**

The methods section also asks you to provide responses to a series of questions aiming to clarify the application of this method, correct calculations and accuracy of any other method that might be applied. This is used to support ODA Hub analysts to conduct their data quality assurance and voluntarily apply relevant statistics code of practice principles

for publication. Many of these questions also ensure the disaggregation has been reported correctly.

### **If needed, convert the metrics to weight (tonnes) units needed to report**

For this indicator the units are tonnes. Much waste or pollution may be monitored in different units (kilograms, litres, g/mL or other). In this instance use standardised conversion factors to translate these values into tonnes. Any conversion can be used if robust, but some useful resources include:

- Department of Environmental Services [Volume to weight conversion factors](#)
- sustainability exchange [Conversions of volume to weight](#)

The weight of a liquid in grammes can be calculated by multiplying its volume in millilitres by its density in grammes per millilitre. This can then be converted to tonnes using 1.0E-6t.

### **Determine adjustment factor that might be needed**

If the data is available for the BAU counterfactual and there is a good estimate of what results are additional because of your programme, this should be used for reporting in full. However, given the nature of ODA interventions and the assumptions used to determine a BAU counterfactual, many programmes will not have perfect counterfactuals. To adjust for additionality concerns, i.e. whether any reduction in waste or pollution is not entirely due to your programme, a set percentage '**adjustment factor**' can be applied to a programme's estimated results. This adjustment can be used to reflect uncertainty from the assumed counterfactual and potential data quality issues. This is summarised below in. For more information, please review the [ICF supplementary guidance on additionality and attribution](#).

1. **High level of uncertainty (50%):** an adjustment factor of 50% would mean there is a high level of uncertainty surrounding the additionality of results, such that 50% of the results estimated by the programme are not counted and our confidence level surrounding results is poor.
2. **Medium level of uncertainty (75%):** an adjustment factor of 75% would imply that there is a medium level of uncertainty surrounding the additionality of results, such that 25% of results estimated are not counted and our confidence level surrounding the programmes results is satisfactory.
3. **Low level of uncertainty (100%):** an adjustment factor of 100% would imply that there is a low level of uncertainty surrounding the additionality of results, such that all results estimated are counted and our confidence level surrounding the programmes results is good.

The most common adjustment factors used are set at 50%, 75% and 100%. However, programme specific adjustments can vary, and adjustments may differ depending on the programme, country, sector or intervention in place.

## Option 2: Removal of waste or pollution from the environment

For this option there are a broad range of methodology examples that could be used depending on the programme's focus or intervention type. This is a new indicator, and we will be updating this note over time to reflect the range of applicable methods that Defra ODA programmes are using. Some examples are:

- **Payment for tonnes collected:** a programme may pay people to pick up waste and pay by the tonne. In this case tonnes removed is simple to calculate based on programme records of payments made, or direct measures of tonnes collected.
- **Estimation of the waste or pollution removal from a given area:** a programme may remove waste directly from a large terrestrial or marine area. It may randomly sample areas and make assumptions (based on the waste or /pollution removed from this sample area) of the overall reduction in a larger area.
- **Other:** there are likely a range of other relevant methods used to depend on the programme. If you can clearly define methods, the ODA Hub can review its accuracy and alignment for inclusion in aggregated reporting.

For the purposes of this methodology note we focus on the **estimation of the removal in a given area.**

