

# Response to Defra's consultation on improving water management in the environment.

12 March 2019

## About Energy UK

Energy UK is the trade association for the GB energy industry with a membership of over 100 suppliers, generators, and stakeholders with a business interest in the production and supply of electricity and gas for domestic and business consumers. Our membership covers over 90% of both UK power generation and the energy supply market for UK homes. We represent the diverse nature of the UK's energy industry – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

Our members turn renewable energy sources as well as nuclear, gas and coal into electricity for over 27 million homes and every business in Britain. Over 680,000 people in every corner of the country rely on the sector for their jobs, with many of our members providing long-term employment as well as quality apprenticeships and training for those starting their careers. The energy industry invests over £12.5bn annually, delivers around £84bn in economic activity through its supply chain and interaction with other sectors, and pays £6bn in tax to HM Treasury.

Energy UK welcomes the opportunity to respond to Defra's consultation on improving water management in the environment and has outlined its key position statement below to summarise the power sector's interaction with water abstraction policy.

## Position Statement on Thermal Power Stations & Abstraction

- The UK has a fleet of existing fossil-fuelled and renewable power stations that use river water for cooling, to maximise their efficiency and minimise their carbon intensity.
- There may also be investment in new fossil-fuelled and renewable power stations using river water for cooling.
- These water-cooled thermal power stations ensure the security of electricity supply at least cost to the consumer, as the UK makes the transition to a low carbon energy system.
- These power stations will tend to operate at progressively lower loads in future, but they will continue to need uninterrupted access to water, as they could be required to operate at any time in response to electricity system demands.
- If, due to restrictions on access to water, these stations are unable to operate when the system demands, power prices will increase significantly, placing additional cost on the consumer. In the extreme, short-term security of supply could be at risk, particularly when electricity demand is high and variable renewable generation outputs are low (wind and solar).
- Without guaranteed access to water, the investment needed to continue to operate or develop these power stations may not be viable. Early closure of existing power stations would present a threat to security of supply.
- As a result of these factors, continued reliable access to sufficient water for power stations is a critical strategic issue for the UK and a key issue for water abstraction policy at national, regional and catchment scales.

- The concepts of water use and water rights use, headroom and safeguards need to be revised to recognise today's electricity market conditions.

## Response to Consultation Questions

**Q1. Do you have any specific evidence that you think could assist Defra in our assessment of the costs, benefits or other impacts of these possible measures? If yes, please provide details.**

### *Key points:*

- Costs associated with operational restrictions falling to the operator and consumer of electricity should be considered.
- The potential consequences for security of electricity supply should be considered.
- When determining Water Framework Directive (WFD) objective in River Basin Management Planning (RBMP) the costs should be considered, but this appears not to have been the case.
- The costs in Defra's Preliminary Cost Effectiveness Analysis (pCEA) work should be revisited.

### *Detail:*

When considering measures that would restrict the operation of a power plant (e.g. through restriction on its abstraction licence), it is necessary to consider the consequence this may have for the costs to the operator, the cost of electricity for consumers (e.g. affordability of a reliable supply of electricity on demand) and consequences for security of supply of electricity.

Where measures are related to achieving a WFD target established under the RBMP process, the costs of the measures including those falling to power plant operators, should have been considered (in the context of potential disproportionate cost of the Programme of Measures) in setting the appropriate WFD target. However, it is not apparent that this occurred in RBMP2 at water body level (e.g. in relation to licence variations for power stations and potential consequent restrictions on operation), as the impact assessment for RBMP2 strongly suggests not. Therefore, the cost of measures including costs associated with proposed licence variations should be considered fully for any regulatory action related to WFD objectives.

We would expect individual operators to be keen to work with Defra/Environment Agency (EA) on individual plant and water body circumstances to establish potential costs and benefits at local levels for proposed modifications to power station abstraction licences. Energy UK is keen to work with Defra on sector level issues.

Some data on costs relevant to the power sector were gathered in 2007 as part of the Defra's WFD pCEA stakeholder activity. Whilst the principles of this work may be helpful, the electricity market has evolved considerably in the subsequent decade. Any cost estimates obtained through this means should be revisited when considering contemporary decision making. Some costs associated with individual power stations are regarded as commercially confidential.

**Q2. Do you agree that the Secretary of State should be able to direct companies to plan on a regional and inter-regional basis? Please provide reasons.**

### *Key points*

- Energy UK agrees that the Secretary of State should be able to direct water companies to plan regionally and inter-regionally for public water supply purposes.
- We welcome recognition of the value of multisector regional planning.

- We do not agree that the Secretary of State should be able to direct water companies to plan regionally and inter-regionally on behalf of other sectors.
- We urge the Secretary of State to consider other governance approaches to regional and inter-regional planning such as that currently advocated for Water Resource East (WRE) Phase 2, making use of an independent company.

#### *Detail*

We interpret 'companies' here to mean water companies. We agree that water companies should plan regionally and inter-regionally for public water supply purposes, since there may be important value in both cost effectiveness and resilience in having the capability to exploit differences between regions (through transfer and storage and supply/demand balance differences). We also agree that considering the needs of other sectors at appropriate spatial scales is vital and for some sectors, including the power sector, such needs could be important at regional and inter-regional levels.

