

Draft Water Resources Management Plan

Statement of Response to the Consultation

July 2009



Dŵr Cymru
Welsh Water

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Our Plan	1
1.2	Consultation	1
2	SUSTAINABILITY REDUCTIONS	3
2.1	Statutory process	3
2.2	Impact	3
2.3	Latest situation	4
2.4	Next Steps	4
3	ISSUES	5
4	RESPONSES	6
4.1	Habitats Directive sustainability reductions	6
4.2	Leakage	8
4.3	Metering and Tariffs	10
4.4	Water Supply	12
4.5	Programmes and Plans	14
4.6	Growth and Demand	16
4.7	Levels of Service	18
4.8	Supply Demand Balance	20
4.9	Climate change	22
4.10	Water Efficiency	25
4.11	Headroom	28
4.12	Strategic Environmental Assessment	30
4.13	Habitats Regulations Assessment	32
4.14	Option appraisal and selection	34
4.15	Environmental Monitoring	38
5	NEXT STEPS	39
5.1	Revisions to the Draft Plan	39
5.2	Strategic Environmental Assessment and Habitats Regulation Assessment	39
5.3	Changes that will affect revisions to the Draft Plan	40
5.4	Further Information	41

APPENDIX 1	Draft Plan comments and responses (available seperately from this document)
APPENDIX 2	Draft SEA comments and responses (available seperately from this document)
APPENDIX 3	Draft HRA comments and responses (available seperately from this document)

1 Introduction

1.1 Our Plan

Our Draft Water Resources Management Plan (Draft Plan) was published for consultation on the 15th January 2009. The Draft Plan details how Welsh Water will manage water resources across Wales over the next twenty-five years.

The Draft Plan detailed the significant changes in water resource planning within Welsh Water over the past five years including a complete reassessment of the water balance components; allowing us to understand the current and future water situation more clearly. We recognise that the potential impact of climate change on future water resources is a very serious issue, so we included climate change forecasts to show the impact to both our sources and customer demands.

Our investment plan for the next five years and beyond will resolve deficits across our operating area. We have undertaken detailed economic analysis of hundreds of options, incorporating not only the cost to our customers but also to the environment. This includes an assessment of the carbon impact of any future options we propose.

We did not include the Environment Agency Wales (EAW) Habitats Directive sustainability reductions within the Draft Plan as these were not available to us at the time of submission to the Welsh Assembly Government (WAG) in March 2008.

1.2 Consultation

The preparation of a Plan and the need to consult is a new statutory process. This is the first time that a statutory Plan has been published for formal public consultation. We published our Draft Plan for consultation between the 15th January 2009 and 7th May 2009.

As part of the process we contacted more than sixty statutory consultees, published the documents on our website, forwarded the documents to every library in Wales and included with every customer bill (approx. 1.3 million) directions on how the Overview document could be obtained. WAG has sent to us the eleven representations received on the Draft Plan.

At the same time, we also published for consultation the following supporting documents to the Draft Plan; the Strategic Environmental Assessment (SEA) and the Habitats Regulations Assessment (HRA). The separate consultation period for these documents ended on the 19th February 2009 and in total we received 8 representations.

We are required¹ to send the Statement of Responses to WAG to show:

1. that we have considered the representations
2. any changes to the Draft Plan, as a result of considering the representations
3. where changes have not been made to the Draft Plan, as a result of considering the representations, why not

Although not a statutory requirement, Welsh Water have also chosen to use this Statement of Response to summarise the comments we received on the SEA and HRA to the Draft Plan.

A copy of the Statement of Response has been forwarded to each of the respondents listed in Table 1 and is published on our website at www.dwrcymru.com. In addition we have written individually to every respondent with a more detailed response to their individual queries.

Name	Sector
Albion Water	Water Undertaker
Cadw	Statutory
Carmarthenshire County Council	Planning
Ceredigion County Council	Planning
Consumer Council for Water Wales Committee	NGO
Countryside Council for Wales	Statutory
English Heritage	Statutory
Environment Agency Wales	Statutory
Milford Haven Port Authority	Independent organisation
National Trust	Charitable Trust
Natural England	Statutory
Pembrokeshire County Council	Planning
Royal Society for the Protection of Birds	Charitable Trust
Wye and Usk Foundation	Charitable Trust

Table 1 List of respondents to either the Draft Plan, SEA and HRA

¹ Section 4, Water Resources Management Plan Regulations 2007

2 Sustainability reductions

2.1 Statutory process

Welsh Water received Direction to publish the Draft Plan on 15th January 2009 from WAG. The Draft Plan is consistent with the one we submitted to WAG, Office of Water Services (Ofwat), Department of Food and Rural Affairs (Defra) and EAW in March 2008. It was a requirement of our Direction that we publish the March 2008 Plan.

On the 3rd April 2008 Welsh Water received formal notification of the *proposed* licence amendments in the EAW's initial National Environment Programme (NEP) for PR09. Continued work between Welsh Water and the EAW led to a revision of the proposals for the Rivers Wye, Usk and Lugg and on the 28th November 2008 we received our Final NEP incorporating the EAW's 'definitive' set of sustainability reductions. At the time of submission of the Draft Plan in March 2008 Welsh Water did not have sufficient detail on all the sustainability reductions (including the Cleddau) to incorporate their impact fully. Consultation responses on our Draft Plan, and the SEA and HRA, clearly illustrate the frustration of our stakeholders in relation to this omission which was outside of Welsh Waters control.

2.2 Impact

The outcome of the proposed RoC process has a significant impact (circa £180m and a loss of 140 Ml/d) to change abstraction licences for both resource and fish entrainment impacts. Welsh Water published an additional statement on our website to the Draft Plan to detail this impact and corresponding investment.

Within our Final Business Plan submission (April 2009) we did not include any investment associated with the licence reduction proposals; however, we did include £7m in support of further investigations and studies and £5.3m for entrainment solutions where the EAW and Welsh Water have an agreed solution.

Under the Habitats Directive, EAW is obliged to use 'best available data' which in the case of all the impacted rivers is sparse. Without this data, the EAW has adopted the most stringent 'precautionary principle', based on a generic approach. The £180m investment is being driven by the precautionary principle and will deliver no change in conservation status or habitat. We had hoped to undertake extensive monitoring and investigation to ensure that a robust scientific approach could be adopted; however, the EAW have concluded that further investigations are unlikely to provide sufficient evidence that would enable a change based upon further data. On this basis, in May 2009 Welsh Water received an indication from Ofwat that the £7m for investigations would not be supported in our Draft Determination.

2.3 Latest situation

Welsh Water received the Site Action Plans (SAPs) for the rivers Wye, Lugg, Usk and Cleddau in May 2009.

In June 2009, the EAW indicated to us that an internal quality review had been undertaken of these SAPs and confirmed to us that a requirement for further work had been identified, particularly in relation to the application of the precautionary principle on these rivers. Naturally, we welcome this progression and consider that it is positive move forward for all Welsh Water's customers and the environment. EAW have indicated this review will be completed by October 2009.

In response, Welsh Water have provided EAW and WAG a full list of all our concerns both directly on the SAPs and on the overall process for all rivers. We still have significant concerns on the current proposals and believe it is in our customers interests that we continue to challenge and work with the EAW to resolve these aspects.

Additionally, in May 2009 EAW indicated further Welsh Water abstraction sites which may require sustainability reductions in North Wales. These are classed as 'low priority' sites in the Habitats process; however, these licences are extremely strategic to securing water supply to our customers in North Wales. We are dependent upon the outcome and timings of the EAWs studies before we can consider the impact to our Draft Plan.