## Option 2: Methodology

Figure 2: Summary of the methodology steps for option 2 of this indicator

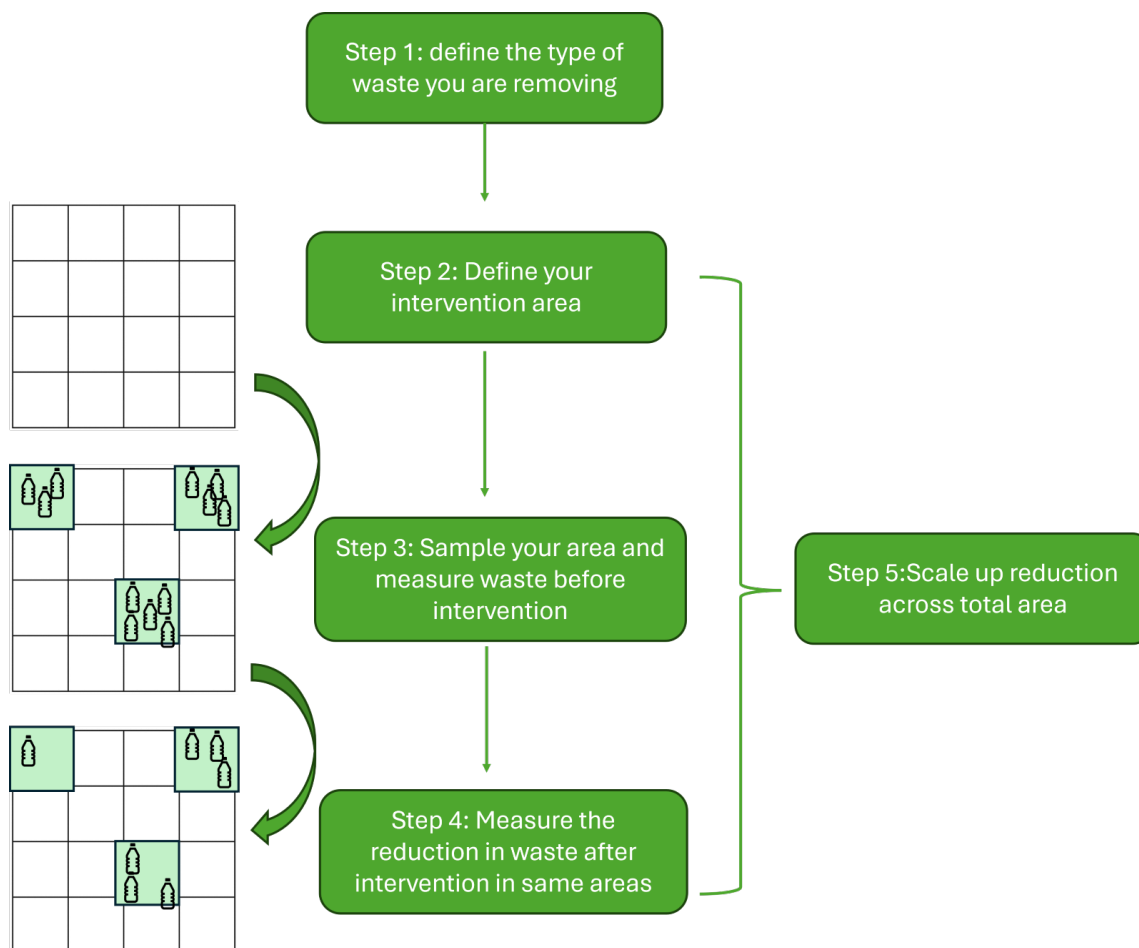


Figure 2 shows a summary of the methodology steps for option 2 of this indicator. Step 1 define the type of waste you are removing; Step 2 define your intervention area; Step 3 sample your area and measure waste before the intervention; Step 4 measure the waste after the intervention in these same areas; Step 5 scale up reduction across the total area.

### **Step 1: define which type(s) of waste or pollution will be targeted by your programme**

See Option 1, step 1 – same applies.

### **Step 2: identify the total area in scope of the programme where removal of waste or pollution has been undertaken**

The programme should record the area where they have been operating to remove waste/pollution. Measurement should focus only on this area to avoid counting results not delivered directly by the programme. Note the country(s) this is in for reporting.

### **Step 3: take a sample from within the total area affected before intervention**

Within the total area in scope, take one or more random sample areas to estimate the waste/pollution present before your intervention. When designing the sample, take account of the different ecosystem types (for example beach, mangrove, ocean) and include sample areas from each of these to provide a representative picture. The sample area should be consistent across ecosystems, and could be 0.5 hectares, 1 hectare or another measurable denomination.

