Action taken by Government to encourage the conservation of water

Progress report to Parliament on the steps taken to encourage the conservation of water as required by Section 81 of the Water Act 2003

April 2004 – March 2008

July 2008

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Presented to Parliament by the Secretary of State
for Environment, Food and Rural Affairs
in pursuance of the Water Act 2003
21 July 2008

Ordered by the House of Commons
to be printed on 21 July 2008

HC 891 London: The Stationery Office £13.90

ISBN: 9780102956115

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Foreword

Pressures on our water resources are set to increase. Climate change is expected to bring drier, hotter summers and more intense and sporadic winter rain. Rising temperatures and changing rainfall patterns are likely to change the public demand for water.

Our population is growing, and we need to build more houses in the places where people want to live. The south east and east of England in particular face increasing demand on a finite water supply. The drought of 2004-06 was not a one off; indeed such droughts have occurred on a number of occasions in the past two hundred years and are likely to become more common.

We must find ways of using water much more efficiently and sustainably if we are to meet these challenges whilst continuing to enjoy high standards of water quality and a constant supply. Water efficiency saves not only water but also the energy needed to pump, treat, and often heat it.

I am publishing today, under the provisions of the Water Act 2003, a progress report that outlines the steps Government has taken in the four-year period from 1 April 2004 to 31 March 2008, and some of the steps it plans in the future, to encourage the conservation of water supplies.

In February this year I published *Future Water*, our water strategy for England, which provides a comprehensive plan for water in the future. The main message contained in *Future Water* was that we all need to value water, use it more wisely and play our part in taking responsibility for protecting this essential and unique resource. Today's report sets out the Government's contribution to date and our plans for the future to help achieve this aim.

Hilary Benn
Secretary of State for Environment, Food and Rural Affairs

Executive Summary

1. Section 81 of the Water Act 2003 introduced a duty on the Secretary of State to encourage water conservation. It also placed a duty to report to Parliament, every three years, on the steps taken and on those proposed for the future to further water conservation. This is the first report on that duty and applies to England only.

2. The first report was due to cover the three year period from 1 April 2004 to 31 March 2007. However, the drought of 2004-06, together with the subsequent development with stakeholders of a new water strategy for England, enable us to present a comprehensive report to Parliament, particularly in respect of our future proposals. The first section of this report therefore outlines progress made during the four year period between 1 April 2004 and 31 March 2008. The second section outlines our proposals for the future.

3. It is important to note that other stakeholders have a vital role in promoting water conservation and have made a valuable contribution to date. However, this report only covers the activities which specifically relate to the actions taken by Government, such as the work of the Water Saving Group. Actions taken by others fall outside the scope of this report.

4. The drought in South East England in 2004-06 sharply brought into focus the pressures we know climate change will bring. Pressures on water resources are set to increase. Population growth and changes in household size mean more houses are needed in some areas where abstraction is not currently sustainable.

5. Household water demand has increased since the 1950s, due to population growth and changes in the way we use water in the home, and is now more than half of all public water supply. Although average household consumption has remained relatively stable over this four year reporting period it is worth noting that two of these years were drought years. Although international comparisons are not always straightforward, it appears that the per capita consumption in many other countries in the European Union is already substantially lower than in the UK.

6. *Future Water* sets out the Government's ambition for a reduced per capita consumption of water through cost effective measures, to an average of 130 litres per person per day (l/p/d) by 2030, down from the current 150l/p/d. We hope that developments in new technology and future innovation will improve the cost effectiveness of these measures over time, and that this will drive consumption down further to an average of 120l/p/d by 2030. This can only be achieved if everyone plays their part.

7. We believe that the approach for reducing the demand for water is six fold. We want to see continued reductions in leakage, better building design and more efficient appliances, improved industrial processes, sustained behaviour change and near universal metering in areas of serious water stress by 2030.

8. Encouraging more sustainable water usage is key. During the summer of 2006, the excellent response to the prevailing drought by the public and consumers resulted in a reduction in the demand for water by as much as 15%. One of the ways the Government has been seeking to encourage more sustainable water use is through its Act on CO_2 campaign and through the publication of its framework on pro-environmental behaviours. The Water Saving Group, which was set up in October 2005, is also exploring this further through a workstream lead by the Consumer Council for Water, in close collaboration with Waterwise.