2.4 Next Steps

It is our aspiration to revise the Draft Plan (and SEA/ HRA) to include the impact of definitive sustainability reductions. Welsh Water believes that such an impact to our current Draft Plan requires full public consultation. We are in the process of preparing a Revised Plan for publication (subject to Direction from WAG).

Naturally the publication of a Revised Plan, including sustainability reductions, will now need to wait until the EAW revision of the RoC process has been completed and agreed. We will take Direction from WAG on the statutory timescales and processes, thereafter.

3 Issues

The representations received on all three documents (Draft Plan, SEA, HRA) have been evaluated and arranged under the following headings for our responses (see below). In Section 4, we have set out a summary of the comments received – colour coded – followed by our response. In the list we have included comments requiring responses but have not included comments which are supportive of the Plan. All the comments received are shown in Appendix 1 (Draft Plan), Appendix 2 (SEA) and Appendix 3 (HRA), verbatim, along with the associated responses.

1. Habitats Directive sustainability reductions
2. Leakage
3. Metering and Tariffs
4. Water Supply
5. Programmes and Plans
6. Growth and demand
7. Levels of Service
8. Supply Demand Balance
9. Climate change
10. Water efficiency
11. Headroom
12. Strategic Environmental Assessment
13. Habitats Regulations Assessment
14. Option appraisal and selection
15. Environmental Monitoring

4 Responses

4.1 Habitats Directive sustainability reductions

Background

The EEC Directive 92/43/EEC on the conservation of natural habitats, wild fauna and flora was incorporated into the UK regulatory system under the Conservation (Natural Habitats, &c.) Regulations 1994. The regulations provide for the designation of 'European sites' (Natura 2000 sites), the protection of 'European protected species', the adaptation of planning and other controls for the protection of such sites and impose a statutory requirement to deliver the improvement schemes.

As the designated 'competent authority' for England and Wales the Environment Agency (EA) is required to ensure that its permissions and operations cause no adverse effect on the 'integrity' of the Special Areas of Conservation (SAC) and Special Areas of Protection (SPA) included in the Natura 2000 sites identified in the EU Habitats Directive. As a competent authority ourselves, Welsh Water are required to have due regard for the environment in which we operate and to undertake our responsibilities as set out by the Habitat's Directive.

The Review of Consents (RoC) process, or Habitats Directive sustainability reductions, is the EA mechanism for undertaking their review of all existing and proposed permissions that may impact upon EU designated sites.

Consultee Response

We received numerous comments in relation to the Habitats Directive RoC process and the EAW proposed amendments to our abstraction licences within all consultations (the Draft Plan, the SEA and the HRA – the comments made in respect of the SEA and HRA are summarised in Section 3.12 and 3.13, respectively). The principal issue was that we had not included the findings from the RoC process in the Draft Plan and the consequent impact to our operations.

For example, Carmarthenshire County Council stated that it expected competent authorities to complete their review of consents in respect of the Habitats Regulations and for that review to be based upon on clear and robust evidence.

The Consumer Council for Water Wales Committee (CC Water) further commented that likely capital investment required by the RoC process had not been reflected in the Welsh Water Final Business Plan 2009 (FBP) and that such unplanned capital investment could increase customers bills by up to £20 per year.

Welsh Water Response

As clearly stated in the EAW representation on this subject, we did not receive details of the final sustainability reductions from the EAW until September 2008 and definitive confirmation of the reductions, by way of the Final NEP, until 28th November 2008.

As we submitted our Draft Plan to WAG and the Secretary of State at Defra on the 7th March 2008, in line with the statutory timetable, the reductions could not be included within the Draft Plan.

We did however include, with the Draft Plan submission, an indication of our current understanding of the likely impacts of the sustainability reductions upon our operations and the possible costs associated with resolving any deficits in supply. At the time of preparation of the Draft Plan there was still much uncertainty over the scale of the reductions required and so we did not feel we would be able to robustly quantify the impacts.

Following a year of further work and the receipt of the final reductions from the EAW, we are now in a position where we can include the impact of the sustainability reductions within a Revised Draft Plan and allow everyone the opportunity to comment on these changes. As discussed, we agree with CC Water that the RoC process is likely to result in significant additional investment which we have not included within our FBP. This will have a corresponding increase in customer bills. Welsh Water are committed to ensuring that any expenditure for Habitats Directive is based upon robust and justified outcomes.

Therefore, we fully agree with Carmarthenshire County Council's views that any changes (due to the RoC process) should be based on clear and robust evidence; at the moment we do not feel they are. We are concerned that we may be implementing changes that will not provide benefit to the ecology of the river systems due to a complete lack of understanding (used in the RoC process) of how the river systems function.

For example, on the River Tywi, changes to the reservoir releases from Llyn Brianne (which would require an expensive capital scheme) to increase the water temperature, may not, in the face of climate change and warmer summers, be the best long term solution.

4.2 Leakage

Background

In the Draft Plan we assessed the Economic Level of Leakage (ELL) through consideration of the social, environmental and economic costs of the lost water and leakage control. For the FBP our methodologies, based upon our Leakage Strategy, is now wholly aligned with the revised best practice methodology for determination of the Sustainable Economic level of Leakage (SELL) published by Ofwat in Autumn 2007.

We recognise the importance of maintaining low leakage levels in demonstrating our commitment to the efficient use of water.

Consultee Response

Leakage is a key topic for all those involved in the water industry and the majority of our responses on this topic raised concerns over rising leakage levels over the planning period in some WRZ's. Ceredigion County Council stated the leakage level in Mid & South Ceredigion WRZ was too high, particularly in light of potential change to the deployable output in that zone.

As part of our 'twin track' approach to resolving supply deficits we have included a range of enhanced leakage options that reduce leakage levels below the SELL. Comments were received requesting further details on these options and how they differed from 'routine' existing leakage activities.

Further comments were received, particularly from the Countryside Council for Wales (CCW), that the text in the Leakage section was unclear and not readily understandable.

Welsh Water Response

We identified in our Draft Plan a 'further work' section (Section 11.5) which outlined the work that would be undertaken following the Draft Plan publication. Further updates to our Leakage Strategy, including refining our enhanced leakage options and developing a new leakage model, Sustainable Achievable Leakage Target (SALT), which redefines the SELL at zonal level, formed part of this work. This work was completed for inclusion within our FBP and it is our intention to incorporate in a Revised Draft Plan.

We presented the results of this further work to the EAW in November 2008. One significant change to the new Leakage Strategy is that Welsh Water will not allow leakage to rise at zonal level, where it would impact the long-term supply demand balance of that zone.

As mentioned, our Leakage Strategy is now wholly aligned with the revised best practice methodology published by Ofwat. In line with this methodology, we will maintain or reduce leakage further at zonal level where it is economic to do so. At a company level, we will

continue to reduce leakage from 195 MI/d to 184 MI/d by 2014/ 15. We will continue to refine our SELL assessment in accordance with the latest guidance.

In response to CCW's specific comments, we agree that our leakage section had a strong technical emphasis and we will revise our commentary in a Revised Draft Plan to ensure that our Leakage Strategy is clarified further.

4.3 Metering and Tariffs

Background

WAG has expressed, within their recently published (November 2008) Social and Environmental Guidance (SEG), reservations about the costs associated with a full extension of metering as well as Wales' current status of not being defined as a water stressed area. There is also an associated view that 'smart' tariffs associated with 'smart' meters will deliver water efficiency benefits. The Draft Plan presented the restrictions upon us doing so, predominately due to our water status and the lack of cost-benefit.

The Draft Plan showed the percentage of meter penetration, at the company level, increasing from 25% in 2008 to 70% by 2035, based on optional metering uptakes.

Consultee Response

The issue of metering attracted many responses from a wide variety of consultees, as it continues to become a key topic in water resource planning. Interestingly, the planned level of meter penetration attracted both praise and criticism from consultees.

