CIWEM Chartered Institution of Water and Environmental Management

Policy Position Statement

Planning water resources in England and Wales

Purpose

The purpose of this Policy Position Statement (PPS) is to identify the procedures that apply to the planning, protection, conservation and allocation of water resources in England and Wales. Issues are discussed and proposals made to improve the processes so that a more holistic and sustainable approach is taken which is open and transparent, and encourages public and community involvement and debate.

CIWEM calls for:

1. Government, regulators, water companies and other stakeholders to work together to implement a major programme of public awareness campaigns to encourage a better understanding of the intrinsic value of water resources and methods of water saving.
2. Increased engagement between water customers, companies and regulators to understand how to better work together on making water use more sustainable.
3. Climate change research that specifically addresses the impacts on water resources during drought events and thereby greatly reduces the uncertainty in water resources planning.
4. Prevention of abstraction that has a damaging effect on the environment, by taking remedial action as quickly as possible within the context of a workable and fair funding mechanism.
5. Commitment to the twin-track approach that assesses demand management and new resource options on an equal long run economic basis, taking full cost and benefit account of environmental and social effects.
6. Compulsory household metering in areas where water resources are under stress to the point of full cost/benefit justification, and as soon as practical, alongside improved tariffs and measures to protect those on low incomes.
7. Water efficiency plans that go significantly beyond Ofwat's minimum base service requirements, to the point of full cost/benefit justification, and moving towards Defra's "Future Water" strategy aim of average per capita consumption in a normal year of 130 litres per head per day.
8. Leakage reduction plans that take full account of environmental costs and benefits, and fully achieve sustainable economic levels as quickly as possible.
9. Water companies to further investigate sharing water resources and developing new resources in partnership with others, taking account of all costs and benefits, including those to customers and the environment.

10. An integrated process for the periodic review of water prices, River Basin Management Plans and Water Resources Management Plans to enable a single, holistic approach for water resources that fully incorporates the needs of customers and the environment, as well as costs.
11. Greater clarity in the water resources planning process regarding the responsibilities of, in particular the Environment Agency, Department for Environment Food and Rural Affairs (Defra), Department for Communities and Local Government (DCLG), the Welsh Assembly Government and water companies.
12. Water companies to be made statutory consultees on development plans and planning proposals so that there is a formal interface with governments and planning authorities.
13. The Environment Agency to examine the water supply/demand balance at national and regional levels, using scenario-based long-term planning, looking at least 50 years into the future and taking into account the effects of climate change and population trends.

CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector.

Definitions

'Water resources' are defined here as all naturally occurring and artificially created water bodies for different uses according to purpose.

'Water resources planning' is defined here as the process by which existing water resources are assessed and future water resource needs identified and developed for whatever purpose (e.g. abstraction, transfers, in-river needs etc.)

Context

Water resources are the essence of all life and have been a critical factor in the development of our environment, societies, communities and industries throughout time. Effective planning and management of water resources is essential now and in the future if sustainable development is to be ensured. There are major challenges ahead including: providing adequate water supplies for the projected large growth in population and housing, taking action to make water abstraction more sustainable and compliant with EU legislation, and adapting to and mitigating the effects of climate change which potentially could be very substantial.

Water resources management in England and Wales is governed primarily by the water abstraction and impoundment licensing system (Scotland and Northern Ireland have different regulatory systems). This system was first introduced by the Water Resources Act 1963 and is presently set out mainly in the Water Resources Act 1991, although the Environment Act 1995 and the Water Industry Act 1991 also contain important provisions. The Water Act 2003 made changes to the way the abstraction licensing regime works in England and Wales and will bring previously unregulated abstractions (such as navigation, dewatering, irrigation other than

spray) under licensing control. Also, it has made revisions to the primary duties and powers of the regulators of the water industry and the water environment.

Water companies have a statutory duty to provide household and non-household customers with a reliable supply of water for domestic and business purposes. They must also plan to ensure that they are able to meet the demands that are likely to arise in the future. The Water Act 2003 introduced statutory provisions for water companies to prepare water resources management plans every 5 years. There is a requirement for public consultation on the draft plans so that they are more transparent and give stakeholders the opportunity to contribute to their development.