9. During this reporting period household metering has increased from 24% on 1 April 2004 to around 30% on 31 March 2007. Metering gives customers the financial incentive to save water, and can therefore promote water efficiency measures resulting in water saving. On average, households reduce their water consumption by around 10% after a meter is fitted. The Government announced in *Future Water* its plans to commission an independent review to advise on how metering and charging should progress beyond the application that water companies may wish to make in the seriously water stressed areas, including as part of their water resources management plans, as well as looking at charging more generally. The review will look in particular at social, economic and environmental concerns.

10. In this reporting period, total leakage has reduced by 200 million litres per day (around 5%). Since total leakage peaked in 1994/95, it has been reduced by 33% in England and Wales, and leakage rates are now comparable to some of the lowest in Europe. The majority of companies are now at their Economic Level of Leakage. Of the water lost through leakage about one quarter is lost through customers' supply pipes, rather than the water companies' own pipes. New technology and improved management techniques should improve the finding and fixing of leaks in the long term. We therefore expect the level of leakage to continue to reduce over time.

11. Good progress has also been made in relation to homes during this reporting period, not least through the Water Saving Group which has made a significant contribution towards driving greater water efficiency in households. In addition, from 1st April 2008 all social housing funded through the Housing Corporation has to be built to level 3 (105 l/p/d) of the Code for Sustainable Homes. We have also implemented mandatory ratings against the Code for Sustainable Homes for all new build homes from 1st May this year.

12. There have also been some important developments in the industrial and commercial sector including: the publication of the Food Industry Sustainability Strategy in April 2006 and the Sustainable Construction Strategy in June this year; the introduction of the National Industrial Symbiosis Programme; and the continued good work of Envirowise on providing practical water efficiency advice to businesses. The work of the Water Saving Group has also been expanded to review the measures currently in place to promote water efficiency in the industrial and commercial sector and to consider what further actions might be necessary and appropriate.

13. Looking ahead, the Government will continue to focus on the six areas outlined above. Defra will work closely with the European Commission and other EU member states on the follow-up to the July 2007 Communication on Water Scarcity and Droughts and will commission an independent review of charging. The Water Saving Group will also continue to make progress on its revised action plan, as agreed at the November 2007 meeting of the high-level group.

14. With respect to domestic demand, we will amend the Building Regulations to include a requirement for a minimum standard of water efficiency in new homes, in the form of a calculated whole building performance standard set at 125/p/d, by 1 April 2009 and will work to identify measures that could be introduced to improve the water efficiency of existing homes. We will also review the Water Supply (Fittings) Regulations 1999 later this year, with a view to setting new performance standards for key water fittings.