While recognising the need for multi-sector planning at regional and inter-regional scales, we do not agree that water companies are the appropriate leaders for this work. We are concerned that Defra could create uneasy boundaries between water companies as Public Water Supply providers with statutory duties, the EA and other water resource users. There is a potential conflict of interest given that water companies have an allocation of scarce water alongside their statutory position on Public Water Supply.

We therefore agree that the Secretary of State should be able to direct water companies to plan regionally and inter-regionally for public water supply purposes and welcome recognition of the value of multisector regional planning. However, we do not agree that the Secretary of State should be able to direct water companies to plan regionally and inter-regionally on behalf of other sectors.

It is important that the governance arrangements for regional and inter-regional water resource planning should adequately reflect the reasonable interests of all relevant sectors (including representation of 'the environment').

Energy UK considers there to be two alternative ways for providing leadership:

- The EA could assume a leadership role since it has responsibilities and duties requiring it to take a balanced view, and it already has the role of competent authority for WFD RBMP (and regional water resource planning is essentially a subset of that planning).
- Other neutral parties could assume the leadership and co-ordination role in regional water resource planning provided they can pass a competence test.

The key issue is to avoid conflict of interest on water resource allocation. We are aware of Water Resource East (WRE) initiatives which use the structure of an independent company and we are supportive of them

Consideration should be given as to how to fund neutral leadership, management and delivery of work of regional planning groups. Any future groups that are set up for the purpose of regional and inter-regional planning covering cross sector abstractors should be required to be established on an independent basis with representation at the strategic level from sectors. We would welcome further consultation on the governance of such groups.

See also our response to Q3.

**Q3. Do you agree that the Secretary of State should be able to direct water companies to take account of other abstractors' needs? Please provide reasons.**

*Key points*

- The reasonable existing and future needs of all users and the environment should be considered in water resource planning at every relevant spatial scale and through every planning, strategy or policy vehicle.
- Water companies are not the appropriate leader for multi-sector planning given their conflict of interest
- The meaning of 'take account of' needs to be carefully elaborated including implications for conflict resolution mechanisms and governance arrangements for planning activity (see below for details)
- The market structures of other sectors (such as electricity production) precludes there being a 'central plan' or a single negotiating body.

*Detail*

The reasonable existing and future needs of all users and the environment should be considered in water resource planning at every relevant spatial scale and through every planning, strategy or policy vehicle. Reasonable needs of others should therefore be reflected in regional and area water resource planning. For the reasons given in Q2 we do not consider water companies to be the appropriate leaders for regional planning. Similarly, water companies are not the appropriate leader at existing water company area level when multi-sector future need is to be factored fully into the planning.

The EA Catchment Abstraction Management Strategies (CAMS) and Abstraction Licensing Strategies (ALS) clearly has a part to play, although this might be more concerned with licensing for a given strategy founded on an assumed size of water resource. Historically, CAMS/ALS have provided the licensing strategy balancing the need of the environment with user interest including statutory protection of existing water-dependent users from derogation as a result of upstream new-entrants.

Water Resource Management Plans (WRMP) and regional strategic planning are future facing. They both can and should consider whether and how to change the size of the water resource in a given area (including the coupling of regions and areas through storage and transfer options). These should therefore reflect the future needs of other sectors including the future needs of the environment. Currently, existing WRMP tend to assume the current CAMS position of other users (i.e. assuming other users exert their licence to the fullest extent). With genuine multi-sector planning this position may be able to be better optimised.

However, Energy UK does not accept that water companies are the appropriate leaders for multi-sector forward planning and this applies at all spatial scales including the water company area, regional, interregional and national spatial scales. Defra should consider how the governance arrangements of enhanced multi-sector WRMP may be delivered. The EA might be the more natural organisation to lead such work or there may be a role for neutral leaders with sufficient competence (e.g. the proposed Water Resource East model).

If water companies WRMPs are to be developed, Defra should develop clear guidance on how water companies should ensure that confidential information is not improperly disclosed. Similarly, guidance should also be developed on how future water resource allocation conflicts should be solved. As a sector, we have concerns that if water companies are the controlling entity for the WRMP then an appropriate level of separation is in place to ensure that they cannot utilise the privileged information to the benefit of both the supply and waste water core businesses.

In the Defra proposal it is unclear what 'take account of' means in practice. Where there is insufficient resource to provide future allocation for all, conflict resolution mechanisms should be defined, including appeal mechanisms. An understanding of rules for resolution of future conflict is necessary to enable investment in water dependent activities such as new power plants or upgrades to existing plant.

The proposal raises many additional questions which are not addressed in the consultation and need to be. These include:

- How would an enhanced WRMP/regional planning process align with EA CAMS/ALS?
- What challenge or appeal process would be available within water company led regional cross/multi sector planning?
- How is an optimal allocation approach defined and who bears the cost of sub-optimal allocation?
- How is a regional plan to be 'approved'?
- What does delivery of a regional plan look like?
- How would differences in outturn from the range of futures assumed for plan purposes be handled?