The need to protect the environment is a vital consideration in the use of existing water resources and in the development of new resources. With this in mind legislation, notably the Wildlife and Countryside Act 1991 (as amended by the Countryside and Rights of Way Act 2000) and the Conservation (Natural Habitats etc.) Regulations 1994, provide protection to Sites of Special Scientific Interest (SSSIs) and implement the EC Habitats Directive of 1992 (Special Areas of Conservation) and the EC Birds Directive (Special Protection Areas). The EU Water Framework Directive, which was published in December 2000, sets a more holistic approach to the management of water resources from both the environmental and the economic perspective. The Natural Environment and Rural Communities Act 2006 introduced a wider biodiversity duty for all involved, including water companies.

The drought across much of Southern England during 2004-06 led to the establishment of the Water Savings Group. The Group brought together key government departments and water industry organisations to collaborate on improving the framework for water efficiency in England. The overarching goal was to reduce per capita consumption in households, and to undertake a concerted package of measures to achieve this common goal. The WSG supported the definition of areas of water stress, the introduction of regulations to permit compulsory metering in areas of serious water stress, the development of the evidence base for water efficiency measures, the setting water efficiency targets for water companies, the introduction of mandatory standards for water efficiency in new homes, and changes to Building Regulations. CIWEM is disappointed that the WSG has been disbanded and the consequent lessening of concerted focus on water efficiency.

In 2008, Defra published the government's national water strategy entitled "Future Water", which describes the actions completed and proposed in the future; it also defined the Government's ambition that average per capita consumption in a normal year be reduced to 130 litres per person-day by the year 2030.

Regulation of water resources planning in England and Wales

The Environment Agency administers the water abstraction and impoundment licensing system, and has a general duty to secure the efficient and proper use of water resources in England and Wales. The Environment Agency also administers the discharge consent system and other controls on point and diffuse sources of pollution through which the quality of both surface water and groundwater resources is largely protected. The statutory nature conservation agencies (Natural England and the Countryside Council for Wales) are responsible for maintaining and enhancing SSSIs, European sites, landscape and delivery of

wider biodiversity. The Agency is responsible for implementation of the Water Framework Directive and produces a range of strategies including its National Water Strategy. A range of other environmental organisations and stakeholders take an active interest in water resources planning as it affects their concerns. For example, British Waterways undertake water resources planning to meet the demands of maintaining navigation across the nation's 2,200 mile waterway network.

The statutory water undertakers in England and Wales each have the duty to maintain and develop an efficient and economical system of water supply in their areas of appointment. They now have a statutory duty to prepare, every 5 years, a water resources management plan showing how it will maintain an adequate balance between supply and demand over the next 25-years. The first plans were published in 2008 (in draft form, for consulation) and in 2009 (in revised form, taking account of representations received). The Environment Agency produces guidance on the information to be included in the plans and reviews their quality and robustness. The Draft Water Resources Maangement Plans must be subjected to public consultation, which has enabled a much more open and transparent water resources planning process.

The Water Services Regulation Authority (Ofwat) provides the economic regulation of those water undertakers and has a duty to ensure that water companies provide domestic and business customers with a good quality service that is good value for money. Every 5 years Ofwat undertakes the price review for the water industry. They request detailed business plans from water companies of the investment and operational requirements, and determine the price limits that water companies may charge their customers. The business plans include proposals to maintain the water supply-demand balance, derived from each water company's water resources management plan. The latest price review took place in 2009 (with draft determinations being made in July, and final determinations in November), with the latter determining the investment schemes to be undertaken on water resources and demand management over the 5 years from 2010 and beyond.

The Secretary of State or, in Wales, the Welsh Assembly Government, is also responsible for the issue of planning policy guidance notes (PPGs), which set the overall context for the regional spatial strategies (RSS) that, in their turn, influence local development plans. Both also determine planning appeals and have the power to call in for their own determination particularly controversial planning applications. 'Planning' encompasses not only housing and industrial development but also new infrastructure development such as reservoir or aqueduct construction.

