



Abstraction Reform Team  
Defra  
Area 3B  
Nobel House  
17 Smith Square  
London SW1P 3JR

28 March 2014

Dear Sir/Madam

### **Consultation on reforming the water abstraction management system**

We welcome the opportunity to respond to the abstraction reform consultation. We do so in the context of our statutory duties as the independent economic regulator for England and Wales, including our primary duty to protect current and future customers and the new resilience duty that is proposed in the current Water Bill.

Our environment is facing significant challenges that are putting increasing pressure on our water resources<sup>1</sup>. Climate change is predicted to create more volatile weather, with dryer summers and wetter winters, while forecast population growth will increase the demand for water, particularly in areas like the South East of England where supplies are already significantly constrained.

So we need to ensure we are managing our precious water resources more efficiently to protect future water customers in the long term and support sustainable water environments.

We recognised these challenges when we developed our methodology for the 2014 price review<sup>2</sup>, in which, among other things, we sought to encourage the water sector to respond to the challenges of climate change and population growth and the impacts these drivers have on water resources. The changes included the following.

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<sup>1</sup> See Environment Agency, 2011: [‘The case for change- current and future water availability’](#),

<sup>2</sup> See: [‘Ofwat: Setting price controls for 2015-20: final methodology and expectations for companies’ business plans’](#)

- Improving incentives and arrangements for companies to trade water where it is beneficial to do so – moving water from wetter to drier areas to make the most efficient use of this scarce resource. We have also put in place additional protections for customers and the environment through the use of codes<sup>3</sup> to ensure that trades are economically efficient and do not damage the environment.
- Introducing the abstraction incentive mechanism (AIM). AIM encourages companies to manage their abstractions in a sustainable way during the next price control period by reducing abstraction at environmentally-sensitive sites when water is scarce<sup>4</sup>.
- Moving towards assessing companies' total expenditure or 'totex' to address real or perceived bias towards less sustainable and often environmentally damaging capital expenditure solutions<sup>5</sup>.

Through these new incentive arrangements we have already seen many examples of new, innovative approaches taken by companies in their business plans to address these challenges. This includes proposals for new water trades and more sustainable solutions, all with greater customer support.

There are also mechanisms being developed in legislation to encourage more efficient use of water. The Water Bill which is currently going through the UK Parliament<sup>6</sup> provides greater opportunities for more sustainable use of water within the water sector. For example:

- the widening of retail markets in England in 2017 will drive innovation in water efficiency techniques at customers' sites, as it has done in Scotland<sup>7</sup>; and
- the use of upstream reforms to drive efficiency from increased opportunities for trading water resources. This is recognised by our own work<sup>8</sup>, as well as the work carried out by the Water Resources South East group<sup>9</sup>, Severn Trent Water<sup>10</sup> and the UK Government's impact assessment<sup>11</sup>.

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<sup>3</sup> See: [Ofwat: Trading and procurement codes](#), July 2013. These codes offer environmental protection from water trades. Companies must set out in the code how they will ensure the protection of environmentally sensitive abstraction sites involved in the water trades.

<sup>4</sup> See: [Ofwat: Abstraction incentive mechanism](#)

<sup>5</sup> See: [Ofwat: Cost assessment 2013](#)

<sup>6</sup> See: [Water Bill 2013-14](#)

<sup>7</sup> See: [Competition in the Scottish Water Industry](#) or [Business Stream: Bringing refreshment to the drinks industry](#)

<sup>8</sup> See: [Ofwat: Valuing water](#)

<sup>9</sup> The Water Resources in the South East Group is a group of water companies and others seeking to share new and existing water resources in the most efficient and effective way to maintain security of supply, protect the environment and minimise costs to customers. It carried out joint research to build a least cost optimisation model, which suggested that some £500 million of savings could be achieved in the South East through greater interconnection and trading of water.

<sup>10</sup> See: [Severn Trent: Changing course through water trading](#)

<sup>11</sup> See: [Upstream Competition Impact Assessment](#)

However, even with all these other changes we recognise that abstraction reform is a fundamentally important part of meeting the challenges we are facing and ensuring that we use precious water resources as efficiently as possible for both customers and the environment. Indeed in other parts of the world where these challenges have been met successfully, the reform of water abstraction rights has been a fundamentally important part of that change.

### **We support both options but prefer the ‘Water shares’ option based on current evidence**

We welcome both of the options proposed in the consultation for the reform of the abstraction management system. We consider that both the ‘Current System Plus’ and ‘Water Shares’ options will promote a more efficient system which can respond better and more flexibly than the current arrangements to future uncertainties. We view this flexibility as being key to addressing a greater variability in climate and water availability.

But based on current evidence, our view is that the Water Shares option will most likely provide the greatest protection for customers and the environment in the face of future challenges in England. It offers a more efficient, flexible and dynamic set of arrangements that can deliver the most efficient allocation of water.