Whilst water company WRMPs lead to delivery of certain projects (e.g. projects defined in the asset management plan) there are no corresponding asset plans in other sectors and, given their market structures, nor can there be.

It is not clear how reasonable future need could be established especially for long lead time long life infrastructure such as power stations (both for new plant and major investment in existing plant). There is no power sector 'central plan' – the market structure of the sector precludes one. Some possible future power sector paths relevant to water use planning are highly uncertain (e.g. the development of Carbon Capture Usage and Storage (CCUS)).

**Q4. Do you agree that the water resources management planning process should be recognised in legislation as a measure to deliver environmental objectives? Please provide reasons.**

#### *Key points*

- Any legislative change must not distort the principles of water resource allocation.
- The relationship between 'environmental objective' and 'environmental improvement' should be carefully defined.
- The types of environmental objectives which can be addressed through a WRMP should be defined. It is not appropriate that environmental objectives established in, for example, a catchment partnership plan should acquire statutory standing simply through being addressed through a WRMP.
- No more privileged position for water companies should be created than that which follows from their existing statutory duties regarding Public Water Supply.
- The EA, should be the body for resolving conflicts between water users and the environment, rather than water companies.
- The EA should have some involvement from the earliest stages in options appraisal, but this should be limited to that which is consistent with delivery of the EA's wider duties regarding the environment and other users.

#### *Detail*

It is not clear what the recognition in legislation of WRMP as a measure to deliver environmental objectives would mean and how it would work in practice. There is a difference between establishment of an objective and delivery of measures aimed to achieve them. Currently, some relevant environmental objectives are established elsewhere (e.g. in line with WFD RBMP and EA CAMS/ALS) which importantly take into account the balance between the benefits of achievement and the wider environmental (beyond the aquatic environment) and societal consequences. WRMP currently are developed with environmental objectives (as interpreted in the EA CAMS/ALS and Restoring Abstraction Programmes) essentially being a constraint. If WRMP were to be recognised in legislation as measures to deliver environmental objectives it must be ensured that WRMP also are based on or convey the same protection as the EA CAMS/ALS process does for the licences of existing users so as to avoid derogation of them.

Prior to committing to the legislative change, Defra should define the boundaries between WRMP and the EA CAMS and RBMP, including their respective processes leading to the strategies/plans.

Current WRMP are means by which environmental objectives are respected in developing and maintaining the appropriate resource supply demand balance for public water supply. WRMP should not become vehicles for establish new de facto environmental objectives.

We were concerned by the decision in RBMP2 not to make the Program of Measures assumed in establishing the RBMP2 target statutory, as there is a clear risk that the economics of the measures subsequently adopted would be different to those assumed in establishing the target. We see some benefit in ensuring that the measures undertaken are consistent with the plan/strategy in which the objective is established, but suggest that it would be better for this to take place within WFD RBMP, rather than WRMP. Currently, there is a risk that the proposal could duplicate elements of RBMP and introduce inconsistency if they run in a parallel manner.

The proposal opens up several questions not addressed by the consultation document. These include:

- In what ways would the proposal change the way stakeholders engage with the WRMP process and in particular what would the role for the EA be?
- How would the EA's engagement with water companies through WRMP differ from say that with power companies through Environmental Permitting Regulation (EPR) permits?
- What would be the boundaries with EPR permits?

Any legislative change should not distort the principles of water resource allocation by providing a more privileged position for water companies than that which follows from their existing statutory duties regarding Public Water Supply. The EA should be the body for resolving conflicts between water users and the environment, rather than water companies (though they may be informed via engagement in the various processes (RBMP, WRMP and catchment partnerships).

We support Defra's intention to simplify how confidential information is handled before the publication of a plan. We believe that these issues should be identified and solved as early as possible in the development of the plan.

We are also unclear on the relationship between environmental objective and environmental improvement as discussed in this section of the consultation. In some cases, the appropriate measures to be taken to achieve an aquatic environmental objective may both lead to improvement in some aspect of the aquatic environment and adverse consequences for other media or 'tolerable' other adverse consequences for the aquatic environment. For example, for a tower-cooled power station a reduction in gross abstraction for a given net abstraction, thus offering some improvement in water resource aspects, would most likely necessarily be accompanied by an additional use of chemicals within the cooling system to manage scaling risk and would certainly increase the concentration of dissolved salts in the power station discharge resulting in an adverse change in water quality.

Given that catchment partnerships are not necessarily subject to the checks and balances of WFD, it may not always be the case that an environmental improvement listed in a catchment partnership plan should necessarily find its way into a WRMP. It is unclear whether Defra intends for WRMP to be a vehicle to define and deliver environmental improvement beyond that which would follow from the WFD, RBMP and WRA. If this is the case, the wider societal and economic frameworks should be defined in order that the potential for adverse effects on other stakeholders (including other aspects of the environment) can be fully explored and appraised before the measure becomes an element of a statutory plan for delivering environmental objectives. Whilst it makes sense that EA should have some involvement from the earliest stages in options appraisal, any collaboration or joint design involvement

should be limited to that which is consistent with delivery of EA's wider duties regarding the environment and other users.