1. Context

Introduction

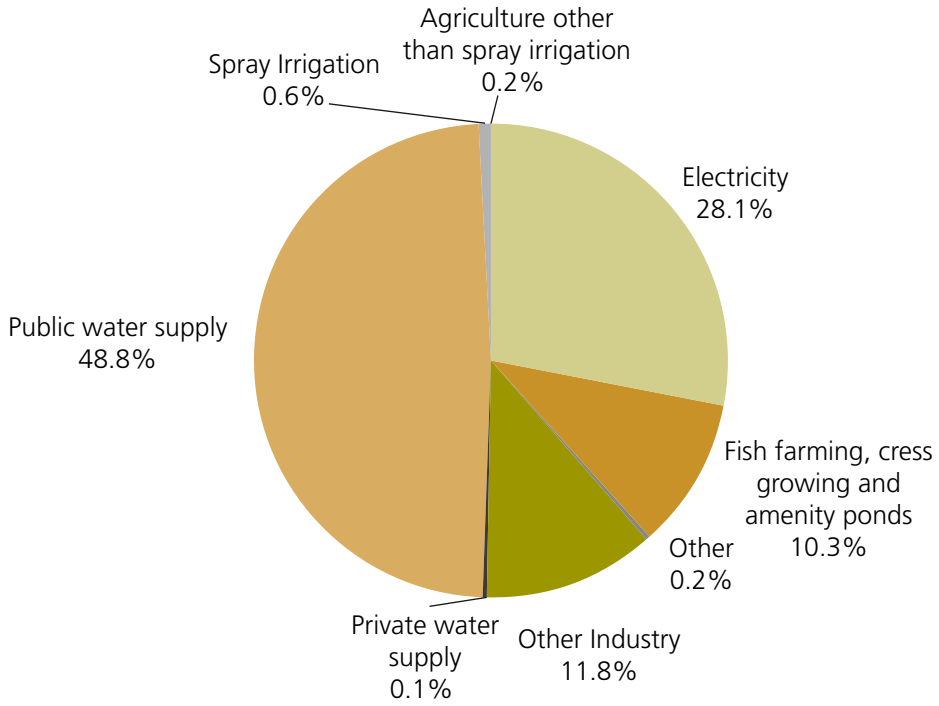
1. Water is commonly seen as an unlimited resource. Even after nearly two years of drought in the South East there was a continuous supply of water from our taps in the summer of 2006. In reality, however, water is limited and public supplies were maintained as a result of some restrictions on non-essential uses and the excellent public response to the situation. Even so, a third dry winter could have caused serious problems in some areas.

2. This introductory section seeks to provide background information on current abstraction trends, household water demand and the current availability of water resources and provides the context for the policies and initiatives outlined in the report.

Abstraction

3. Every year, around 18 billion tonnes of water are taken from our reservoirs, rivers and underground aquifers in England. Of the total licensed abstractions, almost half are put into the public water supply. Electricity generation accounts for a further 28.1%, industry 11.8% and other uses such as fish farming account for the rest. **Figure 1** below sets out the percentage of licensed abstractions for different uses.

Figure 1: Licensed abstractions, England Wales (%)

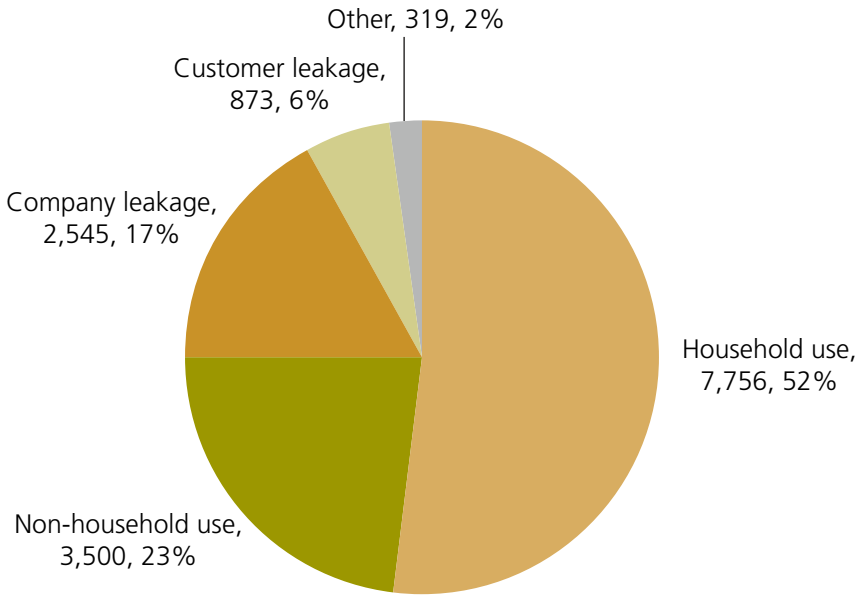


Source: based on Environment Agency 2005 data

Demand

4. Household water demand has increased since the 1950s, due to population growth and changes in the way we use water in the home, and is now more than half of all public water supply. However, over the period since annual reporting began in 1992/93, total supply has remained relatively stable. This is due to reductions in leakage and to the fact that public water supply usage by industrial and commercial sectors has been declining, reflecting in part the changing nature of UK industry.

