

WATER RESOURCE MANAGEMENT PLAN

April 2019

Albion Eco Limited

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1 Summary

English Language

The Water Industry Act 1991 (as amended by the Water Act 2003) underlines the importance of a water company's ability to meet the supply and demand requirements of their customers both currently and into the future. This document and associated tables outline Albion Eco's supply demand balance through to 2045 and is produced as required by the Water Act 2003, which established a statutory duty for a water company to produce a Water Resources Management Plan (WRMP). Albion Eco has taken into consideration relevant Directions and guidance documentation in compiling this Plan.

To date Albion Eco Limited has been granted one inset appointment under Ofwat's new appointments and variations (NAV) process where it is responsible for the supply of drinking water. This is:

- Shotton Paper, Deeside (awarded 1999)

Water efficiency is at the heart of Albion Eco's overall approach to water and services. As well as providing customers with non-potable and potable supplies we ensure water efficiency by identifying and responding rapidly to system losses and by engaging regularly with users.

The overwhelming majority of water consumed relates to industrial output, there being no obvious climatic influence and no current or planned household demand. This plan demonstrates that the bulk supply arrangements in place will provide enough water to meet our customers demand over the next 25 years.

The bulk supply agreement with Dŵr Cymru does not require us to match the incumbents' restrictions policy (although in practice this is likely) but does contain restrictive clauses and regular operational communications are therefore maintained.

Cymraeg/Welsh Language

Mae Deddf Diwydiant Dŵr 1991 (fel y'i diwygiwyd gan Ddeddf Dŵr 2003) yn tanlinellu pwysigrwydd gallu cwmni dŵr i gwrdd â gofynion cyflenwad a galw eu cwsmeriaid ar hyn o bryd ac i'r dyfodol. Mae'r ddogfen hon a'r tablau cysylltiedig yn amlinellu cydbwysedd galw cyflenwad Albion Eco hyd at 2045 ac fe'i cynhyrchir fel sy'n ofynnol gan Ddeddf Dŵr 2003, a sefydlodd ddyletswydd statudol i gwmni dŵr gynhyrchu Cynllun Rheoli Adnoddau Dŵr. Mae Albion Eco wedi ystyried Cyfarwyddiadau a dogfennau cyfarwyddyd perthnasol wrth lunio'r Cynllun hwn.

Hyd yma, mae Albion Eco Limited wedi cael un apwyntiad mewnosod o dan broses penodiadau ac amrywiadau newydd Ofwat (NAV) lle mae'n gyfrifol am gyflenwi dwr yfed. Dyma:

- Papur Shotton, Glannau Dyfrdwy (dyfarnwyd 1999)

Mae effeithlonrwydd dŵr wrth wraidd dull cyffredinol Albion Eco o ddŵr a gwasanaethau. Yn ogystal â darparu cyflenwadau anhyblyg a phleserus i gwsmeriaid, rydym yn sicrhau effeithlonrwydd dŵr trwy nodi ac ymateb yn gyflym i golli systemau a thrwy ymgysylltu'n gyson â defnyddwyr.

Mae mwyafrif llethol y dŵr sy'n cael ei fwyta yn ymwneud ag allbwn diwydiannol, nad oes unrhyw ddylanwad hinsoddol amlwg a dim galw am y cartref presennol na chynllunio. Mae'r cynllun hwn yn dangos y bydd y rhan fwyaf o drefniadau cyflenwi yn eu lle yn darparu digon o ddŵr i fodloni galw ein cwsmeriaid dros y 25 mlynedd nesaf.

Nid yw'r rhan fwyaf o gytundeb cyflenwi gyda Dŵr Cymru yn ei gwneud yn ofynnol i ni gydweddu â pholisi cyfyngiadau'r perchennog (er yn ymarferol mae hyn yn debygol) ond mae'n cynnwys cymalau cyfyngu a chaiff cyfathrebiadau gweithredol rheolaidd eu cynnal felly.