**Q5. Do you agree with our proposals to improve the legislation governing Water Resources Management Plans? Please provide reasons**

*Key Points*

- Our comments on the proposed substantive changes are detailed in our responses to Q2-4.
- In particular, while recognising the need for multi-sector planning at regional and inter-regional scales, we do not agree that water companies are the appropriate leaders for this work.
- It should not be assumed that there is an individual body which can negotiate on behalf of a sector. Energy UK can provide a streamlined means of two-way engagement with its members but it is not empowered to agree 'trade-offs' between the interests of its members and other parties.

*Detail*

Our response to Q5 should be read also in the light of our responses to Q2-4 which deal with the substance of legislative change in this area. In particular, while recognising the need for multi-sector planning at regional and inter-regional scales, we do not agree that water companies are the appropriate leaders for this work.

We support legislative change where this is necessary to provide mechanisms for more economically efficient approaches to managing water resources. This would provide clarity on the processes, and legal requirements on various actors.

Ensuring that relevant stakeholders are consulted is important. However, it should not be assumed that there is an individual body which can negotiate on behalf of a sector. For example, Energy UK can provide a streamlined means of two-way engagement with its members but it is not empowered to agree 'trade-offs' between the interests of its members and other parties, or between its members.

**Q6. Do you have any further suggestions about how we could improve the primary legislation that governs water resources management planning?**

*Key points*

- The concepts of water 'use' and water rights 'use' should be brought up to date, in legislation if necessary, to reflect modern market operation in the variety of sectors dependent on water and water rights.
- There may be an advantage in putting the relationship between water resource planning, wastewater planning and operation of wastewater systems on a more secure footing in order to deliver a measure of confidence to users and the environment dependent on low river flows.
- All abstraction rights/permits owners (not just water companies) should be provided with the opportunity to innovate and improve the economic efficiency of water use subject to defined environmental protection requirements (e.g. through water sharing agreements, or contracts linked to multi-sector market drivers).

*Detail*

We welcome the proposed removal of time-limitation on abstraction rights (as indicated in the 2017 abstraction plan and confirmed in the stakeholder engagement processes covering transition of abstraction to EPR). We look forward to working with the EA and Defra to develop guidance on how the abstraction review process can work within the EPR framework after transition.

Confidence in reliable access to sufficient quantities of water underpins long-life water dependent infrastructure such as power plants, as uncertainty over a power plants' ability to operate would raise significant doubts over its future revenue streams and the viability of the investment. Thus, removal of the time-limitation could be useful in promoting confidence in these investments. However, we appreciate that some review process is necessary. We were supportive of the idea emerging in the abstraction reform process that that review could be linked to the occurrence of a previously defined water resource position in the catchment, rather than an arbitrary calendar period, as development towards this could be tracked and its triggering predicted. We feel that need and efficient use considerations are likely already to be dealt with through wider BAT and resource use considerations in Industrial Emissions Directive for many water users.

We are concerned that Defra proposals could create uneasy boundaries between water companies as Public Water Supply providers with statutory duties, EA and other water resource users.

We would welcome any legislative changes necessary to allow all (not just water company) abstraction rights/permits owners to innovate to improve the economic efficiency of water use subject to defined environmental protection requirements. This contrasts with the approach implied in the consultation which appears to seek to institutionalize innovation driven only by water companies (which have a mix of public duties and private drivers for return) working jointly with the EA or looking to the EA to further stimulate the limited 'trading' resulting from current legislative arrangements. We would rather see, for example, the promotion of the development of water sharing agreements underpinned by contracts, administered by abstraction rights owners and driven by market approaches (subject to appropriate environmental protection requirements). This may allow a particular set of abstraction rights to underpin multiple operators across multiple sectors, including Public Water Supply providing improved economic efficiency in water use by exploiting fully the ability of the actors to operate within their respective and different markets, managing their opportunity and risk positions.

We also consider that the concepts of 'use' of water and 'use' of water rights should be brought up to date (see also our answer to Q14-17 on 'underuse'), via legislative change if necessary. Access to water underpins the capability of a power station to operate when the system requires. The energy output and associated fuel input may be traded up to 3 years in advance of delivery for a particular future half hour period, providing economic value. This commitment can only be made if the operator is confident that there is no obstacle to generation when the delivery time arrives – including confidence that water will be available. Shorter term market changes closer to the delivery time may mean that, in the event, generation is not required after all and water is not required to be abstracted. However, the advance right to abstract water at that time will have been essential in enabling the operator to make advance commitments to the market, thereby ensuring its liquidity, competitiveness and overall security. If non-intermittent power stations are unable to make commitments to generate in advance, due to a lack of rights to water, then it will be extremely difficult to manage security of supply and maintain cost competitiveness, as the system operator will have no advance knowledge of whether this (otherwise firm) plant could be available if required, solely due to access to water. The ability to operate a thermal power station rapidly in response to market signals allows such a plant to provide security of electricity supply in the national generation portfolio. To deliver that security of supply product on demand requires (i.e. in response to Capacity Market Notices) the ability to generate (and therefore access or "use" water) at all future times since a power sector system stress event could occur at any time. We therefore suggest that the concept of 'use' of an abstraction licence needs to be widened from the historic view of abstraction actually occurring. This would recognise the realities of the operation of today's more flexible market requirements due to the increased mix of thermal and renewable energy sources. There are differences between the economic use of a water right and use of that right to physically abstract water for 'use' within an activity.