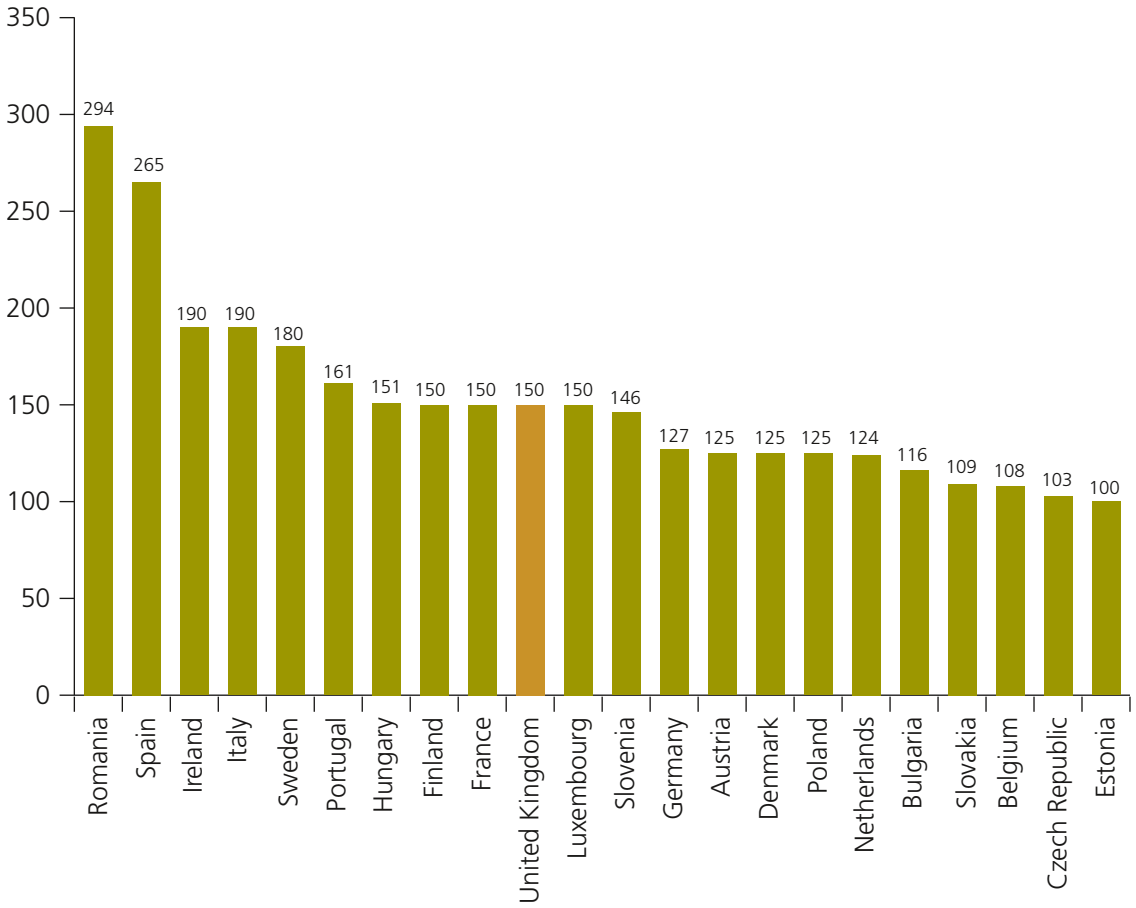
Figure 2: Public water supply, England and Wales (megalitres (Ml) per day, and %)



Source: based on Ofwat 2007 data

5. It is estimated that average water use in England is about 150 l/p/d, equivalent to approximately one tonne of water per person per week. International comparisons are not always straightforward, but it seems many other countries are already using substantially less than this (**Figure 3**).

