

5.2 Waste pre-treatment

Pre-treatment of the waste is required to meet the entry criteria of the treatment facility. One of the main objectives of the pre-treatment is the **separation of the different phases** (oil/ water/ solid) of the oily waste recovered, depending on the **entry criteria** of the treatment plant.

Once the main national treatment options have been identified (during the preparedness phase, and before any incident), the requirements for pre-treatment should be assessed taking into account:

- the entry criteria of the identified facility and their operational constraints, e.g.:
 - a cement kiln can only use recovered oil as fuel source if the oil is fresh, non emulsified, does not contain water, or salt etc.;
 - some specialized landfills can accept all types of waste without any pre-treatment;
- the possible types of oily waste generated by oil spill response operations:
 - in some cases, oil is recovered very quickly, fresh, non emulsified, at the surface of the sea, before it reaches the shore;
 - however, in most cases, oil will be emulsified/ weathered/ mixed with sand, debris, seaweed, etc.

Some entry criteria are linked to the nature of the waste, compared to the treatment capability of the plant and the type of waste acceptable. In this case, phase separation and preparation of the waste (screening, crushing etc.) will often be required.

Some entry criteria may also be restrictive, related to the nature of the waste (presence of toxic compounds) and will limit the daily volume of waste acceptable by the plant. In this case, OSW will have to be “diluted” with the normal waste managed by the plant, at the suitable rate for the equipment.

The pre-treatment option can be implemented on the site of the treatment facility or on the intermediate/ long term storage sites.


The choice of the pre-treatment required will be ascertained during the pollution:


- once the treatment options have been confirmed,
- depending on the nature of the OSW recovered, and on the “quality” of the segregation of the waste at the source on site.


Specific facilities have often to be adapted or built to implement pre-treatment. One of the main difficulty is choosing the best suited scale for the facility, i.e. finding a reasonable balance between the capital expenditures and the running costs (CAPEX vs. OPEX), compared to the total volume of waste to be pre-treated.

It is the responsibility of each country to define the pre-treatment suited to the treatment facility chosen since each treatment facility is specific and each country has its own rules and regulations.

Recommendations to develop this Sub-section

 **Refer to the TG n°10** “Assessment of national treatment capabilities”, p.59 for an overview of pre-treatment options depending on the type of waste.

 **See Appendix n°7:** “Data sheets on (pre-)treatment and final disposal”, p.85 for information on pre-treatment method and installation.

 **See Appendix n°4** “Case study: JYEH power plant oil spill, Lebanon, 2006”, p.74 for examples of treatment, and required pre-treatment.



**Sorting of waste prior to pre-treatment (required in the absence of sorting during collection)
(Source: Le Floch Depollution)**



Manual sand sieving (Source: Le Floch Depollution)



Mechanical sand/gravel/pebble sieving (Source: Le Floch Depollution)