The future role promoted by the proposals which positions water companies as being the lead planning organisations, the dominant users and the controllers of storage and strategic transfers, whilst enjoying a core position protected by statutory duties could lead to future investment in water dependent infrastructure by non-Public Water Supplier actors being perceived as significantly riskier.

Finally, we think there may be advantage in putting the relationship between water resource planning, wastewater planning and operation of wastewater systems on a more secure footing (potentially involving new legislation) in order to deliver a measure of confidence to users and the environment dependent on low river flows (see answers to Q 7-11 for details).

**Q7. Do you agree that Drainage and Wastewater Management Plans should be made statutory and produced every five years? Please provide reasons.**

*Key points*

- We agree that making Drainage & Waste Water Management Plans (D&WWMP) statutory would be sounder basis for planning and visibility for all dependent actors.
- We suggest extending the scope D&WWMP to require operators of wastewater networks to ensure minimum discharge contributions to rivers in low flow conditions.

*Detail*

We agree that making D&WWMP statutory would be sounder basis for planning and visibility for all dependent actors. It is likely to provide a better basis for attracting necessary investment. Periodic revision of the plans is appropriate and a timescale offering best fit to other related planning processes is sensible. Whether best fit is to mesh with the current WRMP period of 5 years or to move to consistency with WFD-RBMP of 6 years is a matter of judgement. In making this judgement it would be important to consider how WRMP and regional planning discussed above may best align with WFD-RBMP, given the potentially increasing overlaps with the proposed planning scope changes.

It is evident that wastewater discharge from Sewage Treatment Works (STW) is a significant or even dominant component of low river flows in today's lowland rivers on which water-dependent infrastructure such as power stations and the environment rely. Currently there is no duty of discharge for sewage treatment works. There appears to be limited coupling between the wastewater and water resource supply modelling systems, at least as evident in the recent WRE initiative.

The current review of process in water resource management planning provides a suitable opportunity to provide improved confidence for non PWS water users and the environment by extending the scope of drainage and wastewater plans to require operators of wastewater networks to ensure minimum discharge contributions to rivers in low flow conditions so that the overall available water resource including wastewater derived flow can be optimally managed through the regional and water resource management initiatives considered in Q2-6.

An example of the structure of such a requirement may be that at each CAMS river flow assessment point wastewater operators should be required to arrange for minimum wastewater-derived flow at low flows (e.g. < Q90) of a percentage (e.g. 70%) of the average wastewater contribution in low flows over a preceding assessment period (e.g. the previous 10 years examples of low flows). The minimum wastewater-derived flow should be designed to be <100% to allow wastewater network operators to explore innovation opportunities including wastewater re-use and semi-closed loop approaches to overall water resource management.

**Q8. Who should a water company consult with, and obtain information from in developing their Drainage and Wastewater Management Plans and at what stage in the development of their plans?***Key points*

- Energy UK should be consulted in the first instance.
- Individual power station operators should be given the opportunity to register their interest in D&WWMP consultations and stakeholder activity.

*Details*

Depending on the agreed scope of the D&WWMP, required consultees should include those whose water use may potentially be affected by proposed modification to STW discharges (see Q7,9-11). These should include Energy UK in the first instance. Individual power plant operators should be given the opportunity to register their interest in such plans and hence ensure being alerted to any consultation or stakeholder activity.

**Q9. What, if any, are the lessons we could use from the water resources management planning process in making Drainage and Wastewater Management Plans statutory?****&****Q10. Is the current non-statutory Drainage and Wastewater Management Plan framework clear and complete, and are there any changes/lessons learnt which we should take on board in making the process statutory?***Key points*

- Integration between DWWMP and WRMP is important recognising the important contribution of STW flows to low flows on which users and environment depend.

*Detail*

Integration between DWWMP and WRMP is important recognising the important contribution of STW flows to low flows on which users and environment depend. This coupling requirement may also be relevant at the more strategic level, for example where a major transfer from a water rich area supports a conurbation leading to wastewater discharge which then contributes to river flows and which in turn supports other water users including Public Water Supply either downstream on the receiving water body or after subsequent transfer.

Storage of effluent and semi-closed loop (e.g. enabling direct and indirect water re-use via redirecting discharge upstream of its current discharge location) approaches may also result in useful time-shifting of water resource to more efficiently meet user and environmental needs.

