

DROUGHT PLAN

2020

Albion Eco Limited

www.albioneco.co.uk

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1 Executive Summary / Crynodeb Gweithredol

Albion Eco is the regulated water supplier to an area of Shotton, north of the River Dee. It receives both potable and non-potable water supplies from Dŵr Cymru under the terms of a bulk supply agreement. Albion Eco has no water resource under its control and is therefore unable to apply for drought permits or orders. There are no household customers served within Albion Eco's area of appointment.

Over 99% of water delivered to Albion Eco is not of drinking water quality (it is non-potable), used in industrial processes and specifically not the primary focus of Section 39(B)1 of the Water Industry Act 1991. Unlike other water undertakers, demand is almost solely dependent on production and is little influenced by weather.

Demand for potable water has been driven down over a number of years and total usage on site is expected to remain stable throughout the current planning period to 2045.

Albion Eco will liaise closely with Dŵr Cymru during developing drought conditions and has identified various triggers and actions that it will implement to discharge its duties and contribute to the provision of adequate supplies of potable water. None of these actions will have an impact on environmentally sensitive areas and all are consistent with resilience duties.

Albion Eco yw'r cyflenwr dŵr rheoledig i ardal o Shotton, i'r gogledd o Afon Dyfrdwy. Mae'n derbyn y ddau gyflenwad dŵr anhyblyg gan Dŵr Cymru o dan delerau cytundeb cyflenwi swmp. Nid oes gan Albion Eco adnodd dŵr o dan ei reolaeth ac felly nid yw'n gallu gwneud cais am drwyddedau sychder neu orchmynon. Nid oes unrhyw gwsmeriaid cartref a wasanaethir yn ardal penodi Albion Eco.

Nid yw dros 99% o'r dŵr a gyflwynir i Albion Eco yn ansawdd dŵr yfed (nid yw'n gallu ei drin), a ddefnyddir mewn prosesau diwydiannol ac yn benodol nid prif ffocws Adran 39 (B) 1 o Ddeddf Diwydiant Dŵr 1991. Yn wahanol i ddŵr arall ymglymerwyr, mae'r galw bron yn dibynnu'n unig ar gynhyrchu ac nid yw'r tywydd yn dylanwadu ar fawr.

Mae'r galw am ddŵr yfed wedi'i gyrru i lawr dros nifer o flynyddoedd a disgwylir i'r defnydd cyfan ar y safle aros yn sefydlog trwy gydol y cyfnod cynllunio presennol hyd at 2045.

Bydd Albion Eco yn cysylltu'n agos â Dŵr Cymru wrth ddatblygu amodau sychder ac wedi nodi gwahanol sbardunau a champau gweithredu y bydd yn eu gweithredu i gyflawni ei ddyletswyddau a chyfrannu at ddarparu cyflenwadau digonol o ddŵr yfed. Ni fydd unrhyw un o'r camau hyn yn cael effaith ar feysydd sy'n sensitif i'r amgylchedd ac mae pob un ohonynt yn gyson â dyletswyddau gwytnwch.

2 Background

2.1 Albion Eco's Plan

Section 39(B)1 of the Water Industry Act 1991 places a statutory duty on all water companies to prepare and maintain a Drought Management Plan. It defines a drought plan as 'a plan for how the water undertaker will continue, during a period of drought, to discharge its duties to supply adequate quantities of wholesome water, with as little recourse as reasonably possible to drought orders or drought permits'.

This Drought Plan identifies how Albion Eco intends to provide a sustainable, efficient, secure and affordable supply of wholesome water to its customers in the event of drought conditions. Whilst not relevant for the purpose of Section 39(B), non-potable supplies are considered in this document.

Albion Eco is a regulated water undertaker operating under Ofwat's New Appointments and Variations (NAV) regime made under the Water Industry Act 1991. This enables a NAV to replace the appointed water or sewerage undertaker for a specific location within the appointed undertaker's licence area (in this case Dŵr Cymru). NAVs have the same duties and responsibilities as other undertakers to produce drought plans.

