



BAKKAFROST SCOTLAND

EMS Company Waste Management Plan

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Author	Murdo Frame	Approver	John McMullen
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1.Introduction

This company waste management plan has been produced to present how Bakkafrost Scotland (BFS) manages its waste streams. Waste management within BFS follows the 'waste hierarchy' according to Article 4 of the revised EU Waste Framework Directive (Directive 2008/98/EC). The waste hierarchy has been transposed into UK law through The Waste (Scotland) Regulations 2012 and the Waste Management Licensing (Scotland) Regulations 2011 which places a duty on all persons who produce, keep or manage waste, including Local Authorities, to apply the waste hierarchy.

The waste hierarchy is summarized as follows:

Stages	Include
Prevention:	Using less material in design and manufacture. Keeping products for longer; re-use. Using less hazardous materials
Preparing for re-use:	Checking, cleaning, repairing, refurbishing, whole items or spare parts
Recycling:	Turning waste into a new substance or product. Includes composting if it meets quality protocols
Other recovery:	Includes anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste; some backfilling
Disposal:	Landfill and incineration without energy recovery

Source: DEFRA website <http://www.defra.gov.uk/environment/waste/legislation/waste-hierarchy/>

The waste hierarchy is on a sliding scale, promoting prevention and recycling with disposal as the last resort as presented below:



Source: Scottish Government <https://www.gov.scot/publications/guidance-applying-waste-hierarchy/pages/3/>

BFS waste management plan comes under the remit of the company's Environmental Management System (EMS). BFS has implemented an EMS to satisfy the requirements of ISO:14001 (2015) and has produced an Environmental Policy which states a commitment to waste reduction and recycling. The companies Environmental Policy is available to all employees and contractors via Qpulse with reference – EMS.POL.1. The Policy is also available to the public via the company website – <https://www.bakkafrostscotland.com/policies>

2. Scope

The scope of this waste management plan covers the following parts of BFS business:

- Freshwater production
- Marine production
- Harvesting operations
- Processing operations
- Administration buildings

Certain waste streams differ between the five different parts of the BFS business. The scope of the waste management plan covers each waste stream arising from each area of the BFS business, the European Waste Classification Code (EWC), the Standard Industrial Classification (SIC) Code, the disposal route and any proposed improvement to waste management inline with the waste hierarchy. Across the five parts of the business, BFS operates over 60 different sites where waste is produced.

3. Waste Records

Waste records for all sites are held on site for a minimum of two years for controlled waste and three years for special (hazardous) waste. These records include details of volumes of waste produced, the nature of waste, the European Waste Classification Code (EWC) and Standard Industrial Classification (SIC) Code. These records are held in accordance with the requirements of the EMS. Volume of waste is reported on internally monthly via the SHE Monthly Return form. Annual volumes are detailed on the ECO3 Portal and are used to set waste reduction targets at a site level.