There are also more subtle linkages. Successful water demand management measures may result in reduced STW flows which have consequent effects on the environment and users dependent on them. In some cases where the STW flow was used downstream for Public Water Supply purposes after treatment (i.e. indirect re-use in EU water re-use terminology) the successful demand management measure results in the need for development of a new Public Water Supply source of supply to compensate for the foregone STW derived flow. It may be necessary to take action to protect the river environment if the reduced flows would otherwise compromise environmental targets.

**Q11. Should there be government or regulator oversight in the Drainage and Wastewater Management Plan process and review of plans? What level and type of oversight should this be?**

Given the importance of D&WMP in overall water resource planning in particular with respect to low flows in rivers, there should be a similar level of scrutiny and oversight as for area and regional water resource management plans.

**Q12. Do you agree that the EA should be able to vary or revoke any licence that is causing unsustainable abstraction without paying compensation?**

*Key Points*

- In principle, and if taken at face value, we are content with the proposal that compensation need not be paid in these circumstances (and EIUC not collected) although it is essential that more detail on the definition of 'unsustainable abstraction for this purpose' is provided before we can agree the approach
- Checks and balances should be put in place to ensure that any instance of the proposed use of the curtailment power is well-founded so that the variation mechanism is not merely used 'speculatively' by EA transferring an unreasonable burden of proof to the licence holder

*Detail*

In principle, and if taken at face value, we are content with the proposal that compensation need not be paid in these circumstances (and EIUC not collected) although it is essential that more detail on the definition of 'unsustainable abstraction for this purpose' as described in points 1-4 of pg.23 & 24 of the consultation document is provided before we can support the approach. We discuss our concerns in the answer to Q13.

However, the issue must be considered in more detail in order to avoid unforeseen and potentially detrimental wider consequences. We are concerned that removal of the need for compensation may result in the overuse of the curtailment power, and in combination with the precautionary principle may transfer an unreasonable burden of case making to the licence holder. The case making position for an existing, potentially long-established, licence holder should not be the same as when an applicant is seeking a new licence. Checks and balances should be developed to ensure that any instance of the proposed use of the curtailment power is well-founded with the EA being required to demonstrate reasonable expectation of contribution to damage or risk of damage to prevent the variation mechanism from being used speculatively. The case-making burden that could be transferred to the licence holder is significant especially when being required to prove there is no *potential* to contribute to damage.

The indicated total national potential benefit from this aspect of the proposal of £9Mpa is small compared with the potential loss of societal benefit forgone through additional constraint to a power station operation. It is therefore important to have full regard to the wider societal consequences of acting in this way when the legal framework admits socio-economic consequences as a consideration (i.e. WFD objectives).

**Q13. Do you agree with our proposal to link unsustainable abstraction to various environmental duties as set out in this consultation? If not, how would you determine what constitutes unsustainable abstraction and why?**

*Key Points*

- We request further clarification on the term 'environmental duties'.

- Water resource requirements should be aligned with the statutory RBMP targets even if less than good.
- Curtailment considerations need to take into account costs associated with consequent investment need or operational restrictions including costs to the electricity consumer and consequences for security of supply.

#### *Detail*

We are unclear on what is meant in this question by 'environmental duties'.

Some of our concerns on the determination of 'unsustainable abstraction' are as follows:

- The proposal is not specific in stating how 'unsustainable abstraction' is to be related to p23/4 points 1-4 in the consultation document. More detail is needed.
- Rarely will one specific licence be clearly determined as the sole cause of 'failure to meet a water body objective'. Where failure is due to several pressures it is unclear how apportionment is to be made?
- The water resource requirement for a water body should be in line with the RBMP statutory target for that water body and not that which is necessary to support 'good' if the statutory target is less stringent than good.
- Any improvement trajectory for the water body should have been determined taking into account the costs of curtailment of water resource use necessary to underpin that trajectory. It is not evident to us that this was done in RBMP2 target setting at appropriate spatial scales relevant to power sector interests for measures such as licence variation that would restrict power station operation. Thus, we are uneasy regarding the possible approaches to determining 'potential to cause' failure to meet future environmental objectives in respect of the improvement trajectory (relevant to p 23/4 point 1, WFD). In considering use of curtailment, the EA should take fully into account the costs associated with consequent investment need or operational restrictions including costs to the electricity consumer and consequences for security of supply.
- We are uneasy regarding the burden of proof that may be transferred to the abstractor with regard to each limb of p23/4 1-4 and particularly regarding European Sites should the EA be unable to conclude no adverse effect on integrity, particularly in regard of licences that predate the designation of the Site (see also our answer to Q12).