We think that the new system should ensure that the price of water reflects its scarcity. For this to be done in a dynamic and responsive manner, a market-led system (such as the Water Shares option) would be preferable. And, under the Water Shares option, abstraction charges will be set by the demand for water in the market, and will reflect the real-time variation in the cost of water. In a less dynamic system, such as Current System Plus, the price for abstracting water would need to be set. This introduces a risk that the price may be set too high (which may block efficient uses of water), or too low (which may result in inefficient or excessive use of water). A more flexible trading system is also better at responding and adapting to short and long term pressures, such as drought or increases in demand, and will offer the greatest environmental and economic protection against them. We consider that the characteristics of the ‘Water Shares’ option are likely to more effectively achieve these benefits. But there is a need for more testing and evidence gathering.

In other countries, an effective trading system has been shown to deliver significant environmental benefits through the ability to reallocate water to better manage water scarcity<sup>12</sup>. Experience in other sectors has also shown that market-led systems yield the greatest economic values through allocating scarce resources most effectively

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<sup>12</sup> See: [Australian Government National Water Commission: The aggregate economic impacts of water trading](#)

and allowing prices to be determined by the users. We have outlined some case studies below.

## Examples of water trading systems



### Water trading in the Murray–Darling Basin, Australia<sup>13</sup>

The Murray–Darling Basin covers one-seventh of the Australian continent, and includes four States. Each State developed a system of water trading, which started in the 1980s with the trading of temporary water allocations (not permanent rights). Trading has redirected water to higher value uses such as horticultural and urban use. As water has a value, farmers can, for example, make trade-offs between growing grass to feed their livestock against the cost of selling water and buying grain for feed instead.

Over the past five years, trades of temporary allocations have amounted to about 900,000 million litres a year. There have been trades of permanent allocations of about 100,000 million litres a year. Estimates from the Australian National Water Commission suggest that water trading in the southern Murray–Darling Basin added \$220 million to the country’s GDP in 2008-09. In June 2010, the National Water Commissioner said that, “water trading is a major success story”, and that, “without the ability to trade water, the impacts of drought in the region would have been much worse – for both individuals and rural communities.”



### Water trading in Colorado – the ‘Big Thomson Project’

The most vibrant water trading arrangement in the United States is the Colorado–Big Thomson project, which transfers water east across the Rocky mountains to supply 30 towns and cities.

Shares are allocated to users, with each share containing 1/310,000th of the water available<sup>14</sup>. The shares are identical in terms of allocation and quantity used. Annual allocations are made and updated periodically – users take the weather risk as each share will increase or decrease in volume depending on the water available in the project.

Commentators have attributed the success of this project to the ease of trading: rights which are clearly and uniformly defined. In addition, trading has now become relatively routine. In the past 20 years, there have been 2,144 water transactions in Colorado, and all participants know how the system works.

<sup>13</sup> See: [Murray Darling Basin Authority](#)

<sup>14</sup> See: [Northern Water](#) and in [C-BTQuota](#)

## **There is a need for more testing and evidence gathering**

It is important that any reforms to the abstraction management system are developed from robust evidence. We consider that more work is needed to understand both options. This includes further work on the cost benefit analysis of both options to understand which option yields the greatest benefits. In particular, we think more work is needed in the following areas to increase our understanding and evidence base to make a fully informed decision.

- All the benefits of both options need to be quantified in the impact assessment as far as possible, including the potential environmental 'externalities' and wider benefits. We think that there is more that could be done to improve the cost benefit analysis in these areas.
- We think the testing or piloting of approaches at a regional level would be a sensible way forward, given the uncertainties and the significant differences in pressures and local circumstances across regions within England and Wales.
- Any changes should be tested with local customers and citizens for acceptability and affordability to ensure that changes maintain the legitimacy of customers and local communities.

Further work will also be needed to develop the detail of how the Water Shares option would operate in practice (for example, the number of reliability classes, limits for the scaling allocations, allocation periods, the systems required).

## **The transition arrangements will need to be carefully handled**

Regardless of the option chosen, a collaborative approach is important in considering measures for moving to a new system. We think that collaboration would be particularly important in the following areas.

**1. The timetable and interactions with other areas:** we think there is a need for greater clarity around the timetable and the interactions with other activities. For example, there may be measures that are taken in the transition to the upstream market arrangements in the Water Bill that could help support the move to a new abstraction system.

It is also important to consider the role of the 2019 price review (PR19) and company investment plans. We will need clarity around the transition timetable as we begin to plan for PR19. Similarly, we also recognise the significance of any new charging framework and would support a phased implementation of any new arrangements. This will also need to be factored into the timetable.

**2. Modelling the impacts of transition of both options on all users:** we would also support further work to model the impacts of transition of both options on all users. Carrying out this work will help to avoid any unintended consequences from, for example, other arrangements or the upstream reforms in the water bill being implemented first. This work should consider possible changes in the behaviour of abstractors in the lead up to key deadlines in the transition programme.