Figure 3: EU per capita water consumption (l/p/d)

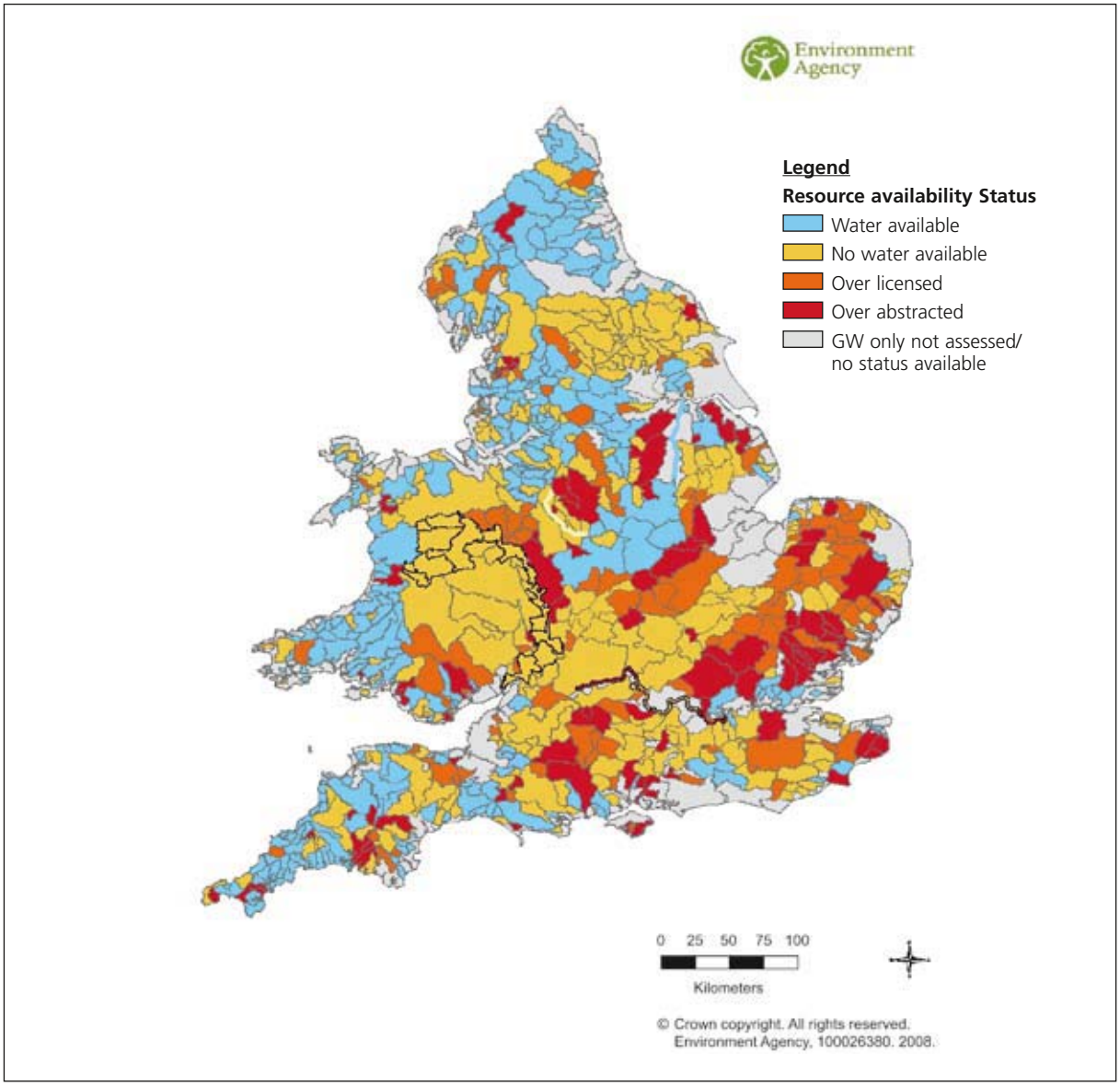


Source: based on Waterwise 2006 data

Water availability

6. In southern and eastern regions of England, where rainfall is comparatively low, per capita consumption tends to be higher than elsewhere. In some areas abstraction is above its sustainable level, and where appropriate, action will be taken by the Environment Agency under its Restoring Sustainable Abstraction programme. **Figure 4** illustrates the latest resource availability status (for both surface water and/or surface water combined with groundwater) which was assessed by the Environment Agency from completed Catchment Abstraction Management Strategies in March 2008.