Key Issues

CIWEM supports the many excellent improvements in water resources planning have occurred in recent years, such as:

- The introduction of public and stakeholder consultation on the development of water resources management plans.
- The greater focus on demand management through customer metering and water efficiency. The work of the Water Savings Group has contributed substantially to this,

and the water companies have proposed significant demand-side measures in the latest water resources management plans.

- The progress made by the Environment Agency in reviewing consents where abstractions are adversely affecting the environment.

However, CIWEM believes there are further challenges that also need to be addressed outlined as follows:

Protecting the environment

Further action may need to be taken where water use from existing water resources has a detrimental impact on the water environment either due to the effects of abstraction, or by 'poor quality' effluent returns and diffuse pollution. The Institution supports the 'polluter pays' principle and measures taken to ensure polluters take responsibility for their actions and restore the natural environment.

The Water Framework Directive

Implementation of this wide-ranging Directive is a challenge that will only succeed if it is recognised by regulators, the public and all other stakeholders as important. The outcome will have a significant impact on the future quality and quantity of water available for abstractors and as such, an implementation time plan and stakeholder engagement process is urgently required.

Investment planning

Achieving a holistic and sustainable approach to water resource planning requires that the development of River Basin Management Plans (under the Water Framework Directive), water resources management plans and business plans for price reviews be linked instead of being separate. In particular, the timetables should be integrated to enable consistent plans to be produced.

Sustainability Reductions

Changes to existing licences to reduce the effect of abstraction on the environment is an important mechanism to achieve long terms goals for sustainability and bio-diversity but the cost-benefit and funding for these changes needs to be clear. In the case of water company licences, it is essential that the Environment Agency and Ofwat agree a joint approach to associated expenditure.

Climate change

The work of the UK Climate Impacts Programme (UKCIP) suggests that future summers could become hotter and drier, while winters will become warmer and wetter, particularly in the south and east of England. It is possible that climate change will have severe effects on surface water flows and groundwater levels, and hence on aquatic ecology, and also upon the demand for water by people and the environment. However, there is extremely large variability in the forecasts of the impacts. Climate change accordingly introduces a source of considerable risk and uncertainty into water resources planning. It bears upon all aspects of the supply-demand

balance, and requires careful analysis of the risks involved, and of the means of dealing with them, alongside those from other sources. It also demands consideration of the levels of service to which security of supply can be maintained, if unacceptable environmental impacts are to be avoided. Targeted research to support effective drought planning and water planning under climate change is urgently needed, to provide better information on what is potentially the biggest risk to water supply reliability in the future.

Carbon targets:

The water industry is a significant energy user and carbon emitter, and whole life carbon accounting will need to become increasingly important in water resource plans and development of new resources.

Demographic changes:

Major house-building programmes over the next 20 years are proposed by the Government. Also, large increases in population and continuing migration towards south-east England are expected. A particular example is the projected increase in housing and population in south-east England where the Government's requirement for new housing to be provided in that region (DCLG's sustainable housing initiative) will place even greater strain on already stretched water resources and sewerage infrastructure.

Higher standards of living:

As customers invest more of their income in their homes and gardens, they may increasingly expect to have an uninterrupted water supply that meets all of their needs, regardless of whether those needs might be viewed as "non-essential" by water resource planners. Demand management strategies are required that minimise these effects and work towards the Government's aspiration to reduce average per capita consumption in a normal year to 130 litres per person-day. There is a need for all quarters of the water industry to promote awareness of the value of water, and of the environmental consequences of high consumption in general, and in times of shortage in particular.

Demand management:

The twin-track approach to water resource planning (water conservation together with new resources) is supported by CIWEM. Demand management measures, including leakage control, have been implemented with considerable success over the past 10 years. Meanwhile, there are demographic trends towards the need for more water (for example regional growth in southeast England) and climate change is affecting demands and resource availability. It should be recognised that further water resource development will be necessary in some cases. While significant progress has already been made in reducing the use of water in commercial and industrial plant, considerable further potential for reducing non-household consumption remains. However, increasing emphasis is needed on the long-term sustainability benefits of demand management within a robust cost-benefit framework that properly rates the (variable) value of water. There is a need for further collaborative policies and studies by regulators and water companies to enable successful implementation of significant further demand management.

