



Resource Efficiency

H Weston & Sons Ltd



Helping clients prosper through compliance

SITE DETAILS

The Bounds

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Much Marcle

Ledbury

HR8 2NQ

OPERATOR DETAILS

H Weston and Sons Ltd

Caple Road

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Ledbury

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1. INTRODUCTION

H Weston and & Sons Ltd operates a cider manufacturing facility in Herefordshire. Their pressing and fermentation activities are in excess of 300 t/day production capacity, with the downstream filtering and blending activities as Directly Associated Activities. A permit application is being sought to bring the site into regulation for the first time.

This document sets out the resource and raw materials efficiency information directly arising from the site operations. Production outputs, energy and water use and raw materials are explored throughout this document.

2. PRODUCTION OUTPUT

Production outputs below are divided into the different stages of the process as the permitted activity capacity is over the EPR up to the transfer of base cider into downstream filtering, blending and bottling processes. Table 1 below covers the raw apple pressing and subsequent base cider produced and the final finished production volumes.

Table 1: Production Output

Production Element	2023	2024
Raw Apples Pressed (Tonnes)	42,759	34,047
Base Cider Produced (from pressing activity) (Litres)	31,594,723	23,323,288
Final Finished Product (Litres)	63,737,482	64,355,177
Final Finished Product (tonnes)*	63,737.482	64,355.177

*Converted assuming 1000L is equal to 1 tonne.

The increase from base cider to final finished product is due to water being added to the base cider to reduce the ABV from 13% from anywhere to 0.5-8.2% for the final finished product.

3. RESOURCE USE & EFFICIENCY

3.1. Energy- Electricity Use and Generation

The site uses electrical supply from the National Grid and also generates electricity from the on-site solar array to be used on site to reduce use of Grid energy which can deplete non-renewable resources. Table 2 specifies the energy use on site in MWh for 2023 and 2024.

The production efficiency data has been calculated using final finished product values, as it is not possible at this time to attribute the amount of energy required for pressing, fermentation and maturation processes alone. Data has been taken from the values supplied during the Climate Change Agreement Submissions for 2023 and 2024. Climate Change Agreement is supplied in Appendix A of this document.

Table 2: Energy Use and Generation

Energy Source	2023	2024
Grid Supply (MWh)	4479.91	4834.92
On site Solar Power (MWh)	122.886	64.215
Total energy supplied (MWh)	4602.796	4,899.135
Efficiency: MWh/tonne product produced	0.072	0.076
MWh/hl of product produced as required by Sector Specific BAT	0.0072	0.0076

The above has been calculated based on the volume of final finished product as it is not possible to attribute how much electrical energy is used in pressing and fermentation processes only (the 6.8 activity) at this time. Sub-metering is planned.

3.2. Energy- Boiler Fuel

The boilers operate on 'Furnace Flame', supplied by Watson Fuels. This is a mixture of kerosene and diesel for the boiler operation. There is no mains gas supply for the site due to its remote nature therefore liquid fuels are required.

Table 3: Fuel usage for Boilers.

Energy Source	2023	2024
Fuel Supplied (kWh)	6,710,460	7,099,858
Conversion to MWh	6,710.460	7,099.858
Efficiency: MWh/tonne product produced	0.105	0.11
MWh/hl of product produced as required by Sector Specific BAT	0.0105	0.011

The above has been calculated based on the volume of final finished product as it is not possible to attribute how much energy is used in pressing and fermentation processes only (the 6.8 activity) at this time. Sub-metering is planned.

Data has been taken from the values supplied during the Climate Change Agreement Submissions for 2023 and 2024.

3.3. Total Energy Consumption

Energy Source	2023	2024
Fuel (MWh)	6,710.460	7,099.858
Electricity (all sources) (MWh)	4,602.796	4,899.135
Total (MWh)	11,313.256	11,998.993
Final Finished Product (tonnes)	63,737.482	64,355.177
Final Finished Product (hl)	637,374.82	643,551.77

Efficiency: MWh/tonne product produced	0.177	0.18
MWh/hl of product produced as required by Sector Specific BAT	0.0177	0.0186

Data has been taken from the values supplied during the Climate Change Agreement Submissions for 2023 and 2024.

3.4. Water Use

Water use for cleaning and Clean in Place systems are supplied by a combination of towns, spring and borehole water that is abstracted for use. Table 4 shows the usage figures for 2023-24 and the efficiency data.

Table 4: Water usage.

Water source	2023	2024
Total potable (m ³) <i>(from borehole, spring and towns water)</i>	116,803.30	144,554
Efficiency: M3/tonne product produced	1.832	2.246
Efficiency: M3/hl of product produced as required by sector specific BAT	0.1832	0.2246

4. RAW MATERIALS

4.1. Production Raw Materials

A number of raw materials are used in the production process and are outlined in Table 5. These include raw materials used for the production of base cider.

Table 5: Raw Materials usage

Raw Material	2024 usage
Apples	34,047 tonnes
Yeast	100.44 tonnes
Glucose Fructose Syrup	6.74 tonnes
Pantothenic Acid	0.02 tonnes
Ammonium Phosphate	22.39 tonnes
Enovit	17.22 tonnes
Fructozyme Flux	333 litres
Enersyeme HT	289 litres
Fructamyl FCT Alpha	263 litres

4.2. Packaging

Packaging for the final finished product largely concentrates around the following items:

- Glass bottles
- Metal kegs
- Cardboard boxes
- Metal bottle caps
- Labels

H Weston & Sons continue to actively reduce packaging where opportunities arise. Raw material packaging where applicable, is recycled.

4.3. Chemical Use

Chemicals are used within the cleaning processes on site, either via manual wet cleaning or via Clean in Place systems and additions to the Wastewater Treatment Plant (WWTP). These are necessary for hygiene requirements, or for the successful operation of the WWTP. Table 6 shows the chemical consumption in 2024.

Where possible, H Weston & Sons Ltd will try to use alternatives to hazardous and potentially polluting chemicals where sufficient substitutes are available to achieve the intended outcome.

Table 6 – Chemical usage 2024.

Description	Volume (L)
ALCOSAN	20
CAUSTAK 30	182,000
CAUSTAK 30 (CDS)	32,600
Caustic Soda (Sodium Hydroxide) 32%	46,696
CHLORFOAM PLUS	1,175
Divosan Hypochlorite	2,478
NIPAC	16,610
Sodium Hypochlorite	3,200
TRIBAC	900
Ultra Secure Liquid	120
Sulphuric Acid 50%	1,400
ADHOL 10 - Hydrogen Peroxide Solution	3,180
AGGRESS	50
DI BOOSTER VB31 20L W1104 X	510
Final Total	290,939

APPENDIX A

Underlying Climate Change Agreement



Helping clients prosper through compliance

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