2 Background

2.1 Albion Eco's Plan - Structure and Comments

The Water Act 2003 places a statutory duty on all water companies to prepare and maintain a WRMP under section 37A to 37D of the Water Industry Act 1991. Albion Eco has developed our plan in line with the Welsh Government's Guiding Principles for Water Resource Planning and further guidelines developed by Natural Resources Wales to ensure that all essential aspects of its statutory duty are covered in this final WRMP submission. We have also worked closely with our regulators in developing our plan, including through pre-consultation meetings/communications.

All water companies operating within England and Wales must produce a WRMP every 5 years or when there is a material change of circumstances or the Secretary of State or Welsh Minister direct that a new plan be prepared. The WRMP identifies how Albion Eco intends to provide a sustainable, efficient, secure and affordable supply of water to its customers. This plan identifies how Albion Eco intends to maintain the balance between supply and demand over the next 25 years.

Unlike most other water zones in England and Wales, the principle factors driving change in water resource requirements is not population growth or climate change. The overwhelming majority of demand is driven by water use in industrial output, this in turn is constrained by production capacity and market conditions.

This document has been checked for information that may be sensitive on the grounds of national security. A separate statement accompanies this WRMP, certifying that the plan has been reviewed and does not contain any information that would compromise national security interests, thus complying with section 37B of the Water Industry Act 1991 as amended by the Water Act 2003.

This plan has been assured by the Board of Albion Eco. Key technical issues were discussed and agreed by the Board in October 2017 and verified in April 2019.

2.2 Water Legislation

We have considered the following documents, plans and policies during the production of this draft plan:

Water Strategy for Wales 2015 (Welsh Government)
Environment (Wales) Act 2016 (Welsh Government)
Well-being of Future Generations (Wales) Act 2015 (Welsh Government)
Water Resources Management Plan Regulations (2007)
Water Resources Management Plan (Wales) Directions 2016
UK Climate Change Risk Assessment 2017, Evidence Report (Wales)
WFD River Basin Management Plans (NRW)
Catchment Abstraction Management Strategies (NRW)
Water Industry Act 1991

Section 37A of the WIA states:

- (1) It shall be the duty of each water undertaker to prepare and maintain a water resources management plan.
- (2) A water resources management plan is a plan for how the water undertaker will manage and develop water resources so as to be able, and continue to be able, to meet its obligations under this Part.

Section 37D of the WIA states:

- (1) Directions given under section 37A or 37B above may be -
 - (a) general directions applying to all water undertakers; or
 - (b) Directions applying to one or more water undertakers specified in the directions.

Whilst the WRMP guidelines recognise that they must be applied proportionately to NAV companies Albion Eco has previously expressed, and maintains, concerns over the impact of the WRMP statutory process on inset competition.

Albion Eco has previously submitted that an appropriate route to ensuring reliable supplies to the customers of inset appointees, in the absence of an independent water resource, would be as a statutory consultee to an incumbent's plan or, consistent with 37D(1)(b) above, under simplified direction. In the absence of these routes, this plan has been completed with the benefit of existing guidance, feedback received and regulatory proportionality.

2.3 Albion Eco's Inset Appointment

The Shotton Paper site was granted an inset appointment in 1999. The area is wholly industrial and benefits from both potable and non-potable supplies, sourced through a bulk supply agreement with Dŵr Cymru. Albion's NAV licence for the Shotton site was varied in 2016 (following the split of Albion Water's operations between Albion Water Limited operating wholly in England and Albion Eco Limited operating wholly in Wales).

Albion Eco's single water resource zone (WRZ) falls within Dŵr Cymru's Alwen/Dee WRZ from which bulk supplies are sourced. The maximum bulk non-potable import of 22 Ml/d equates to Albion Eco's deployable output. Flows in the River Dee can be regulated under the River Dee Drought General Directions established by the Dee Consultative Committee. No restrictions have historically been imposed as a result of drought on Albion Eco's bulk supply arrangements.

A restricted potable back-up supply option is established under the bulk supply agreement and is available for non-household usage.