Both the EAW and CC Water welcomed the increase in meter penetration; the EAW recommended that we demonstrated that the penetration levels could be achieved by providing the full cost information. Both the National Trust and the Milford Haven Port Authority expressed concern that the outlined metering penetration was not to a greater percentage and did not occur soon enough.

The National Trust and Carmarthenshire County Council expressed a desire for inclusion of tariff based options that would encourage meter penetration.

Welsh Water Response

Welsh Water has included metering in line with current trends which increases company-wide metering to a level of 70% under current forecasts by 2035. Our policy is consistent with the WAG Strategic Position Statement and we will meter only when it is economic to do so. There is no cost-benefit case to support full metering in Wales.

Our metering forecasts are based upon current trends of meter uptake of 2.5% of unmeasured households per annum. However, actual uptakes have fluctuated up to 3.2%; therefore we consider the 2.5% to be a reasonable forecast based upon current trends. We believe that this is a significant meter penetration and we will monitor this closely through annual reviews and our water resource planning process.

There appears to be a presumption that sophisticated tariffs will generate demand reductions. However, Welsh Water have seen no evidence to support this and trial schemes undertaken elsewhere in the UK have only achieved consumption reductions with other supporting measures in water efficiency and changes in plumbing and construction. Implementation of sophisticated tariffs and metering options incur significant increases in

overall billing costs, for advanced technology and changes in billing. We do not believe therefore that the change in water demand is economic compared to the consequential increase in tariffs. Our experience to date over nine years of a free meter option, indicates that metering and tariffs in themselves do not generate reduction in water demand and that we should concentrate on promotion of water efficiency and sustainable waste water management.

A key priority for Welsh Water is to address affordability issues, in line with the WAG Strategic Position Statement on Water. We therefore already have unique tariff structures, over the rest of the water industry, to support lower income customers including the Welsh Water Assist scheme (which offers a lower payment option) and schemes for those on benefits. Welsh Water is working closely with WAG to further develop these and prioritise changes in tariff structures to address these issues.

We recognise that much of our commentary on metering and tariffs was provided within supporting documentation to the Draft Plan, which was not available to most consultees. It is therefore our intention to improve the text in a Revised Draft Plan.

4.4 Water Supply

Background

In preparing the Draft Plan we took advice from our Emergency Planning Manager to fully comply with the Security and Emergency Measures Directive on publishing information on our assets and operations. We also received clear Direction from WAG. Consequently, we did not publish in the public domain a number of key supporting documents to the Draft Plan, most notably the Options Report (detailing the engineering requirements, costs and environmental impacts of our proposed intervention options) and the Deployable Output reports of our source works. However, throughout the preparation of the Draft Plan, we have been in regular contact with and provided all documents to the EAW. In addition, all information has also been included in the confidential sections of our annual returns and Periodic submissions to Ofwat. These reports were available on request.

Consultee Response

The comments received on this topic were wide-ranging. For example, CC Water requested further information on why we had used the WRAPSim software to model only 15 of our 24 WRZ's, whilst CCW requested, in relation to the potential disruption to supplies and loss of deployable output (DO) from Llyn Alaw, what other potential water quality issues exist that may disrupt supplies and what are the associated costs (to customers) of mitigating these problems.

Ceredigion County Council asked why the Outage in both Mid & South Ceredigion and North Ceredigion was not predicted to change even though the deployable output values for both zones had changed from the 2007 June Return. They also requested further information on how the deployable output for both Mid & South Ceredigion and North Ceredigion WRZ's has been affected by the changing demand profiles in those zones.

In addition, Ceredigion County Council also expressed a view point that it would be beneficial to investigate the potential for water storage in deficit WRZ's, particularly taking into account the potential impacts of climate change.

Welsh Water Response

The 9 WRZ's not modelled by the WRAPSim software are single-source and/ or licence-constrained for which the DO has been determined based upon the abstraction licence conditions at each source. Modelling these zones with the WRAPSim software is not justified due to their hydrological characteristics. We have produced a technical supporting document detailing how the DO of these 9 WRZ's has been calculated. This report has been provided to the EAW but was not made available to the wider public due to restrictions under the Security and Emergency Measures Directive.

Welsh Water has undertaken a great deal of work over the past in collating information on 'outages' at our water treatment works to help identify any potential trends in disruptions at work and to direct expenditure where a persistent problem seems to be occurring. We

have an extensive programme of planned upgrades to many of our water treatment works as part of our AMP 5 water quality programme.

There is indeed no change in the Outage values shown for both Mid & South Ceredigion and North Ceredigion between the 2006 June Return and the Draft Plan due to the small numbers involved and the result of rounding (up or down) to 2 decimal places.

For Mid & South Ceredigion the base demand values have been changed from those based on the 2001/ 2002 weekly Distribution Input (DI) to values based on the 2006/ 2007 weekly DI. This resulted in a considerable change in the allocation of demands between the 'central' node and the 'Strata' model node. Also, accordingly, the demand profile was updated. The small decrease in Deployable Output since the 2006 June Return submission is due to the change in the shape of the demand profile – the latest demand profile does not show such a prolonged peak demand, therefore when the annual average Deployable Output is calculated (an average of all the values throughout the year) the resulting value is lower than the previous (2006 June Return) value.

It is a similar case for North Ceredigion. The base demand values have been changed from those based on the 2001/ 2002 weekly DI to values based on the 2006/ 2007 weekly DI. Also, accordingly, the demand profile was updated.

In relation to investigating the potential for water storage in deficit zones, as part of the water resource planning process for deficit zones we consider a full range of potential options (from customer, distribution, production and resource side options). The 'resource options' include, where possible, storage solutions. All the options are assessed environmentally, socially and economically and a Preferred option(s) is chosen. The future impact of climate change, in terms of much drier summers but wetter winters, means that increasing storage is going to be critical to long-term water resource planning.

4.5 Programmes and Plans

Background

The Draft Plan is linked to numerous strategies and plans, ranging from internal Welsh Water policies to the plans of external organisations such as government bodies and regulators. We have tried to ensure that these links are set out as clearly as possible and that the whole Plan itself is written unambiguously so that our Plan and the strategies are easily understood.

Consultee Response

Comments related to this subject have come wholly from CC Water. Consequently, a summary of the comments received from CC Water are bulleted below:

- The Final Plan should make reference to WAG's Strategic Position Statement on Water, WAG's Social and Environmental Guidance to Ofwat document and the Environment Agency's 2009 Water Resources Strategy, in addition to the Wales specific version which is due to be launched in summer 2009
- The Draft Plan does not provide for public consultation and engagement. There needs to be a clearer explanation of the issues, potential problems, solutions and impacts on consumers.
- We are not confident that this plan communicates its key contents, issues and proposals clearly to the lay-person and non-expert
- It would not be acceptable to finalise the Plan without further public consultation if, due to new information, the current deficit and planning scenarios were substantially amended
- We are concerned that as the draft Plan is still under consultation, the Company's Final Business Plan (FBP) cannot make accurate reference to any finalised Plan.

Welsh Water Response

The strategic documents listed were not available at the time of publication of the Draft Plan; consequently, reference was not explicitly made to them. However, many Welsh Water policies listed in our Draft Plan are already in line with their expectations. If we publish a Revised Draft Plan it will fully reflect these strategic documents where government and legislation allows us to.

We will take onboard the comments regarding the structure, format and content of the Draft Plan and ensure that any succeeding version of the Plan resolves the concerns.