Figure 4: Resource availability status for units of surface water and/or surface water combined with ground water in completed Catchment Abstraction Management Strategies, March 2008

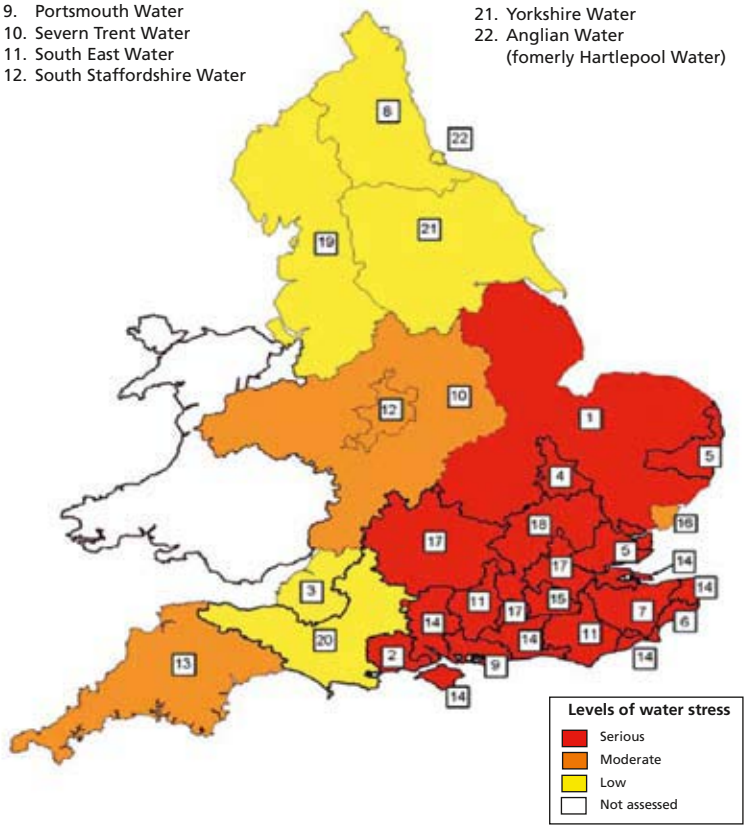


Source: Environment Agency, 2008

7. The Environment Agency has developed a methodology for identifying and classifying relative levels of water stress in water company areas in England for the purposes of metering, using current levels of, and projections for, rainfall and demand (See **Figure 5**). The Government has used this map to designate areas of serious water stress for the purpose of accelerating water metering.

Figure 5: Areas of relative water stress in England

1. Anglian Water
2. Bournemouth and West Hampshire Water
3. Bristol Water
4. Cambridge Water
5. Essex and Suffolk Water
6. Folkstone and Dover Water
7. Mid Kent Water
8. Northumbrian Water
9. Portsmouth Water
10. Severn Trent Water
11. South East Water
12. South Staffordshire Water
13. South West Water
14. Southern Water
15. Sutton and East Surrey Water
16. Tendring Hundred Water
17. Thames Water
18. Three Vallleys Water
19. United Utilities
20. Wessex Water
21. Yorkshire Water
22. Anglian Water (fomerly Hartlepool Water)



Source: Environment Agency 2007

2. Action taken to encourage water conservation

Government policy

1. The Government has adopted a ***twin-track approach*** to water supply and demand. It expects water companies to assess the full range of options for reducing water demand. Where projected demand reductions are insufficient or unjustified in terms of cost, water companies should also progress with the development of new water supply measures, such as reservoirs. Each option has costs, benefits, risks and uncertainties, and each water company needs to find the most suitable and cost-effective balance of measures according to its own circumstances.

2. The same approach also applies to other water users. The projections for demand side measures should be factored into decisions on increasing supplies of water, whether from the mains supply or abstracted directly from the environment.

Future Water

3. The Government published *Future Water*, its new water strategy for England, in February 2008. *Future Water* sets out a high-level vision for the future of the water sector and some of the steps needed to take us there.