4. Waste Management Plans

4.1 Freshwater Production

The waste streams generated by our freshwater production sites are summarized in the table below. This table also gives the EWC code, SIC code, disposal route and details any proposed improvement to waste management, under the EMS.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
General waste (including office and canteen food waste)	20.03.01	03.22: Freshwater aquaculture	Landfill via council uplift or via licensed waste contractor	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. less purchase of single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling the use of correct bins. Introduction of pictorial guidance above bins.
Organic waste (Including paper and cardboard where provision is available)	20.01.08	03.22: Freshwater aquaculture	Where provision exists, used as feedstock for anaerobic digestion (AD) and biogas production	Routine uplifts dependent on Local Council timescales	Explore introduction of site micro AD. Implement Local Council / private sector collections where available. Introduction of pictorial guidance above bins.
Co-mingled recycled paper, plastic, cans	15.01.06	03.22: Freshwater aquaculture	Recycling via Local Council in certain areas where the service exists (certain areas are too remote for recycling provision)	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. not buying single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling the use of correct bins. Introduction of pictorial guidance above bins.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
Fish mortalities	02.01.02	03.22: Freshwater aquaculture	Ensiled and disposed of by a specialist contractor in IBCs	Mortality collection is conducted daily, with disposal from site on an as required basis	Possible disposal via local anaerobic digestion plants. Explore introduction of site micro AD.
Redundant Feed - Standard Composition	02.01.99	03.22: Freshwater aquaculture	Usually stored in 25Kg Bags - Where provision exists, used as feedstock for anaerobic digestion (AD) and biogas production	Feed disposal is rare as Quantities of feed ordered is managed in line with projected growth.	Reuse at another site
Redundant Feed - Medicated	02.01.08	03.22: Freshwater aquaculture	Usually stored in 25Kg Bags – Required special uplift as it contains Medicine, Handled as Hazardous waste (Arranged by Biology)	Medicated feed is rarely disposed as is prescribed at volumes related to the planned treatment	Use prescription else where
Spent oils from maintenance, Hydraulic Engine / gear	13.02.08 13.01.11	03.22: Freshwater aquaculture	Maintenance engineer removes from site as part of service contract. If maintained by site Labelled and banded separately for bulk uplift by approved special waste contractor	After each service	
Chemicals	16.05.06	03.22: Freshwater aquaculture	Labelled and banded separately for bulk uplift by approved special waste contractor	Ad hoc / Disposal avoided where possible	Use elsewhere if possible
Medicines	18.02.05	03.22: Freshwater aquaculture	Reuse on other stock or Labelled and banded separately for bulk uplift by approved special waste contractor	Use is preferred but ad hoc if required.	Use prescription elsewhere
Old nets, tanks, cages, mooring equipment	02.01.04 , 02.01.99	03.22: Freshwater aquaculture	Recycled via the manufacturer or approved contractors	On an ad-hoc basis, when equipment is broken or reaches the end of its life	Increased recycling of old equipment. Introduction of BFS Decommissioning strategy document (DREaM). Segregated waste solutions ongoing.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
Settlement Sludge comprising waste feed and faecal matter	02.01.01	03.22: Freshwater aquaculture	Uplifted by a licensed specialist contractor who land spreads the sludge	Settlement sludge is filtered on site daily, which is pumped out and collected every 2 – 3 months	Explore introduction of site micro AD. BFS trialing water reduction equipment to reduce waste volumes
Batteries (large car batteries)	16.06.01	03.22: Freshwater aquaculture	Recycled via the local council	On an ad-hoc basis	Training: better awareness of waste and what constitutes 'special waste'. Introduction of BFS Decommissioning strategy document (DREaM).
Wood and wooden pallets	20.01.38	03.22: Freshwater aquaculture	Re-used on site where possible	Disposed of by waste contractor on an ad-hoc basis	Increased re-use and recycling of wood.
Septic tank waste	20.03.04	03.22: Freshwater aquaculture	Uplifted by a licensed contractor	On an ad-hoc basis	None

4.2 Marine Production

The waste streams generated by our marine production sites are summarized in the table below. This table also gives the EWC code, disposal route and details any proposed improvement to waste management, under the EMS.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
General waste (including office and canteen food waste)	20.03.01	03.21: Marine aquaculture	Landfill via council uplift or via licensed waste contractor	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. less purchase of single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling the use of correct bins. Introduction of pictorial guidance above bins.
Organic waste (Including paper and cardboard where provision is available)	20.01.08	03.21: Marine aquaculture	Where provision exists, used as feedstock for anaerobic digestion and biogas production	Routine uplifts dependent on Local Council timescales	Explore introduction of site micro AD. Implement Local Council / private sector collections where available.
Co-mingled recycled paper, plastic, cans	15.01.06	03.21: Marine aquaculture	Recycling via Local Council in certain areas where the service exists (certain areas are too remote for recycling provision)	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. not buying single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling the use of correct bins. Introduction of pictorial guidance above bins.
Fish mortalities	02.01.02	03.21: Marine aquaculture	Either as whole fish in bulk containers or ensiled in IBCs, and removed from site and disposed of by a specialist contractor. On certain sites fish mortalities are incinerated on-site	Mortality collection is done daily and mortality checking with divers is conducted fortnightly. Disposal of mortalities is on an as required basis.	It is proposed to send mortalities to local AD in the near future. Explore introduction of site micro AD.
Redundant Feed - Standard Composition	02.01.99	03.21: Marine aquaculture	Usually stored in Barge silo after direct delivery from feed vessels - Where provision exists, used as feedstock for anaerobic digestion (AD) and biogas production	Feed disposal is rare as Quantities of feed ordered is managed in line with projected growth.	Reuse at another site