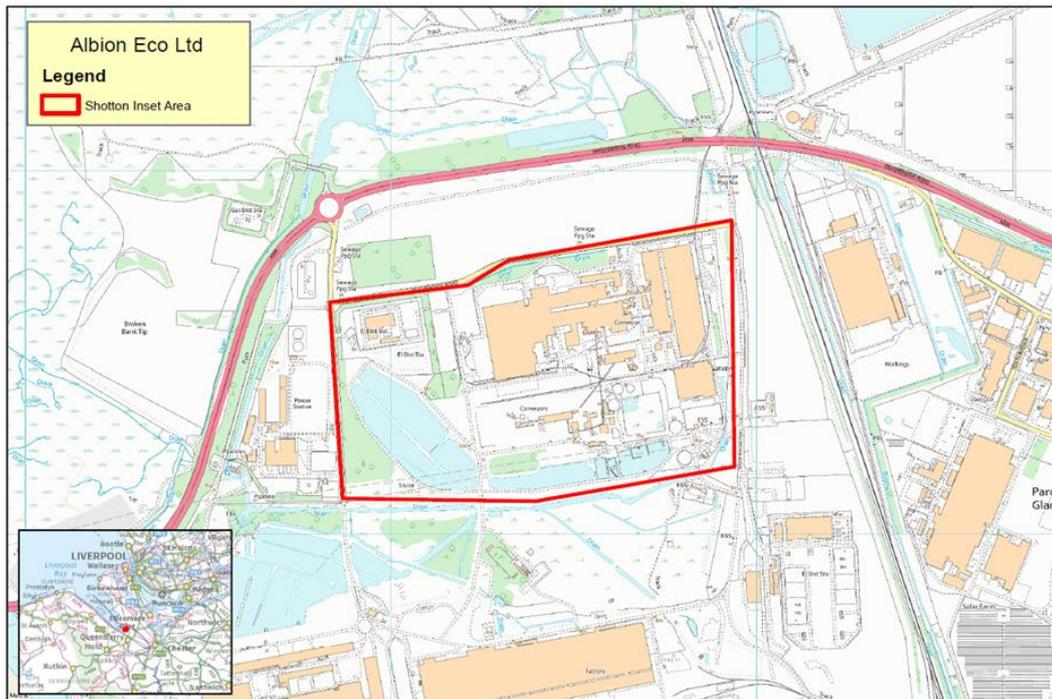
Where a NAV operates under a bulk supply agreement with another undertaker, the Welsh Government has provided guidance that some parts of the plan may be proportionate to reflect the water resource situation (i.e. no source of abstraction). Drought plans should demonstrate that all the statutory requirements have been met, but the level of detail within the plan can be relative to the customer base and on how water supplies are obtained. In the case of Albion Eco, its water supply area serves industrial customers only in a single geographical region and, having no water resources of its own, it relies entirely on water delivered by Dŵr Cymru.

This plan was assured by the Board of Albion Eco prior to consultation.

2.2 Albion Eco's Inset Appointments

Shotton

Albion Eco's NAV licence, covering an area north of the River Dee in Flintshire (see map overleaf), was originally granted to Albion Water in 1999 and subsequently varied following a split between Albion's English and Welsh operations in 2016. It covers the provision of industrial water services, including both potable and non-potable supplies.



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The Shotton inset area is restricted in extent to the boundaries of existing customers. Demand is entirely dependent on industrial production and water, as an important manufacturing resource, is carefully managed to control input costs in an extremely competitive market. Manufacturing runs continuously, 24/7 for 365 days every year. There are no household customers in the area and none are planned. Therefore Albion Eco's resource plan is based on stable industrial demand throughout the planning period from the present day through to 2045.