2.4 Pre - Consultation

Guidelines produced by the NRW recommend that, before preparing their plans, a water company should consult with a variety of organisations. Our pre-consultation is summarised in the table below.

Consultee	Response
Natural Resources Wales (NRW)	We have been in contact with NRW during production of this plan. A formal consultation meeting was held in October 2017. We have reflected comments received in producing this plan, in particular in our approach to 2016 Directions.
Welsh Government	Referred to Guiding Principles.
Dŵr Cymru	Provided information on their restrictions policy, on carbon dioxide emissions and provision of non-potable water.
Consumer Council for Water (CCW)	CCW highlighted the principles outlined in the Water Resources Planning Guidelines and government principles. They encouraged us to consult with the end users whilst recognising the proportionality and likely lack of proposed infrastructure investments.

In addition to these steps we keep in close communication (through regular site meetings and routine quality and usage monitoring) with our principle user to ensure that demand can be met both now and into the future.

2.5 Strategic Environmental Assessment/Habitat Regulation Assessment

A separate screening exercise and statement has been carried out and concluded that implementation of this plan would have no significant environmental effects.

3 Water Resources

3.1 Shotton Paper

The demand for water in the Shotton inset area is provided through metered potable and non-potable mains from Dŵr Cymru. All water supplied passes through bulk meters.

The water supplies come from Dŵr Cymru's Alwen/Dee Water Resources Zone. The bulk supply agreement between Albion Eco and Dŵr Cymru has an upper limit of 22,000 cubic meters per day (22 MI/d).

The data, averaged over 16 years, is illustrated in figure 1 below. Averaging and labelling restrictions have been utilised in this document to protect the confidentiality of customer data. Water supply and demand requirements through to 2045 have been populated into the WRMP tables and establish 2015 as the base year.

Figure 1. Relative Water Use

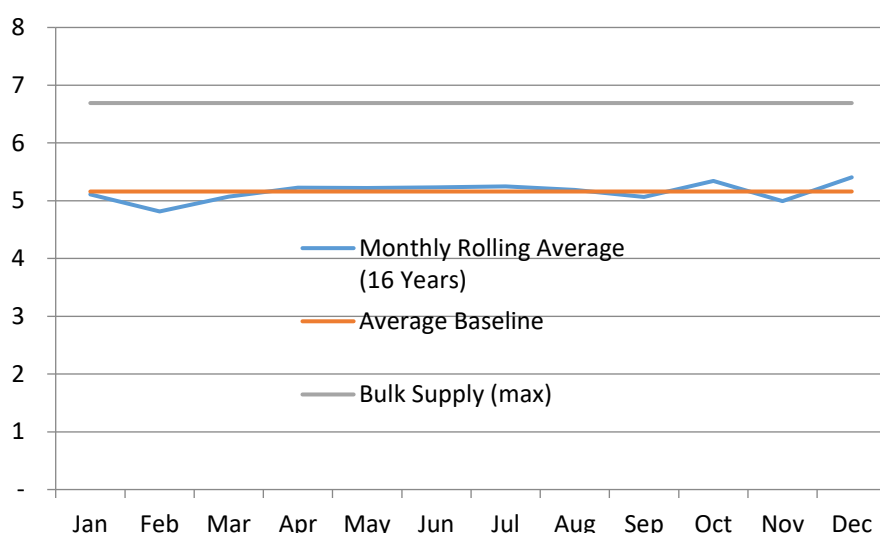


Figure 1 also demonstrates the absence of significant seasonal variations on total water usage within the NAV (section 2.1 describes the demand factors driving this outcome).

3.2 Outage

No allowance has been made for outage in the supply demand balance. The company providing the bulk supplies have made an outage allowance in their supply demand calculations.

3.3 Severe droughts

The availability of bulk supplies has proven to be reliable in extreme droughts. Albion Eco's bulk supplies originate from the River Dee which is a regulated source under the NRW/EA Dee General Directions. Stage 3 cutbacks due to severe drought have never been implemented and no restrictions have been applied since Albion Eco's appointment.