### **Step 4: record waste or pollution removed in the sample areas after intervention**

In the sample areas, record the amount of waste or pollution removed. Ideally, this activity would take place over a set time period (1 day or 1 week) so that there is a reference for the waste removed in a set time. If conducting the activity over a longer time period this can be scaled up to estimate the total reduction and reduce burden of counting each time.

### **Step 5: scale up across total area**

Multiply up the waste removed in your sample areas (step 4) across the total area in scope (step 2) to estimate the total waste/pollution removed by the programme.

If your programme works across multiple ecosystems, apply the estimate from the relevant sample area (e.g. 1 hectare of mangroves) to the area of that ecosystem covered by the programme (e.g. 1000 hectares) to estimate the waste or pollution removed in that ecosystem, then add the estimates for each ecosystem to calculate your total.

Try to make sensible assumptions about the waste removed in instances where you may be scaling up results to cover a 12-month period. For example, if you measure over a month and scale this up by 12 to estimate the results for a full year, this may not be accurate as you are making assumptions about the consistency of waste removal. It may be that the most progress was made in early weeks that slows substantially when there is less waste left to be removed, or that less removal would be expected during the rainy season, etc. Consider taking a sample at multiple points over the year to provide a more accurate estimate or consider if adjustment factors may be needed to reflect this if data is not covering all time periods.

### **Step 6: report your results into the reporting template. Determine attribution, adjustments or conversions that may be required**

See Option 1, step 5 – same applies.

# Annex 1: Data disaggregation

Results are disaggregated by:

- waste or pollution type (further details provided in this Annex)
- reduction or removal (as defined in main note)
- country (if applicable)

## Waste or pollution type

### Industrial

These are the wastes created by:

- manufacturing products
- supplying electricity, gas, steam and air conditioning
- water collection, treatment and supply

Examples include:

- food
- other organic waste
- paper or card
- plastic
- metals
- glass
- textiles
- wood
- waste electricals
- other wastes from industrial sources.

This category also includes industrial chemicals, used oils and solvents, sludges and sewage, and discarded equipment.

### Commercial

Commercial wastes are produced by the service sector, such as:

- schools
- colleges
- shops
- hospitality
- healthcare

- offices.

Examples include:

- food
- other organic and garden waste
- paper/card
- plastic
- metals
- glass
- textiles
- wood
- waste electricals
- other wastes from commercial sources

This category also includes healthcare, other biological wastes, and discarded equipment and vehicles.

## **Domestic**

The different household wastes which are collected during household activities like cooking and cleaning are known as domestic wastes.

Examples include:

- food
- other organic and garden waste
- paper or card
- plastic
- metals
- glass
- textiles
- wood
- waste electricals
- other wastes from household sources

## **Construction**

Construction waste refers to the materials and debris generated during the construction, renovation, demolition, or excavation of:

- buildings

- roads
- bridges
- other infrastructure projects

Examples include:

- insulation materials
- concrete
- bricks
- tiles
- wood
- glass
- plastic
- bituminous mixtures
- metallic waste (including cables and pipes)
- cement
- paints
- adhesives

## **Agricultural**

Various wastes produced in the agricultural field are known as agricultural wastes.

Examples include:

- fertiliser
- pesticides
- cattle waste
- weed
- husk

## **Forestry**

Forestry waste includes resources leftover from the handling of wood trees.

Examples include:

- fertilisers
- pesticide
- wood chip
- brash
- bark
- tanning wood bark
- lignin residues

- bleached cellulose fibres

## **Fishing**

Fishing waste means materials resulting from commercial or recreational fishing, fish cleaning or processing operations.

Examples include:

- nets or other fishing gear
- fish carcasses
- offal

## **Ocean**

This category allows marine programmes that may not be able to identify sources of waste to report what waste they have avoided.

Examples include:

- plastics
- sewage
- oil spills
- industrial chemicals
- fishing waste
- other litter

## **Other – specify**

Other forms of waste or pollution not reportable through the other categories. Ensure you specify this so that analysts can review alignment into other fields and report separately if needed.