2.3 Pre-consultation & consultation on draft Drought Plan

In preparing this Drought Plan Albion Eco followed published guidance and communicated with its customers, bulk supply provider (Dŵr Cymru), Welsh Government, Natural Resources Wales (NRW) and Ofwat. There are currently no Water Supply Licensees operating in the Shotton NAV area.

Given the limited scale and scope for operational interventions, responses were limited to points of clarification and seeking further information on expected potable savings as a result of actions implemented once drought triggers are reached. This is addressed in section 5. No further submissions were made during the draft Drought Plan consultation stage.

3 Water Resources

3.1 Shotton

Albion Eco does not operate its own water resource, rather demand for water in Shotton is supplied by:

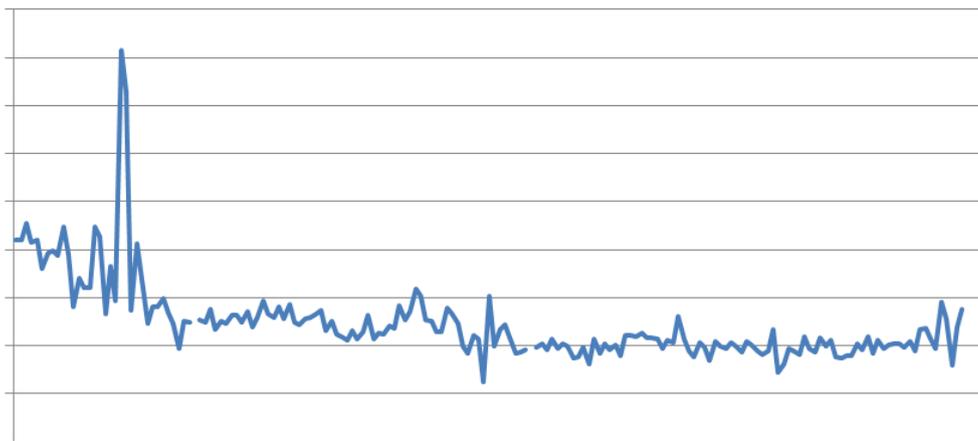
- metered bulk potable supplies
- metered bulk non-potable supplies

These supplies come from Dŵr Cymru's Alwen/Dee Water Resources Zone. Non-potable water is abstracted at Heronbridge Pumping Station and partially treated at Ashgrove Water Treatment Works (WTW) whilst potable water is abstracted upstream and, following treatment at Bretton WTW, is supplied within the Flint/Connars Quay water quality zone.

The current bulk supply agreement with Dŵr Cymru (determined by Ofwat in 2011) allows for a daily non-potable supply of 18,000 cubic metres (18 MI/d) plus 4,000 cubic meters (4 MI/d) subject to availability. Domestic potable daily use averages between 30 and 100 cubic metres (0.03-0.1 MI/d). Historical data suggests that the current network is capable of supplying substantially higher volumes of both non-potable and potable water to the bulk supply points but there is no guarantee that such volumes would be available in future. Albion Eco monitors capacity and usage patterns during routine liaison meetings with end customers and Dŵr Cymru.