Due to the Security and Emergency Measures Directive on publishing information on our assets and operations, we did not publish in the public domain a number of key supporting

documents to the Draft Plan. Therefore, not all background information underpinning the development of our Draft Plan was available to read. If we publish a Revised Draft Plan, we will improve the information provided in the main Plan report so that as much information as possible is presented for consultation.

Welsh Water fully supports the belief that a Final Plan could not be published without first consulting on the effects of incorporating the EAW's proposed sustainability reductions. The changes will drive major changes in our reported supply-demand balances as well significant investment to resolve the supply deficits. The statutory process and public consultation requirements are at the Direction of WAG.

An unfortunate consequence of the delay in publishing the Draft Plan, which was outside the control of Welsh Water, is that we were unable to publish a Final Plan in line with our FBP. We agree with CC Water that this potentially has a significant impact to the investment programme. However, we believe that our continued challenge on the RoC process is justified and in our customers interests.

4.6 Growth and Demand

Consultee Response

Forecasting future demand for water, as accurately and robustly as possible, is a major component of our WRMP and is something we continually work on to ensure we are not developing unnecessary resources or under-forecasting the required supply and leaving our customers vulnerable to a shortfall. Demand forecasts for the Draft Plan were prepared in accordance with the Environment Agency's (April 2007) Water Resources planning Guidelines. This topic attracted comments from most of the respondents.

Consultee Response

The EAW provided several comments recommending ways we can improve our ability to forecast consumption such as using small area monitors, forming super District Metering Areas (DMAs) on our small area monitors, and developing new micro-component forecasts at sub-company level. The EAW also expect us to keep our population and property forecasts up to date and to review them regularly through the annual review process. In particular we should ensure the forecasts take account of the effects of the recent economic downturn on population and property forecasts.

Carmarthenshire County Council, the National Trust and the RSPB commented that we should be planning to achieve a per capita consumption (pcc) figure of 130 l/h/d by 2030 as recommended by Defra in their 'Future Strategy' document.

Pembrokeshire County Council, Natural England and the CC Water asked that we ensure our population and forecasts take account of all relevant population and property forecasts that are produced WAG, **local authorities**, Regional Spatial Strategies and local development plans.

Welsh Water Response

We are confident that our current method of using small area monitors for the estimation of pcc provides the most cost effective approach for both the short and intermediate term. Whilst we are aware of the longer term projections of meter penetration, we are of the opinion that until the higher level of meter penetration becomes more significant to the extent that the current approach is unrepresentative then the current approach will be maintained.

The initiative to rationalize reporting areas (DMA's - previously SDMA's) is in an attempt to ensure that the average size of a reporting area complies with the industry accepted best practice, this in many circumstances results in either a reduction or increase in property counts to a company average level to improve efficiency of the management of DMA's and enable improved benchmarking of performance. The impact upon pcc monitors has been assessed and we are confident that there are within the existing and forecasted DMA's suitable, reliable monitors remaining.

The Environment Agency is being unrealistic in expecting Welsh Water to develop micro-component forecasts of pcc at a sub-regional level due to the difficulty of obtaining sufficient, robust data within a sensible budget to enable this to be done. Currently, we produce pcc forecasts at a regional level based on 8 micro-components for unmeasured and measured households. pcc forecasts for each of our 24 Water Resource Zones (WRZs) are produced by applying factors, based on the zonal PCC's returned in Table 10b(i) of the June Return, to the regional forecasts.

To produce micro-component forecasts at a WRZ level would require representative and statistically robust Customer Surveys to be set up and implemented in each of Welsh Water's 24 WRZs or, perhaps, in around 7 'Super' zones comprising groups of WRZs. Either way, such an exercise would be prohibitively expensive and could not be justified.

We are not aware that any other water company produces pcc micro-component forecasts at other than a Company level and have no plans to do so ourselves in the foreseeable future.

Within our Draft Plan our forecasts for measured households pcc by 2030 was 120.89 l/h/d and for unmeasured households the figure was 158.45 l/h/d giving an average figure of 139.67 l/h/d. This forecast already includes a number of the policies detailed within the Defra's strategy, however to achieve such reductions in pcc will require changes to legislation to enforce changes in new property development (in line with the Code for Sustainable Homes) and improvement in the water efficiency of appliances. This shows that we are close to achieving the Defra target for pcc of 130 l/h/d based on our current policies. It is worth noting that the Defra target is specific to England rather than Wales; WAG, in their Strategic Position Statement on Water, have not set a pcc target.

Since the publication of the Draft Plan, we have continued to update and refine our forecasts. It is our intention to publish a Revised Draft Plan, subject to receiving Direction from WAG; this Revised Draft Plan would contain improved demand forecasts derived from the WAG Local Authority Based Population Projections which were published after our Draft Plan submission. These projections were developed by WAG with input from all the Local Authority areas. There is an anomaly between the sum of the Local Authority population projections and the national population projections (also published by WAG). We have used the local authority projections factored down to meet the national projections. There remains therefore some uncertainty and we actively work with councils and the WAG to understand this. Since the publication of the Draft Plan, we have also further developed our headroom calculations and uncertainty around demand population and property projections will be reported within this.

4.7 Levels of Service

Background

In preparing our Draft Plan we used consistent Levels of Service (LoS) with our Drought Plan. These are:

- introduction of hosepipe restrictions - not more than 1 in 20 years on average
- implementation of Drought Orders/ Permits – not more than 1 in 40 years on average
- Rota Cuts/ standpipes - not acceptable

We define LoS to meet regulatory requirements and to assess the yields of our water sources and resources. We consider that the current LoS represents a balance between acceptable services to customers and having due regard to the environment.

Consultee Response

The EAW requested that we present the actual LoS customers will receive in the future for each zone in the main report, with the intention that this can then be readily compared with the company-wide planned LoS.

CCW queried how the LoS would be delivered and how they may change given climate change uncertainties. CCW also queried whether delivering the existing LoS in the event of climate change would necessitate unsustainable options being undertaken to deliver the additional required water.

CCW also requested that the Final Plan details how the LoS will be guaranteed and the corresponding impact on the environment. They also requested that the Final Plan outlined the realistic number of times customers would be restricted by the measures, throughout the planning period.

Welsh Water Response

In response to the EAW's comment we will amend the relevant sections of the Revised Draft Plan accordingly.

In terms of supplying water throughout prolonged dry periods, applying for Drought Orders/ Permits is only ever a final option and we operate our systems to minimise the risk of ever needing to apply for these. However, during an extreme drought event where our resources are severely depleted, we may need to obtain additional resources so that we can maintain supply to all our customers and ensure no adverse health impacts from having to interrupt supply.

We model the behaviour of systems in great detail and the existing LoS have been derived taking into account the potential impact and uncertainties of climate change. Therefore, we are confident that under the existing climate change predictions we can deliver the LoS as outlined above.

LoS is defined as an 'average'. Therefore, customers may receive more than or less than one hosepipe restriction, for example, over a specific 20 year period. It is therefore not pragmatic to state the number of times customers may receive restrictions over the planning period (2007-2035).

4.8 Supply Demand Balance

Background

We undertake detailed analysis of our water supply systems to determine how much water is available for supply. Within our Draft Plan we presented 7 WRZ's as having a supply-demand deficit during the planning period to 2034-35.

Consultee Response

CC Water commented that they were concerned about the increasing deficit in 2017-18 onwards for the North Eryri/ Ynys Mon (NEYM) WRZ and that Welsh Water should revisit the evidence base and review the options to reach a resolution.

CC Water also requested that Welsh Water and the EAW work closely to identify solutions for all deficit zones.

Albion Water was of the opinion that inaccurate data and lack of analytical rigour on behalf of Welsh Water accounted for the forecasted deficit in the Alwen Dee WRZ. It was also noted that significant discrepancies existed between the 2004 Plan and the Draft Plan and that insufficient headroom existed throughout the planning period.