#### **Q14. Should the EA be able to vary under used licences in the case of unsustainable abstraction to remove the underused portion, with suitable safeguards to protect necessary headroom?**

##### *Key Points*

- Before using curtailment powers, the EA should ensure that, where the relevant environmental objective allow the costs and benefits of achieving it to be taken into account, the costs of any measures or restrictions on power station operation have been taken fully into account when setting the objective.
- If not, it may be more appropriate to re-consider the objective or timescale for the trajectory to achieve the objective.
- The concept of 'water use' must be updated to better reflect modern market conditions leading to separate considerations of the use of a water right and use of water (see Q6).
- There may be more effective ways of promoting economically efficient water and water right use whilst respecting environmental requirements than can be achieved via curtailment for underuse (e.g. use of water and water rights sharing agreements)
- If, nonetheless, a more traditional approach is adopted, Energy UK agrees considerations of headroom and safeguards are vital:
  - They should consider historical operation over multiple market cycles in combination with weather conditions etc recognising that the historical record may not yield the full range of

relevant variability. Hindcast modelling or expert judgement may suggest other potential use quantifications that could have reasonably occurred.

- safeguards should include a future facing component recognising the life cycle of power stations and sites, and the way in which flexible thermal power plant will participate in the future electricity market to provide security of electricity supply and affordable electricity.
- provision of an effective appeals mechanism is a vital element of any 'safeguard' approach
- Careful apportionment of harm and consideration of the activities of all relevant users is important in resolving cases where multiple licences and users together contribute to unsustainable abstraction.
- The provision of an effective appeals mechanism is a vital element of any 'safeguard' approach.

#### *Detail*

We recognise that there must be some mechanism to prevent mis-use of licences which would cause harm and prevent the achievement of economically efficient use of water resource.

Depending on the definition of 'unsustainable abstraction', it may not always be necessary or appropriate to consider licence curtailment. For example, it may not be appropriate if 'unsustainable abstraction' compromises a future improvement trajectory where the trajectory had not taken full account of the economic consequences in its cost benefit appraisal. In this case, it may be more appropriate to re-consider the objective or timescale for the trajectory rather than continuing to regard the abstraction as unsustainable.

The concept of 'underuse' needs to be better defined to reflect modern market reality. We are not convinced that the traditional notions of 'used portion' and 'headroom' remain fit for purpose. These should be updated to reflect updated approaches to 'water right use' and 'water use' as discussed in Q6. It may be preferable to consider and promote other means of improving economic efficiency of water and water right 'use'. Access to water underpins the capability of a power station to operate when the system requires. The energy output and associated fuel input may be traded up to 3 years in advance of delivery for a particular future half hour period, for economic value. This commitment can only be made if the operator is confident that there is no obstacle to generation when the delivery time arrives – including confidence that water will be available. Shorter term market changes closer to the delivery time may mean that, in the event, generation is not required after all and water is not required to be abstracted. However, the advance right to abstract water at that time will have been essential in enabling the operator to make advance commitments to the market, thereby ensuring its liquidity, competitiveness and overall security. If non-intermittent power stations are unable to make commitments to generate in advance, due to a lack of rights to water, then it will be extremely difficult to manage security of supply and maintain cost competitiveness, as the system operator will have no advance knowledge of whether this (otherwise firm) plant could be available if required, solely due to access to water.

However, promoting ways to enable water users to better make contractual arrangements between themselves may be a more effective means of improving economic efficiency of water use (e.g. 'water sharing agreements'). It would be necessary to ensure that the agreement would be such that an appropriate environmental protection 'envelope' would be respected. Such an agreement could allow economically efficient exploitation of one or more licence rights (potentially from multiple sectors) by multiple users across different sectors in a flexible way managed by the users themselves.

In the traditional approach to water 'use', we agree it is necessary to provide sufficient safeguards against economically counter-productive curtailment. The safeguards should clearly look to historical circumstances and data to give some indication of the uncertainty and variability of the use of the right. This historical view should be of sufficient duration to account for the specific circumstances (i.e. multiple market cycles) and weather conditions. This may be at least a decade or two, if available and

relevant. It should not be assumed that the historical record includes all relevant conditions which the licenced activity could and should respond to and either expert judgement or hindcast modelling may suggest other potential 'use' quantifications that could have reasonably occurred under historic conditions.

Safeguards should include a future facing component that recognises the 'life-cycle' of the site especially in the light of potential future circumstances. In some cases, a sector plan may be available to provide some future view. This is not the case for the power sector where the activity at a given location using a licence depends on the decision-making of a specific owner/operator. Often a power station will operate at high load factor early in its life, declining as the plant ages. Subsequently, an operator may choose to refurbish or replace the plant with a new one, resulting in a substantial increased gross and net abstraction compared to the year before this upgrade. Often this complicated through variable and plant outages, but the water right remains an essential pre-requisite to investment in the water-dependent asset. Thus, it is necessary that the right is safeguarded throughout the plant's operational life, and through the period preceding the development and commissioning of the new plant.

Operation in response to system stress events (such as Capacity Market Notices), peak energy demand and in response to periods of low output from variable renewable sources, is likely to mean that flexible plant will continue to use 100% of their short-period (hours, days) licence right on many occasions in any given year. However, it must be noted that the annual gross and net abstraction will vary significantly from year to year. It is important that if licence variation for under use is proposed, the context of the time period in which abstraction occurs should be considered. For example, a power station may operate at 100% load for several days or weeks, and therefore abstract close to the short-term maximum gross and net allowed by the licence, whilst still abstracting well below annual allowances. Careful consideration of the type of variation to be used is therefore necessary in order to obtain the necessary environmental benefit whilst retaining the best economic contribution from the remaining unvaried portion of the right. This is particularly important when considering variations of multiple licences potentially across different sectors.