Household metering

The extension of household metering results in more customers having direct incentives to conserve water. This is of particular importance for areas of water stress. Household metering is therefore an important enabler for long-term sustainability, particularly in combination with: smarter meters that record more details of consumption patterns, improved tariffs to discourage unnecessary water use, and more informative bills to show customers how they can save water and money. CIWEM believes that compulsory household metering is required in areas of water stress as quickly and as practicable, wherever economic, to maximise the incentives for customers to implement water saving behaviours and measures. Also more research studies are required to improve our understanding of the most effective approaches.

Water efficiency

There have been important improvements in the evidence base for water efficiency and the standards and targets to be achieved by water companies and developers. These efforts need to be sustained. The main further challenge is how best to influence customers to do more to conserve water. This needs to be achieved by a range of initiatives, including major national campaigns to raise the awareness of the true value of water and how to save water. Incentivisation through metering etc. (see above) is critical, as well as establishing widespread appliance labelling, and water efficiency training for plumbers and others who choose the appliances that are fitted in the home.

Leakage

Whilst it is not technically viable, or indeed economically sound, to achieve zero leakage, more needs to be done by some water companies to understand the full benefits as well as costs of leakage reduction, and to achieve economic levels as quickly as possible. The cost-benefit and funding for delivery of leakage reduction needs to be clear so it is essential that the Environment Agency and Ofwat agree a joint approach to such investment.

Supply-side options

As climate change, environmental restoration and other pressures drive the need for more demand savings and more resources, raising dams to store more winter rainfall would be advantageous. The infrastructure is already there, and significant extra storage can often be gained cheaply and with limited environmental impact. This has been done at Ladybower and is proposed for Bewl. Treated effluent can be returned further up the river to augment resources. Much treated effluent is now discharged to sea and is lost, whereas it could be treated further and returned to inland water courses. This can be particularly helpful when it supports the minimum flow of the watercourse, thus allowing extra abstraction further upstream, as Anglian Water have proposed for the Rutland water scheme. Alternatively it can be diluted and pumped to a reservoir, as has been done at the Langford scheme in Essex. Canals can be used to transfer water between catchments, and back pumping the "uphill" locks as has been studied for the Oxford canal to transfer water to the water stressed Thames catchment. These would be cheap to construct and operate but the maximum flow rate during the day would be limited by barge speed, thus limiting transfer capacity. New reservoirs, whilst storing winter runoff, do have large embedded carbon costs. Desalination and effluent reuse

where reverse osmosis is required, are both high energy users and the extra emissions should be carefully considered before proposing them.

Other water use

More attention should be given to planning for other water needs (such as agriculture and navigation), particularly in the context of potential climate change. At present, water resource planning concentrates almost entirely on public water supplies, mainly for domestic consumption. There is a need for increased awareness of the need for and benefits of other water uses, and how best to drive forward efficiency and optimise water use within these sectors. There should be planning on a national and regional scale for meeting all future demands for water, not only public water supply."

Roles: the roles, responsibilities and potential conflicts between the Regulators (Environment Agency, Ofwat, Defra) need to be exposed and resolved in this debate, in particular the conflict regarding the funding and promotion of demand management measures. Whilst many demand management measures can contribute to the long-term sustainable use of water resources, in present economic terms they are often less cost-effective than the alternative of developing new water resources.

Planning process

The planning process, which gives rise to regional, county and local development plans, needs to consider water-related issues at the pre-planning stage and to develop a holistic and sustainable development process. Regional planning bodies and water undertakers need to work in harmony to ensure that investment in water related infrastructure and operations is timely and meets the needs of society and of the environment. Water companies should become statutory consultees on planning proposals so there is a formal interface with planning authorities.

Economic situation

The current economic downturn should be regarded as an opportunity to take a step back and re-evaluate. We would do well to remember to take full account of the needs of the environment when the economy improves, and ensure that we do not return to unsustainable growth at all costs.

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Note: CIWEM Policy Position Statements (PPS) represents the Institution's views on issues at a particular point in time. It is accepted that situations change as research provides new evidence. It should be understood, therefore, that CIWEM PPS's are under constant review and that previously held views may alter and lead to revised PPS's. PPSs are produced as a consensus report and do not represent the view of individual members of CIWEM.