Welsh Water Response

Welsh Water have invested £8m in NEYM during this current five-year period to resolve deficits within this zone. However, within the Draft Plan we presented, due to climate change uncertainty, this zone was forecast to again go into deficit at 2017-18. The purpose of the Plan was to review the available options to resolve this deficit and the Draft Plan presented a combination of enhanced leakage detection and an upgrade to Mynydd Llandegai WTW to deliver this.

Regular planning meetings are held between ourselves and the EA to ensure that any supply issues are identified and resolved to the agreement of both sides. We have provided a full range of technical supporting documents for our Draft Plan (and further work since this plan) to the EAW which provides full details of all the work undertaken to support preparation of the Draft Plan.

All of Welsh Water's data and calculations undertaken for the Draft Plan to estimate the supply-demand position of our WRZ's have been rigorously checked by the EAW and fully audited by the EAW and Ofwat.

We are disappointed that Albion Water do not consider our supply demand balances robust, however there has been no specific issues raised for Alwen-Dee during audits. Further work Welsh Water has undertaken since the Draft Plan means that the supply demand balances for all zones will be revised before any further publication. There are significant differences since 2004 in all supply demand balances due to the complete reassessment of water resource planning across Wales since that time. This has ensured that Welsh Waters supply

demand balances are in line with industry best-practice and we have been commended for delivering these updates considerably ahead of our agreed timescales with the EAW and Ofwat. We would also suggest reference to the climate change section of this report.

4.9 Climate change

Background

Within our Draft Plan the impact of climate change is considered on both the supply and the demand components of the supply-demand balance. As set out in Welsh Water's Strategic Direction Statement 'Our Sustainable Future', published November 2007, we are committed to 'adapting our activities to deal with the potential consequences of climate change'. This was one of the main areas of our Draft Plan that consultees responded on.

Consultee Response

EAW made a number of comments regarding climate change, notably that:

- Welsh Water should show in its Final Plan how it will assess and monitor the impacts of climate change while keeping its models up to date. We also expect Welsh Water to provide regular updates of climate change impacts in the annual reviews of its plan.
- We should include estimates of the impact of climate change on the Alwen Dee WRZ in the Final Plan. Furthermore, it is our responsibility to estimate the effects of climate change on our abstractions and that we should not wait for work to be undertaken by EAW to assess the effects of climate change on the Dee Regulation System.
- Climate change is shown as one of the drivers for the new leakage option in the Clwyd Coastal WRZ. Welsh Water should carry out further investigations into the effects of climate change using the most sophisticated approaches in the EA's water resources planning guidelines to support the need for the new option.

On similar vein to the final EAW comment, CC Water requested assurance that the climate change forecasts used were appropriate and that the climate change scenarios have not been used to justify large uncertainty and risk in the supply.

Ceredigion County Council questioned how the EAW's consideration of climate change in the RoC process would affect abstraction at low flows and whether the changes would impact the Draft Plan. Also, the Council queried what research and/ or new technologies Welsh Water were involved in that could potentially mitigate the impact of climate change on water resources.

Carmarthenshire County Council commented that there was a need to balance the risks of a lower service being experienced over a short period of time against the risk of unnecessarily permanently higher bills and the National Trust noted that it would be beneficial, in light of guidance from Ofwat and the WAG, for the Draft Plan to indicate how the selected options affect GHG (Greenhouse Gases) emissions and energy use.

Welsh Water Response

Responding to the EAW's comments, we are committed to ensuring that our supply demand balances reflect recent and updated knowledge and will review all components annually. Welsh Water fully incorporated climate change in the Draft Plan in accordance with EA Guidance.

Welsh Water has undertaken full climate change modelling for Alwen Dee which highlighted considerable uncertainty due to climate change in this zone as a result of the geographic climate change forecasts in this area. We raised concerns with EAW regarding the forecasted impact in this zone and the future implications this may have for the Dee Regulation scheme. The General Directions for the River Dee are managed by the EAW and we feel that they are better placed than Welsh Water (who are a minor abstractor on the Dee compared to others) to model the future impact of climate change on this system. We are pleased that the EAW has subsequently confirmed to Welsh Water that it will be undertaking a study this year on the Dee and we have offered our support. Since the Draft Plan, and in line with our 'Further Work' section, we have undertaken considerable further work on climate change and headroom in this zone and across Wales. This work was presented to EAW in November 2008 and provides robust justification for our approach.

We have revised the supply demand balance in Clwyd Coastal and are no longer forecasting a deficit for this zone.

In response to the concerns of both Carmarthenshire County Council and CC Water, Welsh Water have fully complied with the EAW guidelines on incorporation of climate change in water resource planning and are committed to furthering our understanding. We are part of a water industry research group on climate change for water resources and are already reviewing the impact of the 2009 UK Climate Impact Planning scenarios (UKCP09) published in June 2009. Our current studies and investigations on climate change lead us to strongly believe that the EAW should also be proactive in the inclusion of climate change impacts into its licensing regime and the RoC process. The EAWs recently published Water Resource Strategy indicates water available within West Wales for example, however, the Catchment Abstraction Management strategies (CAMs) were undertaken without inclusion of climate change. We believe that incorporation of climate change into the EAWs strategies would present a very different picture for water availability in Wales.

Ceredigion County Council have raised an important issue and we recommend that they contact EAW separately to express their concerns at this omission. We have urged the EAW to consider climate change within their RoC process without success. We have modelled the potential impacts to our abstractions following the sustainability reductions and the impacts of climate change. We continue to remain concerned that the sustainability reductions proposed by the EAW fail to address the long-term impact of climate change.

Our water resource planning process utilises up to date climate change data which we are committed to review and update as the scientific community furthers its understanding. Welsh Water form part of the water industry climate change research group and we are

active in the WAG Climate Change adaption group. We are committed to including the impacts of climate change into our investment programmes, across all areas of the business.

Greenhouse gas emissions were determined for the Draft Plan but not presented in the main report. If we publish a Revised Draft Plan, we will address this issue. It is worth noting that the Draft Plan without the inclusion of sustainability reductions would have minimal impact to greenhouse emissions (above our existing operations). However, the options required to replace our existing abstractions under RoC result in a significant increase in emissions.

4.10 Water Efficiency

Background

Welsh Water is firmly committed to water efficiency and we undertake a significant amount of activities that are a combination of education and practical advice. Our 'Be Waterwise' campaign was launched in March 2007 with its key message to customers to 'Use as much drinking water as you need but please don't waste it'.

Consultee Response

EAW commented that Welsh Water should demonstrate how Ofwat's water efficiency targets had been incorporated into the demand forecasts.

The RSPB stated that Welsh Water could not claim to be embracing the 'twin-track' approach due to the absence of large scale water efficiency programmes, most notably in South East Wales. In relation to South East Wales, the RSPB did not believe that justification had been reached for the proposed raising and expansion of Craig Goch reservoir, given the inadequacies of the Draft Plan (predicted demand forecast not in line with Defra targets and the lack of water efficiency programmes).

Natural England welcomed Welsh Water's water efficiency activities but recommended that we should also be considering the use of Sustainable Urban Drainage systems (SUDs) as an alternative to sewers for surface drainage and runoff. The increase promotion and use of SuDs was also highlighted by Ceredigion County Council. Natural England also commented that they would support a per capita consumption of 130 l/h/d, or less, by 2030 in line with the Defra strategy 'Future Water'.

CCW noted that we wish to further expand on our activities involving water butts and rainwater harvesting through the provision of subsidised equipment and detailed advice to customers. This comment was echoed by The National Trust who observed that they had recently installed rainwater harvesting measures in certain properties for toilet use and that Welsh Water should include in the Final Plan the wider use of such measures.