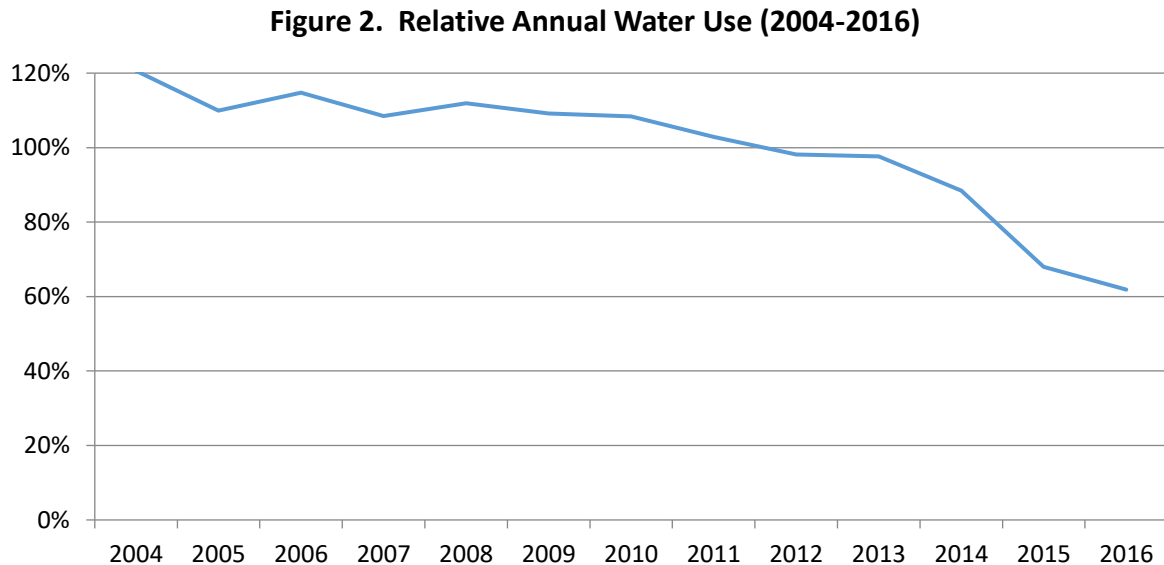
3.4 Impact of climate change

Dŵr Cymru allows for the impact of climate change in their supply demand balance, and there is no condition in the bulk supply agreements that allows them to vary the agreed quantity as a result of climate change.

4 Water Demand

4.1 Historic levels of demand

Unlike most water companies, demand is not influenced by weather patterns. Not only is demand almost wholly driven by industrial production, but such usage is determined by a single large user and an unmanned electricity station. Under these circumstances, and in the absence of any likely significant perturbation, the most appropriate planning forecast is based on actual usage. The historic level of demand for Shotton Paper is represented in figure 2 below.



The downwards trend in annual water use is due to a combination of factors, including usage optimisation, efficiency drives, leakage control and variations in output and production. Albion Eco works closely with its customers to promote water efficiency and with its bulk supplier to facilitate good operational supply management.

4.2 Base Year

The current split of demand has been assessed as follows (2015 as base year).

Demand element	Shotton	Source / Comment
Unmeasured households		
Number of properties	0	Industrial site only
Occupancy	n/a	
Population	0	
Water supplied	0	
PCC	n/a	
Measured households		
Number of properties	0	Industrial site only
Occupancy	n/a	
Population	0	
Water supplied	0	
PCC	n/a	
Non-households		
Number of properties	2	
Population	0	
Water supplied (potable)	<0.1 MI/d	Meter records
Water supplied (non-potable)	13 MI/d	Meter records
Other		
Leakage (potable)	0.01 MI/d	Estimated
Water taken unbilled	0	

4.3 Leakage

Albion Eco does not own any supply infrastructure. Leakage on the customers potable supplies can be identified during monthly billing. Any increase in anticipated volume is identified and investigated with the aid of zonal and sub-meters. Repairs are carried out as necessary.