The provision of an effective appeals mechanism is a vital element of any 'safeguard' approach.

**Q15. Should the Environment Agency also be able to vary under used licences where there is unmet need for additional water in the catchment, to remove the underused portion, with suitable safeguards to protect necessary headroom?**

#### *Key Points*

- This is similar to Q14 and the same points apply on concepts of water use, water rights use and headroom and safeguarding.
- A key difference is that in Q14 the unmet need is the aquatic environment.
- We do not regard EA curtailment of existing licences as necessarily the appropriate way to address the unmet need case where the unmet need is for another user; if this approach is used some appropriate test must be established to determine the validity of the conjectured 'unmet need'.
- Promoting market approaches is likely to be more effective.

#### *Detail*

We regard this as similar to Q14 (with the environment being regarded as the unmet need) but without the same legal imperative to provide for the unmet need for new users or expansions of existing users. The discussion of Q14 on the concept of use and safeguarding applies.

The provision of an effective appeals mechanism is a vital element of any 'safeguard' approach.

We do not regard EA curtailment of existing licences as necessarily the appropriate way to address the unmet need case. If this is nonetheless pursued some appropriate test must be established to determine the validity of the conjectured 'unmet need'.

We feel a market approach is likely to provide the most efficient and effective means of addressing the unmet need issue, since otherwise it may be impossible to establish the validity of the asserted 'unmet need'. It would not be appropriate to curtail the licence of an existing user who was obtaining economic value from the licence rights in favour of another user who then chose not to exploit those rights (or exploited them in a less economically efficient way). Such approaches could include allowing simpler means of acquiring water or water rights portions of licences from existing holders through commercial agreements (either through sale and purchase of rights, leasing of rights or water sharing agreements or linked licences allowing the wider exploitation of existing rights).

**Q16. Should the Environment Agency be able to change any under used licence once necessary headroom is taken into account, irrespective of proportion of under use? If not, what proportion of under use is appropriate?**

*Key Points*

- There should be a minimum threshold for curtailment action in order to avoid the possibility of disproportionate burden on EA and licence holders alike.
- The concepts of 'use' and 'headroom' should be revisited to reflect today's market conditions.
- Energy UK would welcome direct engagement with Defra/EA on determining an approach to changes to licensed quantities and timescales for implementation.
- The provision of an effective appeals mechanism is a vital element of any 'safeguard' approach.

*Detail*

We think there should be a minimum threshold for curtailment action in order to avoid the possibility of disproportionate burden on EA and licence holders alike in dealing with immaterial changes.

As discussed in Q14-15 the concepts of 'use' and 'headroom' should be revisited to ensure appropriate concepts recognising today's market conditions are recognised, understood and used.

The appropriate threshold for action, for an updated concept of 'use' properly established with both an historical and a forward-facing perspective could be determined with respect to the licence quantities, or with respect to the change which is material in the catchment circumstances (e.g. the assessed environmental shortfall).

The equitability of the proposed distribution of EA licence right curtailment between the multiple parties perceived to be contributing to the environmental shortfall which is triggering the need for curtailment should also be considered.

We feel there may also be a role for a maximum proportion of a licence quantity which the EA could curtail in any one curtailment initiative in order that a licence holder should be given time to adjust activity (or acquire rights or water from other sources) in order to provide some business stability. There should be a minimum period between successive curtailment rounds for a given licence holder. Energy UK would welcome direct engagement with Defra or the EA on determining an approach to changes to licensed quantities and timescales for implementation.

The provision of an effective appeals mechanism is a vital element of any 'safeguard' approach.

**Q17. What do you consider is the appropriate length of time for a licence to be under used before the Environment Agency could use this power? Please provide reasons.**

*Key Points*

- the concepts of 'use' and 'headroom' should be revisited to reflect today's market conditions
- Energy UK would welcome direct engagement with Defra/EA on determining an approach to timescales for implementation

*Detail*

As discussed in Q14-15 we are not convinced that the traditional view of 'use' is appropriate in modern market conditions for the power sector. It is important to consider the economic use of a licence other than that which results in actual gross and net abstraction at a given time. Its existence and reliability can contribute importantly to resilience (insurance product) without triggering gross or net abstraction and the ability to generate underpins the futures market in which electricity and fuel are traded multiple times from years ahead down to real time.

Whilst records of historical use and activity can provide some indication of variability and uncertainty in future water use, we regard it as essential to take into account the life and market cycles of the relevant sector and also take into account future facing views. (See Q14-15). However, please also note our concern that actual historic records do not necessarily reflect the full range of conditions that could be experienced.

**Q18. Do you think anything more is needed in primary legislation to deliver the aims of the abstraction plan? Please provide reasons.**

We have discussed possibilities in response to Q6. Some of these may require primary legislation.

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