Lastly, CC Water noted that our water efficiency educational activities predominantly centred around young people and that our water efficiency messages should be aimed at the wider population.

Welsh Water Response

Welsh Water has not included Ofwat's water efficiency targets within our baseline demand forecast. In accordance with WAG's Strategic Position Statement, we await further Direction following consultation. However we have demonstrated that these targets are neither economic nor achievable to these volumes across Wales.

Welsh Water has a dedicated water efficiency strategy across Wales which covers all of our customer base: as well as education activities in schools, we have undertaken the following activities:

- 'Be Waterwise' campaign to inform customers of the need not to waste water
- Green Plumbers of Wales – training for skilled plumbers and apprentices in water efficient plumbing
- Extensive customer and stakeholder engagement
- Promotion of water efficient devices such as water butts and Hippo bags
- Water efficiency information is contained within our customer bills

Welsh Water's metering strategy is in line with the WAG's Strategic Position Statement - we do not support compulsory metering. We have considered a full range of options within the Draft Plan to resolve deficits in Wales - this includes large-scale water efficiency options, viable metering options and resource and production management schemes. This is fully in line with the twin-track approach. However water efficiency activities will only be selected where it is economic to do so and more significantly where it enables the supply demand deficit to be resolved.

The scale of the deficit in South East Wales as a result of sustainability reductions in the Draft Plan were so large that at the time only a large scale dam raising would have been viable to maintain customer supply. The final basket of options will however be a combination of those that are economic and capable of yielding sufficient volume to resolve the supply demand balance in the zone. The scale of the deficit driven by sustainability reductions cannot be met by water efficiency and leakage alone.

Our forecast average PCC in the Draft Plan by 2030 is 139.67 Ml/d and our demand forecasts are in line with the Defra 'Future Water' strategy. However, the delivery of this is not only dependant upon Welsh Water but also the incorporation of the Code for Sustainable Homes for new developments and continued support of water efficient appliances and operations of our domestic and business customers. Defra's 'Future Water' strategy is dependant upon changes in legislation and the continued combined efforts of Welsh Water with WAG and EAW.

In our FBP recently submitted to Ofwat, Welsh Water included investment of some £2.3m during AMP5 on its Surface Water Management Strategy that includes proposals around Sustainable Rainwater Harvesting and Sustainable Urban Drainage Systems (SuDS). We are industry-leading in this area and are committed to its promotion. We did not include this within the Draft Plan and its benefits are not directly inclusive to the Plan however we agree that we should include commentary on this in future revisions to our plan.

Our water efficiency strategy is large and varied and our education centres form one component of this, albeit an important one that we feel will lead to real benefits in the

future. Our 'Be Waterwise' campaign launched on the 5th March 2007 is aimed at all customers and encourages them to use water wisely. We believe we have a wide-ranging water efficiency strategy which covers our entire customer base. If we publish a Revised Draft Plan we will ensure that it reflects this strategy further.

4.11 Headroom

Background

Target Headroom is the planning margin or buffer that a water company should allow between supply and demand to cater for specified uncertainties (except those due to outages) in the overall supply-demand balance. The calculation of an appropriate uncertainty allowance is key and often determines whether a zone is in a supply deficit or surplus.

Consultee Response

EAW made the majority of the responses received on this topic. Their comments, summarised below, suggest that Welsh Water should:

- clearly state the greatest sources of uncertainty in the headroom calculations for all WRZ's
- for Tywyn Aberdyfi re-evaluate or provide additional justification for the large uncertainty in the supply and climate change components of headroom. If headroom uncertainty is reduced, the remaining deficit may be better resolved by the earlier introduction of flexible demand management measures prior to consideration of a new groundwater scheme.
- consider options to reduce uncertainty in headroom for its Final Plan. We believe uncertainty could be lowered in several zones, especially those in deficit.
- update its demand forecasting component of headroom to take account of uncertainties in population, property and per capita consumption forecasts instead of using the 2001 foresight scenarios. This is particularly important for the South Meirionydd and North Eryri-Ynys Mon deficit zones.
- provide the evidence to justify its chosen risk profile for Target Headroom. This should include the LoS that this Target Headroom allows for and how this is different to planned LoS.

CC Water reiterated EAW's comments that some of the large uncertainties in Target Headroom, particularly for the Tywyn Aberdyfi, South Meirionydd and North Eryri-Ynys Mon deficit WRZ's, should be recalculated or reconsidered.

Welsh Water Response

We are disappointed that the EAW made no reference to considerable work Welsh Water has undertaken on headroom since the submission of the Draft Plan and presented to them in November 2008. This work was identified in our 'Further Work' to do section of our Draft Plan.

We have reviewed fully all the uncertainties associated with the components of Target Headroom, particularly the climate change, inflows and demand side components, which has led to revisions in the headroom allowances in most of our zones.

Our Target Headroom calculations in the Draft Plan followed all required methodologies. However, we recognised that in some zones headroom is significant and therefore have undertaken a full review to ensure our calculations are robust. In all areas our work confirmed that our estimates were robust.

In direct response:

- we will add additional commentary in our main plan, but this was included in our headroom report
- we have reduced uncertainty on inflow in Tywn Aberdyfi and on reassessment of the supply demand balances for the FBP we presented water efficiency options for this zone. We indicated this to the EAW in November 2008.
- within the further work section in our Draft WRMP we identified further updates to our pcc model. This work was also presented to EAW in November 2008. Since that time, we have fully updated our pcc model and uncertainty in headroom has been changed to reflect this advance. Uncertainty on demand is now directly linked to population and property forecasts and uses the economic forecasts proposed by the EAW in their recently published Water Resources Strategy.
- in line with EA Guidance, we varied our risk profile through the planning period to allow for greater probability of risk in the latter part of the planning period. This is consistent with our planned level of service as reported. We intend to present the significant review as part of a Revised Draft Plan.

4.12 Strategic Environmental Assessment

Background

A Strategic Environmental Assessment (SEA) is a statutory requirement for plans or programmes which could have significant environmental implications. It helps to identify where there may be potential environmental impacts through the implementation of the Draft Plan and how negative effects might be mitigated.

Consultee Response

We received two responses, from Natural England and the National Trust, from the Draft Plan consultation commending that we had prepared a SEA of our Draft Plan, although noting that the SEA would need to be updated to take account the EAW RoC process.

From the SEA consultation itself, we received a total of 103 comments from six consultees. All respondents strongly advised that the results from the RoC process needed to be included in either a Revised Draft Plan or a Final Plan. The remaining comments mainly fell into one of the following categories:

- Plans and Programmes – the Draft Plan did take account of all available Plans and Programmes or use the most up to date list
- Data gaps – that there are a number of perceived data gaps that should be rectified
- SEA Objectives – a number of comments were received on additional measures that should be included into the Objectives
- Benefits Assessment Guidance – a number of clarification points are required to resolve the queries received on this subject
- Intervention Options – several comments were received on the Options, from clarification requested on option specifics to the suggestion of specific additional options
- Water Framework Directive (WFD) – CCW noted that it was important that the Plan detailed how the WFD would be taken into account.

All remaining comments fall into ‘house-keeping’ issues. It our intention to resolve these issues through the preparation of a Revised Draft Plan and updated SEA.

Welsh Water Response

It is our intention to incorporate the sustainability reductions resulting from the RoC process into a Revised Draft Plan.

We have been working closely with Natural England, CCW and other stakeholders on the redevelopment of the SEA. We have begun updating our SEA (and HRA) in accordance with

a Revised Draft Plan and have further developed our intervention options as a result. The SEA revision will be completed on receiving final outcomes from the RoC review process that EAW are currently undertaking.