An integrated plan which includes such modelled impacts of transition is needed to avoid unintended consequences. We need to be mindful of current water trading mechanisms and possible disincentives driven by uncertainty around long term abstraction licences, for example we need to ensure that water companies are not discouraged by the abstraction reform proposals and choose to reduce water trades in the lead up to transition.

Experience in Australia has shown that with appropriate conditions in place, the move to a system that facilitates greater trading does not inflict harm on the environment. For instance, hydrological assessments in the Murray Darling Basin have not found any evidence of ecological impact from a change in the timing or location of flows caused by trading.

In this regard, we have been working with Defra and the Environment Agency on adequate protections that we can put in place to protect the environment and water users as we develop the upstream trading arrangements in the Water Bill and abstraction reform. This includes considering the risk of ‘awakening’ sleeper licences.

The protections we are considering include the use of codes and clear requirements for new (licensed) entrants to an upstream market to demonstrate that they are using sources of water sustainably, through collaboration and consultation with the Environment Agency.

**3. Pilot schemes:** pilot schemes (‘pilots’) would help with validating the understanding of the options and the impact of the implementation of the new abstraction system. We recognise that there will be limitations in how far a pilot can go in exercising all the characteristics of the two options (particularly in relation to the use of shares) prior to legislation. However, where feasible, we think there is merit in conducting pilots as soon as possible.

Pilots will provide opportunities to increase our understanding of the costs associated with implementing a new framework, and the interactions between

licence holders within a catchment<sup>15</sup>. Pilots also offer the chance to understand the approaches which can be taken to address regional differences. We recommend pilots are conducted in both England and Wales to reflect the different regulatory arrangements and areas of the water company supply chain that will be open to competition. The most appropriate abstraction management system may differ for catchments England and Wales as a result of regional differences such as this.

In running the pilots it would be best to test characteristics of the new framework through a trial with limited objectives, and within a limited area. The results could then be used to inform and roll out the new system across more catchments as necessary.

For example, the Water Shares option could be piloted in those areas where it could have the greatest impact. With that in mind there is an opportunity to target the pilots on areas included in the AIM from 1 April 2015. These have been identified by both the Environment Agency and water companies as being under environmental stress. They have also already been identified as sites of high need, and would benefit from the introduction of a new, more efficient system as soon as possible.

We note that it is important that consideration is given to how pilots are funded, and that the source of funding is agreed in advance. It is also important to agree an end date for any pilots. Following the end of the pilots, the results can be validated, and any permanent solutions agreed and implemented.

We recommend considering previous studies when developing pilot schemes. This process has been successfully used in catchments abroad to inform new water rights proposals.

For example, a pilot was carried out in the Murray-Darling basin to test the transfer of water entitlements between different Basin States<sup>16</sup>. The final review found that the pilot contributed to the development of the new system, for example by allowing traders to develop experience operating within a new system before it was widely implemented, which could not have been achieved without the pilot scheme. It was also found to contribute knowledge and improvements to the proposed inter-Basin trades. There were additional benefits realised such as streamlining administrative procedures which drove down transaction costs, a recognised benefit to all participants.

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<sup>15</sup> We support the proposal by Southern Water to facilitate a trading platform in a catchment over several months this year. The company will monitor the impact of trades on water availability.

<sup>16</sup> Murray-Darling Basin Ministerial Council conducted a pilot scheme 'Pilot Interstate Water Trading Project' from 1998 to 2006. See: '[An Evaluation of the Interstate Water Trade Pilot Project Final Report, 2006](#)'

**4. Good evidence:** when considering transition it is important to have a good evidence base for determining enhanced catchments and changes to current licences. This may be aided by the data collection and monitoring being carried out by water companies during the 2015 to 2020 period. However, there must also be clear evidence as to the role and impact of other users in a catchment when considering the move to the new system. This is to ensure that all users are affected fairly and consideration is given to the role of notice periods and the impacts on different users.

In our work with Defra, the Environment Agency and stakeholders on the AIM the importance of robust environmental flow indicators and accurate flow measurement has become clear. These issues are also important for the transition to the reformed abstraction system. We think it is important to continue our collaboration on the AIM and to ensure that any links with the abstraction reform work are identified and are taken into account.

**5. We need to be pragmatic in our approach:** Any transitional arrangements will to some extent postpone the realisation of the full benefits of the new system. A pragmatic balance must be struck between avoiding the unintended consequences of rapid changes to the existing abstraction framework, and reaping the benefits that the new system will bring.

We think a collaborative approach in the development of the water abstraction system will result in greater protection for both customers and the environment in facing a challenging future. We look forward to continuing to working closely with Defra, Welsh Government, the Environment Agency and Natural Resources Wales in the future.

We are also responding separately to relevant officials in the Welsh Government.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Andrew Beaver', with a long horizontal line extending to the right.

Andrew Beaver,  
Director of Strategy