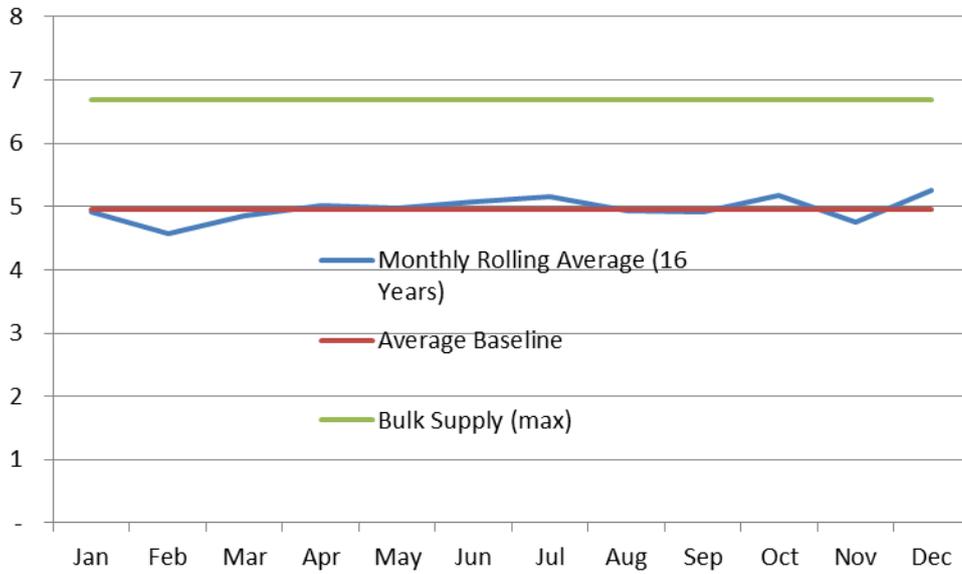
Domestic potable water use over the last 14 years is plotted in Figure 1 below. This graph is intentionally unlabelled but clearly illustrates a sustained reduction in consumption.

**Figure 1. Monthly Domestic Potable Water Use
(2004 - 2017)**



Demand for non-potable water has also declined since Albion Eco became the NAV supplier. Usage is fairly consistent throughout the year as illustrated in Figure 2, this being due to demand being production driven and not exhibiting pronounced seasonal variation.

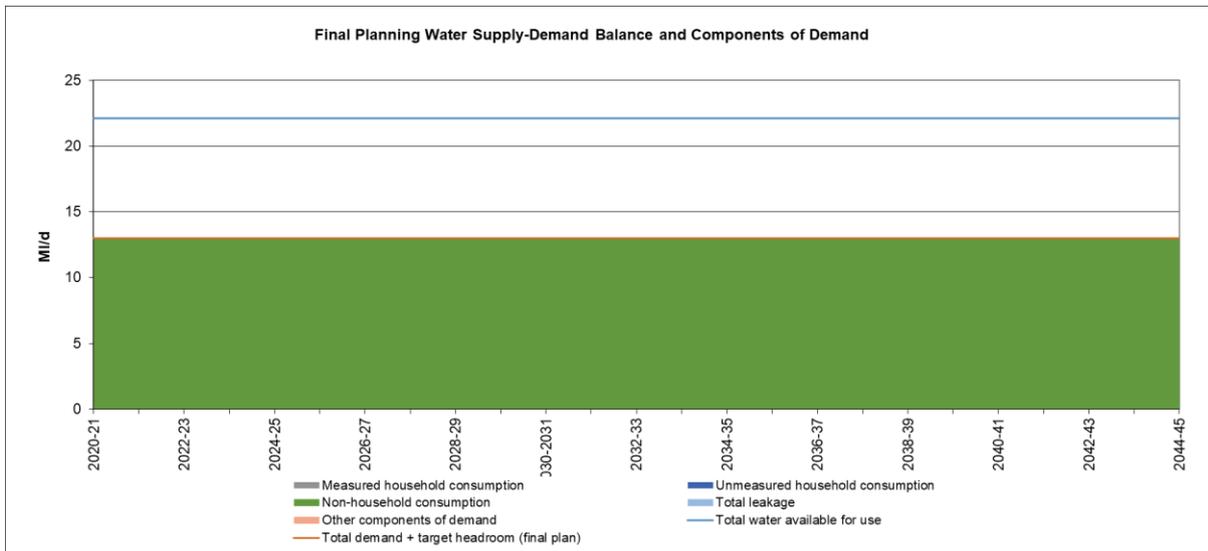
Figure 2. Relative Water Use



3.2 Supply demand balance

The predicted supply demand balance is illustrated in the graph below. This shows the steady demand for water being met throughout the planning period.