4.13 Habitats Regulations Assessment

Background

The process by which the impacts of a Plan or programme are assessed against the conservation objectives of a European site is known as Habitats Regulations Assessment (HRA). However, whilst Schedule 1 of the Conservation (Natural Habitats, &c) Regulations 1994 (as amended) (the 'Habitats Regulations') requires that competent authorities assess the potential impacts of land use plans on the Natura 2000 network of European protected sites, the requirement for this in respect of water resources plans is not clear. However, due to the sensitive nature of our sites, we chose to undertake a HRA for the Draft Plan.

Consultee Response

We only received one response, from Natural England, on the Plan consultation in relation to the fact we had prepared a HRA of our Draft Plan. Though the comment was particularly complimentary, it does remind us that the HRA will need updating for a Revised Draft Plan, particularly in view of incorporating sustainability reductions.

From the consultation on the HRA itself, we received a total of 81 comments from four consultees. Again, the majority of the comments advised that the results from the RoC process needed to be included in either a Revised Draft Plan or a Final Plan. The remaining comments mainly fell into one of the following categories:

- Consultation – it was noted by most of the respondents that the HRA of the Draft Plan had been prepared without a formal consultation process
- Plans and projects – the assessment of the options need to take account of other Plans and projects more fully than at present
- Data and reporting – a number of relatively minor issues require clarity in a Revised Draft Plan
- Assessment criteria – the impact assessment of the options should take account of in-combination effects with other projects

Welsh Water Response

We always have high regard for the area in which we operate and so we chose to undertake a HRA to ensure we are not adversely affecting any European designated sites. Unfortunately due to the timing of the HRA and the Draft Plan we were unable to undertake a full scoping exercise as we would have wished; however, we have already commenced this process for future revisions.

It is our intention to issue a fully revised and updated HRA if we publish a Revised Draft Plan that incorporates the impacts of sustainability reductions.

Again, we have been working closely with Natural England, CCW and other stakeholders on the redevelopment of the HRA. We have begun updating the HRA in accordance with a Revised Draft Plan. The HRA revision will be completed on receiving final outcomes from the RoC review process that EAW are currently undertaking.

4.14 Option appraisal and selection

Background

The Draft Plan detailed the option selection process we used to define our 'final planning solution' using our least-cost water resource planning model. The Draft Plan also contained a long list of feasible options which assessed potential environmental effects of those options against environmental issues through the SEA process.

Consultee Response

EAW requested that we should include additional commentary for each of the deficit zones to demonstrate how the preferred options have been chosen, including consideration of any risks and uncertainties. They also requested that we show evidence how we have assessed lowering the LoS in the deficit zones, where the modelled LoS is greater than the company target LoS, to the effect of increasing deployable output and potentially removing deficits.

EAW also advised that we should undertake a sensitivity analysis of the proposed options to assumptions or changes in the supply-demand balance (for example, due to different population growth patterns) at the resource zone level. Lastly, EAW recommended that where the Benefits Assessment Guidance (BAG) approach was found to be inappropriate or inadequate, we should use alternative methods or data to evaluate environmental and social costs.

CCW raised a number of issues, namely:

- Welsh Water should, as a requirement under the Water Framework Directive, ensure that no groundwater dependent terrestrial ecosystem (GWDTE) suffers significant damage due to groundwater quantity or quality impacts. CCW were concerned that BAG does not appear to take into account groundwater dependent wetlands.
- CCW were concerned that the environmental and social costing methods do not take account of requirements of the Habitats Directive. Also, that the environmental costing does not appear to take into account impacts on groundwater bodies and groundwater dependent wetlands. CCW recommended that this is clarified in the Final Plan.
- CCW noted that the Vowchurch WRZ Preferred Option is for an amendment to the existing abstraction already assessed as part of EAW RoC process. CCW noted that they would be consulted when this option is developed further and would provide detailed comment as part of the statutory consultation process when the application for a licence amendment is made.
- Requested greater clarity on the options required to mitigate against the RoC licence reductions in the SEWCUS WRZ, bearing in mind that the SEWCUS WRZ currently has an approximate surplus of 70 MI/d.

Ceredigion County Council noted that the EAW's West Wales River Basin Management Plan should be taken into account with specific reference that the Tywyn – Aberdyfi WRZ falls into a groundwater dependent terrestrial system and how the proposed new groundwater abstraction will affect this system. Ceredigion County Council also commented that we should consider a 'flood water storage reservoir' in the area to alleviate the pressure on river flows caused by abstraction.

The National Trust emphasised the need to prioritise demand reduction and water efficiency options, to meet the requirements of the RoC process, as part of the option selection process as these measures are cost effective and low in carbon intensity. The National Trust also requested further clarification on the Preferred options selected for the Pembrokeshire and SEWCUS WRZ's, to mitigate against the proposed sustainability reductions and recommended that carbon life-cycle costs of all options are considered as part of the selection process.

The National Trust also went on to say that the Preferred water efficiency options focussed on non-household users and that they assumed that work to encourage the efficient use of water by household users would continue, with prioritisation given to deficit zones. They recommended that Welsh Water work with the Energy Saving Trust to provide a whole-household approach to tackling energy and water efficiency and waste water, and the links between them, as focussing on household demand reductions can deliver significant greenhouse gas emission reductions.

Welsh Water Response

Responding to EAW:

The text referred to in the Draft Plan main report only included details on Tywyn-Aberdyfi and Vowchurch as these were the only zones where resource schemes were chosen to resolve the deficit and where there was some variation in schemes as part of the optimisation process.

In the main report we have presented how the SEA was used to develop the set of options chosen. Further detail on how options were chosen for all deficit zones is provided in the technical supporting Engineering Report which accompanied the Draft Plan which was not put into the public domain due to the security requirements dictated by our Direction from WAG.

We provided options within the Draft Plan which had the potential to lower LoS. If we publish a Revised Draft Plan we will add additional commentary.

Within the Draft Plan we undertook sensitivity analysis around changes in the associated costs of our options as this is where we felt the likeliest changes could occur. We have not run sensitivity analyses around our supply demand balances as uncertainties around the components are accounted for in Target Headroom.

We have used BAG as this is the recommended methodology in the WRP guidelines. Furthermore our leakage strategy was updated for Ofwat's methodology which also requires the use of BAG. We have in some instances had to modify the application of BAG to ensure it best reflects the assessment of some options. We still consider that the application of this methodology should be considered for review by our regulators.

Responding to CCW:

The Water Resource Management Plan guidelines require us to use the EA's Benefits Assessment Guidance. Welsh Water has raised concerns with the EA regarding the scope and relevance of this guidance. In the Draft Plan we therefore modified its application to allow for some of these. One key area was the lack of assessment for groundwater bodies or relevant features. As such, Welsh Water treated groundwater sources as surface water sources for the purposes of environmental and social costing and hence present a worst-case costing from our operations. The BAG guidance does not directly allow for the impact of Habitats Directive to be included within the assessment, however the Draft Plan did not select any options which would impact a designated site. Welsh Water are very aware that due to the significant designations within our operating area, future engineering works have the potential for impacting such a site. We will fully consider this when we are selecting options and would see the SEA process as supporting this.

The option to resolve the RoC deficit in the Vowchurch WRZ does not involve an increase in abstraction licence as it is within existing licence conditions, even allowing for the RoC process. The option is to transfer water from our Hereford WRZ, which has surplus water and no sustainability reductions as a result of the Review of Consents process, to our Vowchurch WRZ during peak demand periods. Welsh Water early-started this scheme during 2008 as we were already undertaking extensive mains replacement work in this area. This work has secured supply in this area.