Usage on the non-potable supply is closely monitored and discussed with utility and production managers. The nature of 24 hour operations, production, maintenance and down-time does not allow detailed 'night flow' analysis so usage efficiency is regularly reviewed.

4.4 Demand forecasting

Shotton area demand is entirely driven by plant output and welfare provision for workers. These are dependent on market conditions and demand is limited by production line capacity.

These assumptions are based on the latest discussions with the customers.

Population forecasts

n/a

Metering

All bulk supplies are metered.

Changes in PCC

n/a

Changes in non-household demand

Stable non-household demand is forecast.

Changes in leakage

Leakage is assumed to be constant on the customers potable and non-potable networks. Leaks identified are promptly repaired.

Dry year uplift

No increase in non-household demand is assumed or evident in a dry year.

5 Supply demand balance

Demand for water is met by bulk imports. No supply demand deficit is forecast over the period of the plan.

6 Headroom and sensitivity

Given that the Shotton area is a small ring-fenced industrial site that must focus on raw material costs (including water) within a highly competitive industry there are few unknowns associated with our plan.

To assess a notional worst case we have considered the impact of demand being 10% higher than in our central forecast. Under this scenario Albion Eco would still retain sufficient and substantial headroom. There are therefore no measures to be considered in relation to developing water resource options so as to be able, and continue to be able, to meet our obligations.

7 Drought reliability and drought actions

The bulk supply to Albion Eco contains clauses that deal with bulk imports should there be a catastrophic failure of water supplies due to extreme weather conditions or environmental problems. No restriction has been necessary since the NAV was granted in 1999. Albion Eco would plan to match the relevant restrictions that Dŵr Cymru impose on their customers in relation to non-essential usage in the neighbouring area in the event of a drought. Such restrictions are expected to comply with a level of service of 1 in 40 years for temporary use bans although Dŵr Cymru state a level of service of 1 in 48 years for the relevant water resource zone – a figure that we will match.

Dŵr Cymru's non-potable water supply is provided under the terms of a bulk supply agreement with United Utilities; this volume is not included within Dŵr Cymru's supply forecasts. No temporary use ban is relevant for this industrial non-potable supply and non-essential use bans are estimated at levels exceeding 1 in 80 years. Under these circumstances no restrictions of non-potable water are anticipated within the current planning horizon and no customer support was expressed to provide greater levels of service.

Albion Eco will keep its plan under review should new information be received from Dŵr Cymru.

8 Other matters referred to in Guidance and Directions

8.1 Greenhouse gas emissions accounting

Based on Dŵr Cymru's published figures (held on Water UK's Discover Water website) we predict annual greenhouse gas emissions resulting from the bulk supply of potable water will amount to 3,700 kgCO₂e. Assuming that non-potable water produces one third of the greenhouse gas emissions of potable water, we predict that annual greenhouse gas emissions will amount to 360,000 kgCO₂e.

8.2 Resilience

Actions to be taken by both parties should there be a problem in maintaining the bulk supply will include maximising the utilisation of system storage, the provision of an alternative back up water supply (if available) or, for potable, an alternative supply of water by bowser, temporary mains, bottled water or otherwise. On-site storage will also be utilised to smooth out short term supply fluctuations.

8.3 Commercial confidentiality

There is no commercially confidential material in this document.

8.4 Board assurance

This final Water Resources Management Plan was considered by the Board of Albion Eco Limited in:

September 2017, the Board agreed the assumptions from which the plan is built up.

January 2018, the Board reviewed the resulting Supply Demand balance and are assured that the plan will meet our customers demand for water over the next 25 years

April 2019, final Board assurance.

8.5 Tables

Worksheets 5 to 9 have not been completed as there are no deficits predicted.

9 Responses to the draft Water Resources Management Plan

Representations on this plan were received and considered following due process and the details can be found in Albion Eco's Statement of Response published on the website or available by request.