



Energy Efficiency

C&D Larkshall site is a dry pet food facility. The main energy centres are:

- Refrigeration (electricity)
- Compressed air (electricity)
- Steam/hot water (LPG)
- Line motors (electricity)
- Dryer (LPG)
- Lighting (electricity)

The refrigeration plant in use at the installation is all of a modern type, regularly inspected and subject to a service contract. Operational procedures ensure chiller/freezer doors are open for the minimum amount of time.

Compressed air systems are operated at the minimum pressure required to adequately operate the installations equipment and is regularly inspected and subject to a service contract. Routine air leakage detection is undertaken.

Steam on site is used to provide water and thermal energy into the batch mixing process, providing a steam jacket on the extruder, and warming fats for use in the process. The steam and hot water pipework is, as far as possible, lagged to increase efficiency. Water usage is minimised by knee and operated washes.

Line motors are where possible on Variable Speed Drives to improve efficiency.

The kibble dryer burners take in cold air and mix with LPG before burning. Control of the burners and flame units with variable speed usage which control the temperature and volume of hot air, depending on throughput and zoning of the dryers so that the hot air hits at the end and moves back facilitating heat-recovery.

Lighting is, where possible, of an energy efficient type. Replacement units when fitted will be of an energy efficient type.

C&D Larkshall is a dry food site and only uses water for washdown and during mixing/blending process to create "Mush".

The table below demonstrates compliance with BAT requirements for the Food, Drink and Milk Sector:



Ref	Requirement	Comment										
1	<p>Consider the following techniques to reduce energy consumption:</p> <ul style="list-style-type: none"> • Water and wastewater minimisation. Reduce water consumption and the volume of wastewater discharged • Efficient operation of the refrigeration system – consider heat recovery from refrigeration system, reducing heat load, efficient operation on part load and fast closing doors/alarms on chilled storage areas 	<ul style="list-style-type: none"> • C&D Larkshall is a dry food site and only uses water for washdown and during mixing/blending process to create “Mush”. All wastewater is sent for reuse. • Operational procedures ensure chiller doors are open for the minimum amount of time 										
2	<p>You should meet the energy benchmarks shown in Table 2 –</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;"><i>Table 2</i></p> <p style="text-align: center;">Indicative environmental performance levels for specific energy consumption</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Product</th> <th style="width: 30%;">Unit</th> <th style="width: 40%;">Specific energy consumption (yearly average)</th> </tr> </thead> <tbody> <tr> <td>Compound feed</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">MWh/tonne of products</td> <td style="text-align: center;">0,01-0,10 ⁽¹⁾ ⁽²⁾ ⁽³⁾</td> </tr> <tr> <td>Dry pet food</td> <td style="text-align: center;">0,39-0,50</td> </tr> <tr> <td>Wet pet food</td> <td style="text-align: center;">0,33-0,85</td> </tr> </tbody> </table> <p><small>(1) The lower end of the range can be achieved when pelleting is not applied. (2) The specific energy consumption level may not apply when fish and other aquatic animals are used as raw material. (3) The upper end of the range is 0,12 MWh/tonne of products for installations located in cold climates and/or when heat treatment is used for Salmonella decontamination.</small></p> </div>	Product	Unit	Specific energy consumption (yearly average)	Compound feed	MWh/tonne of products	0,01-0,10 ⁽¹⁾ ⁽²⁾ ⁽³⁾	Dry pet food	0,39-0,50	Wet pet food	0,33-0,85	<p style="text-align: center;">For 2022:</p> <ul style="list-style-type: none"> • Total Production – 32,476t • Electricity usage – 5,128MWh • Renewable Electricity – 7,871MWh • LPG usage – 9,505MWh • Total energy usage – 22,503MWh • MWh/Tonne of product = 0.69
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Table 1 BAT Requirements

Dry pet food is produced at C&D Larkshall, but because it contains a meat base, it requires more energy than a dry pet food operation that uses only grains. The energy consumption at C&D Larkshall can be attributed to several factors such as ingredient processing, cooking requirement, nutrient density and digestibility, ingredient storage and handling, and product formulation and packaging. C&D Larkshall continually explores ways to improve energy efficiency and sustainability practises such as optimising production processes and implementing energy-saving technologies.