The feasible set of options in the Draft Plan for SEWCUS are the same as they will be for any future revisions. We have done more work to refine and more accurately cost these schemes and to ensure the optimum set of options to resolve the significant deficit is selected. The sustainability reductions proposed in the Draft Plan would remove the entire current surplus in the SEWCUS WRZ, as well as then pushing it into a significant deficit. We are selecting options that will restore the supply balance to zero and not into surplus.

Responding to Ceredigion County Council and The National Trust:

There are no GWDTE features present in Tywyn – Aberdyfi and we have assessed the abstraction as having 100% impact upon river flows due to the deficiencies in BAG. However, this option has since been disregarded due to lack of available groundwater resource and a recalculation of the supply-demand balance. Water efficiency is now our Preferred option for resolving the deficit in this zone.

We have developed our leakage strategy since the Draft Plan and this includes not allowing leakage to rise in zones where there is a supply demand deficit or where it would result in a deficit. As such, we will continue to maintain leakage in Bala and Clwyd at the current AMP4

levels (despite this being uneconomic). We continue to require enhanced leakage detection in South Meirionydd.

The Draft Plan already includes bankside storage and new impounding reservoirs which could be managed to alleviate or attenuate flood waters. We have assessed a full range of options through the planning process. The options selected as 'Preferred' have been selected based on environmental, social, engineering and cost considerations.

We inherently adopt the 'twin-track' approach when it comes to option selection and optimisation and our current Preferred set of options is a combination of water efficiency, leakage reduction and resource schemes. It is our intention to incorporate the sustainability reductions for Pembrokeshire and SEWCUS, and the corresponding intervention options, into a Revised Draft Plan and to assess them accordingly in a Revised SEA.

Carbon accounting of all options has been undertaken and is an integral part of Welsh Water's strategy to ensure we minimise our carbon footprint as much as possible. We optimise a comprehensive range of household and non-household water efficiency options. The non-household water efficiency 'Preferred' options have been selected based on environmental, social, engineering and cost considerations. Welsh Water are already working with the Carbon and Energy Saving trust as part of our Water Efficiency Strategy to promote a joined up approach to water efficiency in the home. It should be noted that the water efficiency options detailed in the Draft Plan are in addition to our usual baseline activity and will complement and not replace these activities.

4.15 Environmental Monitoring

Background

Increased monitoring and understanding of the environment in which we operate will enable us to improve our operations and to better target investment.

Consultee Response

The Royal Society for the Protection of Birds (RSPB) commented that it would welcome and support any inclusion, in the Final Plan, of catchment management schemes where partnership with agencies and NGOs could tackle deteriorating quality of raw waters at source due to unsustainable land-use activity.

CCW quoted a recent joint project, with Welsh Water, on Anglesey to address problems of nutrient enrichment of raw water within the vicinity of The Anglesey Fens SAC. CCW welcomed the opportunity to undertake such projects in the near future.

On a similar vein, the National Trust also welcomed opportunities to undertake joint projects, with Welsh Water, on land managed by the National Trust to improve raw water sources with naturally associated benefits for the environment and wildlife.

Welsh Water Response

Welsh Water is committed to research and studies into catchment quality; unfortunately, this is outside of the scope of the Draft Plan. However, we have included £2m in our FBPs to further our understanding. We welcome the support from our consultees in this area and would welcome opportunities or proposals for combined studies.

5 Next Steps

5.1 Revisions to the Draft Plan

We genuinely appreciate the time taken by our consultees in responding to our Draft Plan. All the comments and representations received will be taken into consideration and it is our intention that we will prepare and publish a Revised Draft Plan.

Due to the pace at which the Habitats Directive RoC programme has been undertaken by the EAW and the need to wait for Direction from WAG, the publication of the Draft Plan was significantly out of step with the water companies operating in England and with the Periodic Review process i.e. publication of the FBP.

Our FBP was submitted to Ofwat, in accordance with statutory timescales, on the 7th April 2009. This has resulted in our FBP being submitted without taking into account the representation on the Draft Plan and without including the RoC licence reductions and associated intervention options.

It is unclear at this time, as the FBP has been submitted, how any intervention options brought about by the RoC process will be funded. We will discuss this further with WAG and Ofwat when we clearly understand the revised 'definitive' sustainability reductions.

As stated in Section 2, we are awaiting Direction from WAG on the statutory timescales and processes regarding the publication of a Revised Draft Plan.

5.2 Strategic Environmental Assessment and Habitats Regulation Assessment

We are in the process of revising both the SEA and the HRA to take account of the proposed sustainability reductions received from the EAW.

We have been working closely with stakeholders on the redevelopment of both documents. The revisions to the SEA and HRA will be completed on receiving final outcomes from the RoC review process that EAW are currently undertaking.

5.3 Changes that will affect revisions to the Draft Plan

5.3.1 Demand

In addition to the comments and representations received on the Draft Plan, there are a number of other external factors that influence revisions to the Draft Plan. There have been major changes to the national and global economy throughout 2008 and 2009. As our Draft Plan was prepared and submitted to WAG in March 2008, the implications of the global 'credit crunch' were not apparent and as such the impacts were not reflected in the Draft Plan.

Since that time, the impact of the global recession, particularly on the housing market, has become much clearer. There has also been evidence of a significant downturn in non-domestic demand as a result of industrial closures. These factors have directly affected our demand forecasts, most notably over the early part of the planning period.

5.3.2 Climate Change

The Draft Plan uses the best available information on climate change in the form of the UK Climate Impacts Programme 2007 (UKCIP07) scenarios and has complied with the EA Water Resource Planning Guidelines methodology on climate change. The UKCIP, in June 2009, launched the use of the UKCIP09 scenarios which apply a probabilistic approach, for the first time, in assessing the potential impact of climate change. We intend to review and include the latest climate scenarios in a Revised Draft Plan.

5.3.3 Sustainability reductions

As mentioned throughout this Statement of Response, the Draft Plan did not include the sustainability reductions due the reasons outlined previously. It is our intention to prepare and publish a Revised Plan that will include the reductions and the intervention options required to maintain the supply demand balance in the affected zones.

As stated in Section 2.3, EAW have now decided to review the sustainability reductions. We await the findings from this review and intend to include the results in a Revised Draft Plan (or Final Plan) as soon as they are agreed.

Welsh Water would also be keen to include the impact of any further reductions in North Wales within this Revised Draft Plan.

5.3.4 Other Planning Assumptions

Since the preparation of our Draft Plan we have been reviewing the planning assumptions used to derive the supply demand balances for all zones. In addition to those categories listed above we have continued to review and update the data and assumptions used for Target Headroom, Outage, Option costs and engineering detail and water efficiency savings and costs. These are to improve our assessment based upon feedback from Ofwat audits.

5.3.5 Regulatory Advice

Guidance and advice from regulators that will directly shape the revision to the Draft Plan include revisions to the Environment Agency's Water Resource Planning Guidelines, Ofwat's new guidance on the Sustainable Economic Level of Leakage, WAG Strategic Position Statement and the recently published EAWs Water Resources Strategy for Wales.

5.3.6 Way Forward

All the above changes will inevitably result in changes to the supply demand balance for each WRZ and therefore modify the strategy in each zone.

Following the publication of this SoR, WAG will decide whether we have adequately taken account of the views of the consultees and determine whether to direct us to further modify our Draft Plan (by way of a Revised Draft Plan) or/ and hold a local public inquiry prior to publication of the Final Plan.

Given the timetable for the EAW to review their sustainability reductions and the associated legalities regarding funding of the intervention options, it is not appropriate or possible to comment on when a Final Plan is likely to be published at this time.

5.4 Further Information

Electronic copies of this Statement of Response are available from our website at:

www.dwrcymru.com/

If you require any further information please contact:

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