Figure 3. Extract from Water Resource Management Plan 2019



All supply into Albion Eco’s area is measured, revealing that over the last two decades non-potable water has made up over 99% of total water consumption. The vast majority of this total is used in industrial processes. Unlike most water undertakers, demand on Albion Eco’s services is not significantly influenced by weather, instead it is almost wholly production dependent.

Industrial water use is driven by sustainability targets and the commercial desire to increase margins by reducing input costs. As with any well run production business regular performance reporting is undertaken and site personnel are encouraged to work towards Best in Class performance.

4 Drought reliability

The River Dee is a heavily regulated resource that has enabled the granting of significantly higher abstraction licences than would have been the case had the river remained unmanaged. Natural Resources Wales is responsible for managing the River Dee Regulation System and is facilitated in this task by the Dee Consultative Committee. Operational management rules are established for both normal and drought conditions and Dŵr Cymru operate their assets in accordance with these.

Albion Eco understands that there is a three stage response to drought (see section 5 for more information). These stages, linked to water levels at various gauging stations on the River Dee, are progressively reached depending on a drought's severity. Dŵr Cymru has informed Albion Eco that no action would be taken that would have an impact on our bulk supply agreement during either Dee stage 1 or 2 and there was no current plan to restrict supply under Dee stage 3 (an event that has not occurred since 1920).

Temporary use bans for domestic potable supplies will comply with a 1 in 40 year level of service. In respect of non-potable water (originally abstracted by United Utilities before being supplied to Dŵr Cymru), there will be no temporary use ban and imposition of a non-essential use ban is not expected to exceed a 1 in 80 year event.

5 Drought triggers

Drought plans are required to specify drought triggers, however the timing of the key drought actions such as temporary use bans and non-essential use restrictions will be governed by the bulk supplier's drought triggers and decisions - these are laid out in their drought plans:

<https://www.Dwrcymru.com/en/My-Water/Water-Resources/Drought-Plan.aspx>

In addition to regular liaison meetings, during dry weather (which may develop into a drought) Albion Eco would keep in regular contact with Dŵr Cymru in regards to:

- The state of their water resources
- Prospects for them taking drought actions that we are required to match (where relevant)
- Ensuring that the timescales and administrative procedure for implementing any drought measures closely match with them.

As each drought stage is triggered, Albion Eco would respond as follows:

Dee Stage 1 Publicity and promotion of careful water use as described in section 6 and Albion Eco would review its drought plan and incident contacts.

Dee Stage 2 As stage 1 and, additionally, communication with paper mill operators, domestic water use site audit, minimum night flows and action planning.

Dee Stage 3 As stage 2 and further promotion of voluntary restrictions and the facilitation of communication between regulatory, industrial, supplier and economic stakeholders.

Albion Eco estimates that measures implemented at Dee stages 1, 2 and 3 will deliver potable water savings of 2, 5 and 6 m³/d respectively. These savings are derived from estimated percentage potable usage reductions of 7%, 15% and 20% based on Albion Eco's understanding of typical demand patterns in its NAV area and expected behavioural changes during an escalating drought.

Regular communications, backed by contractual obligations, will be planned with Dŵr Cymru during the period of any Dee drought stage and during any follow up assessment. Albion Eco would engage directly with the Dee Consultative Committee (or any relevant sub group) if requested.

6 Drought management actions

Scope for reducing domestic use is perhaps more limited than for most water undertakers because of Albion Eco's regular site presence, limited peak demand due to 24hr working and there being no garden watering or car washing. However Albion Eco recognises the benefits of developing pipe network understanding and publicising the need for water conservation, especially during periods of drought. The use of customer intranet and information dissemination through production centres and notices are the primary tools for promoting careful water consumption. Additionally, leaking taps, WCs and urinals are the main contributors to domestic use wastage and site's response to these would be reviewed and further encouraged during periods of drought.