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
Redundant Feed - Medicated	02.01.08	03.21: Marine aquaculture	Usually stored in Barge silo after direct delivery from feed vessels – Required special uplift as it contains Medicine, Handled as Hazardous waste (Arranged by Biology)	Medicated feed is rarely disposed as is prescribed at volumes related to the planned treatment	Use prescription else where
Bilge Oils/Water	13.04.01	03.21: Marine aquaculture	Stored on site in IBC once discharged from vessel. Transferred to LA collection point at pier or depot.	Vessels regularly empty Bilges and material transferred once IBC $\frac{3}{4}$ Full	
Spent oils from maintenance, Hydraulic Engine / gear	13.02.08 13.01.11	03.21: Marine aquaculture	Maintenance engineer removes from site as part of service contract. If maintained by site Labelled and banded separately for bulk uplift by approved special waste contractor	After each service	
Chemicals	16.05.06	03.21: Marine aquaculture	Labelled and banded separately for bulk uplift by approved special waste contractor	Ad hoc / Disposal avoided where possible	Use elsewhere if possible
Medicines	18.02.05	03.21: Marine aquaculture	Reuse on other stock or labelled and banded separately for bulk uplift by approved special waste contractor	Use is preferred but ad hoc if required.	Use prescription elsewhere
Old nets, cages, mooring equipment	02.01.04, 02.01.99	03.21: Marine aquaculture	Recycled via the manufacturer	Nets are replaced every 4 years. Mooring equipment such as ropes and chain are replaced every 6 years. Cages can last >20 years.	Various recycling options are being explored for old rope, nets, chain and cages. Introduction of BFS Decommissioning strategy document (DREaM). Segregated waste solutions ongoing.
Batteries (large car batteries)	16.06.01	03.21: Marine aquaculture	Recycled via the local council	On an ad-hoc basis	Training: better awareness of waste and what constitutes 'special waste'. Introduction of BFS Decommissioning strategy document (DREaM).
Wood and wooden pallets	20.01.38	03.21: Marine aquaculture	Re-used where possible	On an ad-hoc basis	Increased re-use and recycling of wood
Gas bottles	16.01.16	03.21: Marine aquaculture	Re-used via the manufacturer	On an ad-hoc basis	None

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
Waste feed bags	20.03.01	03.21: Marine aquaculture	Feed bags delivered by boat are recycled via the feed company. Road delivered feed is collected and recycled where possible.	At each feed delivery	Exploring arrangement to return road delivered feedbags to manufacturer.
Septic tank waste	20.03.04	03.21: Marine aquaculture	Uplifted by a licensed contractor	On an ad-hoc basis	None

4.3 Harvesting Operations

The waste streams generated by our harvesting sites are summarized in the table below. This table also gives the EWC code, disposal route and details any proposed improvement to waste management, under the EMS.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
General waste (office paper, office food waste, plastic)	20.05.01	10.20: Processing and preserving of fish, crustaceans and molluscs	Transported to Cairndow/Marybank for landfill via council uplift or via licensed waste contractor	Routine uplifts dependent on Local Council timescales	Recycling of cans, plastic, paper and organic waste has been implemented in all areas where possible (note: certain areas are too remote for recycling provision). Introduction of pictorial guidance above bins.
Organic waste (Including paper and cardboard where provision is available)	20.01.08	10.20: Processing and preserving of fish, crustaceans and molluscs	Where provision exists Transported to Cairndow/Marybank for recycling via Local Council, used as feedstock for anaerobic digestion and biogas production.	Routine uplifts dependent on Local Council timescales	Explore introduction of site micro AD. Implement Local Council / private sector collections where available.
Co-mingled recycled paper, plastic, cans	15.01.06	10.20: Processing and preserving of fish, crustaceans and molluscs	Transported to Cairndow/Marybank for recycling via Local Council	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. not buying single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling the use of correct bins. Introduction of pictorial guidance above bins.
Spent oils from maintenance, Hydraulic Engine / gear	13.02.08 13.01.11	10.20: Processing and preserving of fish, crustaceans and molluscs	Maintenance engineer removes from site as part of service contract. If maintained by site Labelled and banded separately for bulk uplift by approved special waste contractor	After each service	
Chemicals	16.05.06	10.20: Processing and preserving of fish, crustaceans and molluscs	Labelled and banded separately for bulk uplift by approved special waste contractor	Ad hoc / Disposal avoided where possible	Use elsewhere if possible
Blood-water	None	10.20: Processing and preserving of fish, crustaceans and molluscs	Transported to Cairndow/Marybank in IBCs for treatment. Treatment is via filtration at the processing plants prior to discharge with the processing wastewater under permitted discharge limits	Daily	Bloodwater transferred to Cairndow to be pre diluted to improve effectiveness of site DAF plant.

4.4 Processing

The waste streams generated by our processing sites are summarized in the table below. This table also gives the EWC code, disposal route and details any proposed improvement to waste management, under the EMS.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
General waste	20.03.01	10.20: Processing and preserving of fish, crustaceans and molluscs	Landfill via council uplift or via licensed waste contractor	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. less purchase of single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling and the use of correct bins. Introduction of pictorial guidance above bins.
Canteen food waste	20.01.08	10.20: Processing and preserving of fish, crustaceans and molluscs	Canteen (organic waste) is disposed of separately typically via council collection. The final disposal route is anaerobic digestion.	Routine uplifts dependent on Local Council timescales	Education to increase recycling and the use of correct bins. Introduction of pictorial guidance above bins.
Co-mingled recycled paper, plastic, cans	15.01.06	10.20: Processing and preserving of fish, crustaceans and molluscs	Recycled	Routine uplifts dependent on Local Council timescales	Recycling of cans, plastic, paper and organic waste has been implemented in all areas where possible , Introduction of pictorial guidance above bins
Spent oils from maintenance, Hydraulic Engine / gear	13.02.08 13.01.11	10.20: Processing and preserving of fish, crustaceans and molluscs	Maintenance engineer removes from site as part of service contract. If maintained by site Labelled and banded separately for bulk uplift by approved special waste contractor	After each service	
Chemicals	16.05.06	10.20: Processing and preserving of fish, crustaceans and molluscs	Labelled and banded separately for bulk uplift by approved special waste contractor	Ad hoc / Disposal avoided where possible	Use elsewhere if possible
Cardboard	15.01.01	10.20: Processing and preserving of fish, crustaceans and molluscs	Recycled where standalone service is provided, If not, included in above waste stream or organics where available.	On an ad-hoc basis or Routine uplifts dependent on Local Council timescales	Introduction of pictorial guidance above bins
Polystyrene	17.06.04	10.20: Processing and preserving of fish, crustaceans and molluscs	Landfill at Marybank Recycled via Loch Fyne Oysters at Cairndow	Routine uplifts	Polystyrene packaging alternatives are being trialed. Returnable packaging for some customers

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
Spent toner	08.03.18	10.20: Processing and preserving of fish, crustaceans and molluscs	Recycled via supplier	On an ad-hoc basis	None
Waste guts, frames, heads, tails	02.02.02	10.20: Processing and preserving of fish, crustaceans and molluscs	Re-processed via specialist contractors	Approximately on a weekly basis	Explore pre-processing of Viscera to improve protein Yield, Explore meat recovery to reduce bi product as waste.
Filtrate from on-site effluent treatment comprising	02.02.04	10.20: Processing and preserving of fish, crustaceans and molluscs	Reprocessing via licensed waste contractor	Approximately on a weekly basis	To reduce contamination of this material so as much as possible can go to anaerobic digestion, Explore introduction of Screw press to reduce water content reducing waste weight, also explore installation of onsite micro AD to remove as waste stream.
Wastewater from on-site physical treatment	19.08.14	10.20: Processing and preserving of fish, crustaceans and molluscs	Via sewer under discharge consent or via foul water drain	Ongoing under discharge consent	None
Wood and wooden pallets	20.01.38	10.20: Processing and preserving of fish, crustaceans and molluscs	Re-used where possible	On an ad-hoc basis	Increased re-use of wood and recycling via local community.
Batteries (small)	16.06.01	10.20: Processing and preserving of fish, crustaceans and molluscs	Recycled via local recycling schemes	On an ad-hoc basis	None

4.5 Administration Buildings

The waste streams generated by our administration buildings are summarized in the table below. This table also gives the EWC code, disposal route and details any proposed improvement to waste management, under the EMS.

Waste Stream	EWC Code	SIC Code	Current Disposal Route	Timescale	Proposed Improvements under EMS
General waste (office paper, office food waste, plastic)	20.05.01	82.11: Combined office administrative service activities	Landfill via council uplift or via licensed waste contractor	Routine uplifts dependent on Local Council timescales	Waste reduction (i.e. less purchase of single use plastics e.g. bottles, forks, spoons) better awareness of waste and recycling and the use of correct bins. Introduction of pictorial guidance above bins.
Co-mingled recycled paper, plastic, cans	15.01.06	82.11: Combined office administrative service activities	Recycled	Routine uplifts dependent on Local Council timescales	Recycling of cans, plastic, paper and organic waste has been implemented in all areas where possible. Introduction of pictorial guidance above bins.
Spent toner	08.03.18	82.11: Combined office administrative service activities	Recycled via supplier	On an ad-hoc basis	None
Batteries (small)	16.06.01	82.11: Combined office administrative service activities	Recycled via local recycling schemes	On an ad-hoc basis	None

5. Communication and Training

Details of the EMS are communicated to all staff, via specific on-site training, an introduction booklet, memos and training. The EMS representative has undertaken 'Zero Waste Scotland' training on waste awareness. In addition, new waste management procedures including recycling are communicated to staff via explanatory booklets, notice boards, staff forums, SHE Committees and emails. Additional training regarding waste will be provided to staff, if required via the EMS. Each site should have a site-specific waste management plan using template **EMS.FRM.4**. Once established, all staff should be made aware of the onsite arrangements and sign the Toolbox Talk (TBT) sheet to confirm understanding.