During drought events regular water group meetings will be introduced with representatives from production, utilities and Albion Eco, tasked to identify water use efficiency measures. Albion Eco's existing monitoring of water use for both domestic and process streams will continue during drought periods and any unexpected patterns of use will be reviewed. Should significant leakage be suspected Albion Eco would arrange a detection survey and, following a review of the results, could arrange for leaking pipes to be repaired or replaced.

Albion Eco works closely with its supplier, Dŵr Cymru, and would implement an incident response plan in the event of a developing drought. Albion Eco would appoint an Incident Manager to liaise with Dŵr Cymru's Wholesale Team and co-ordinate any actions needed at site level and to keep updated as a drought develops.

In the absence of a water source Albion Eco is unable to apply for water use restrictions so is dependent on how Dŵr Cymru manage their assets in a drought situation. Where possible water efficiency measures would be implemented that are consistent with Dŵr Cymru's actions. Under all drought conditions we would re-iterate the importance of water conservation.

In the exceptional event that drought led to restrictions in water supplied to Albion Eco by Dŵr Cymru and notwithstanding the fact that this supply is considered an essential facility, Albion Eco would consider the following options:

- a) obtain authorisations and provide suitable treatment and infrastructure to run down local holding lagoons in order to meet the shortfall (providing <10 days industrial use)
- b) obtain authorisations and provide suitable treatment and infrastructure to take borehole water (insufficient to provide a standalone supply and uncertain sustainable yield)
- c) switch to alternative Dŵr Cymru source (although this would be within the same resource zone)
- d) increased recycling within site with the provision of suitable treatment and infrastructure

Most of these options would require agreement with third parties and the implementation of major infrastructure projects that would escalate process water input costs significantly and would therefore only be actioned if ongoing economic production was possible on site.

The lifting of any restrictions would be coordinated with Dŵr Cymru.

7 Environmental impact

Albion Eco is not aware of any environmentally sensitive sites in or near its area of supply that would be affected by any drought action available to it or otherwise referred to in this document. However, water companies in Wales are required to ensure their Drought Plans meet the requirements of the Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) Directives to assess potentially significant environmental effects of their plans.

The 2014 Screening Assessment for SEA and HRA has been reviewed and updated to cover Albion Eco's operations in Wales. In the absence of impact pathways resulting from actions covered by this Plan, no further steps are required.

8 Monitoring impacts

Albion Eco will review the impact of any drought measures imposed by monitoring the potable bulk supply volumes imported. This monitoring will allow us to assess the impact of water saving measures and ensure that bulk import volumes are minimised.

In the event of any drought triggers or actions being undertaken a post incident review would be undertaken to establish best practice or areas that could be improved and, to the extent necessary, implement revised procedures.

9 Management and Communications

Drought management actions will be managed via the Albion Eco management team. This team would meet regularly to consider operational, commercial and strategic issues.

Within the management team core responsibilities will be as follows

- Managing Director – overall responsibility and for environmental impacts
- Operations team – operational resilience and liaison on bulk supplies
- Customer services team - customer information and contacts, ensuring consistency with bulk supply companies
- Public relations – PR materials

10 Resilience

Albion Eco and Dŵr Cymru, as the bulk supplier, will work closely in order to maintain supplies should there be a problem arising due to drought. Actions could include but are not limited to the provision of an alternative back up potable connection or a supply of water by bowser, temporary mains or bottled water.

The efficiency benefits already achieved as a result of production changes and Albion Eco's activities, and the limited drought measures that can be taken in the particular circumstances of this NAV (no resource or land holdings) are consistent with the goals of the Environment (Wales) Act 2016 and the Well-Being of Future Generations Act (Wales) 2015.

11 Board assurance

The Board approved this draft plan in January 2019, there have been no subsequent changes.

12 Consultation on the draft Drought Management Plan

The deadline for consultation responses closed on **30 September 2019**.