4. The vision is one where, by 2030 at the latest, we will have:

- improved the quality of our rivers and lakes and the ecology which they support;
- sustainably managed risks from all types of flooding and coastal erosion;
- ensured a sustainable use of water resources;
- implemented fair, affordable and cost-reflective water charges;
- cut the greenhouse gas emissions associated with cleaning, supplying and using water, and treating and disposing of wastewater; and
- integrated adaptation to climate change and other pressures into all aspects of water policy and management.

5. The overarching message of *Future Water* is the need for everyone to value water and to take responsibility for protecting this unique resource. Water efficiency is a key theme of the strategy, and water efficiency measures will be key to its successful implementation.

6. *Future Water* sets out a broad range of new water efficiency initiatives and outlines some of the actions that will be taken over the next few years to help conserve water. Some of the key water conservation initiatives scheduled for the near future are set out in Section 3. Further details on Future Water, including electronic copies of the strategy, are available from the Defra website[1].

[1] http://www.defra.gov.uk/environment/water/strategy/index.htm

Household behaviour

7. We all need to promote more sustainable behaviours. Government and industry can make it easier to save water and provide incentives, but taking personal responsibility is at the heart of water efficiency. People need clear advice on how to save water, and Government for its part needs to relate this to wider environmental messages to help people understand how their actions can make a difference.

Act on CO_2 campaign

8. One of the ways the Government has been seeking to achieve this is through its Act on CO_2 campaign[2]. The campaign was launched in March 2007 and aims to encourage behaviour change to reduce personal carbon emissions and help people lead a greener lifestyle. Addressing hot water use is part of the campaign, as heating water for use at home is responsible for over 5% of total UK greenhouse gas emissions. Saving hot water therefore has the triple benefit of saving water, energy and money spent on bills.

Framework for pro-environmental behaviours

9. In January 2008 Defra published a framework for pro-environmental behaviours[3], which includes an improved understanding of consumer attitudes and behaviour and the motivations and barriers to individual and community action across a wide range of environmental issues. The framework identifies water efficiency as one of the headline behaviours. This will help link water saving to other behaviours on energy, waste, transport and environmentally friendly products.

Homes and communities

Water Saving Group

10. The Water Saving Group was established in October 2005 to bring together key water industry stakeholders to promote the efficient use of water in households in England. It is chaired by Phil Woolas MP, Minister for the Environment, and comprises representatives from Defra, Business Enterprise Regulation and Reform (BERR), Communities and Local Government (CLG), the Consumer Council for Water (CCWater), the Environment Agency, Ofwat, water companies, Water UK and Waterwise. The overarching aim of the group is to reduce the current level of per capita consumption in households in England.

[2] http://actonco2.direct.gov.uk/index.html
[3] http://www.defra.gov.uk/evidence/social/behaviour/pdf/behaviours-jan08-report.pdf

11. The group's original action plan contained five work streams led by different organisations, with the involvement of all members. Since its establishment, the group has helped drive progress in a number of areas including: the development of a methodology to determine relative levels of water stress and the subsequent publication of water stress maps for the purposes of metering; the introduction of regulations allowing water companies in areas of serious water stress to consider compulsory water metering as part of their water resource management plans; the introduction of voluntary water efficiency targets for water companies; publication of a good practice register of water efficiency projects; and the publication of extensive and valuable research on customer attitudes to water use.

12. In 2007, Ministers announced the group would operate for a further year and members subsequently agreed a revised action plan[4] comprising six workstreams. These are set out below:

1. **Measuring success**: led jointly by the Environment Agency and Ofwat to develop proposals for water efficiency targets to be used in the Periodic Review 2009. Defra also lead on a separate strand of work which involves monitoring the progress/uptake of measures already adopted by the group and setting out the specific contributions from each member towards the group's overarching goal of reducing per capita consumption.
2. **Information gaps, priorities and funding**: led by Waterwise to produce a set of costed scenarios for water company water efficiency programmes based upon best available knowledge, which can be used to inform water companies' business plans and Ofwat's determinations in the Periodic Review 2009.
3. **Best practice in promoting water efficiency**: work led by Ofwat on identifying and sharing best practice in the delivery of water efficiency advice and support and developing incentives to companies for improving the promotion of water efficiency.
4. **Understanding and changing customer perceptions and raising awareness**: led by CCWater, in collaboration with Waterwise, to work with water companies and other members of the group to develop a set of core messages to be used by stakeholders in their own campaigns and to coordinate the development of a long-term national strategy for encouraging lower water use by customers, especially in times of shortage.
5. **Policy and Regulatory Framework**: led by Defra and CLG, this workstream includes working with others to develop standards for rainwater harvesting and grey water reuse, work on labelling, the promotion of water efficiency in new buildings and developments and an examination of the options for improving water efficiency in existing buildings, and the development of standards for key fittings.

[4] http://www.defra.gov.uk/environment/water/conserve/wsg/pdf/wsg-actionplan.pdf

6. **Water industry measures in industry and commerce**: led by Defra, this workstream seeks to review the measures currently in place to promote water efficiency in the industrial and commercial sector and consider what further actions might be necessary and appropriate.

13. CCWater's extensive qualitative and quantitative research on customers' attitudes to water use was published in the 'Use Water Wisely' reports[5], which provide a very comprehensive picture of water customers' views on water use and water efficiency. The findings have informed work in the group's other workstreams.

14. Waterwise has led, working closely with water companies, on the development of an evidence base for water efficiency measures and interventions, where previously none existed or were incomplete. Water companies have undertaken a number of large scale water efficiency pilots which have and will continue to inform this workstream. Waterwise produced an interim report in March 2008, a further report is expected in July and the final version is due in October. The findings from this project will inform activities and initiatives over the next reporting period.

15. Details on the other initiatives by the Water Saving Group are provided in other sections of this report.

Metering in areas of serious water stress

16. Currently about 30% of households in England have a water meter. Metering gives customers a financial incentive to save water and can therefore promote water efficiency measures and water savings. On average, households reduce their water consumption by around 10% after a meter is fitted. It also paves the way for the introduction of tariffs to encourage further water savings.

17. From October 2007, following the agreement of a proposal developed by the Water Saving Group, water companies whose areas have been identified as seriously water stressed have been given extended powers to increase compulsory metering, where metering can be demonstrated to be a cost-effective means of maintaining the supply demand balance within their water resources management plans. We have made appropriate amendments to companies' powers to compulsorily meter customers, governed by Section 144B of the Water Industry Act 1991, through changes to the Water Industry (Prescribed Conditions) Regulations 1999 ('the Prescribed Conditions Regulations 1999').

New buildings

18. Defra and CLG have been working on proposals to make water efficiency standards mandatory in new homes and in respect of the domestic uses of water in non-household buildings. A joint consultation document on proposals for standards of water efficiency in new buildings was published in December 2006[6].

[5] http://www.ccwater.org.uk/upload/doc/summary_report_of_research_findings_and_recommendations.doc.doc
[6] http://www.communities.gov.uk/publications/planningandbuilding/mandatingwaterefficiency

19. As part of the Housing Green Paper package[7], Defra and CLG published a joint policy statement[8] in July 2007 announcing the steps they would take to improve the water efficiency of new homes and the efficiency of domestic water use in workplaces.

20. Several commitments were made in this joint policy statement for action in 2008 and beyond, including amending the Building Regulations to set a whole building performance standard of 125 l/p/d for new homes; revising the Water Supply (Water Fittings) Regulations 1999 with a view to setting new performance standards for key fittings (toilets, urinals, washbasin taps etc); and to conduct research and analysis to see if a whole building performance standard could be used for certain categories of non-domestic buildings.

New Growth Points

21. In October 2006, the Government announced the 29 New Growth Points which have entered into a 'partnership for growth' with Government. Through the New Growth Points initiative, the Government is responding positively to local partners who are keen to pursue sustainable growth, particularly where local partners wish to help strengthen their economic potential and promote large scale regeneration.

22. In return for Growth Points funding, the locations have agreed that development must be guided by challenging environmental conditionality. In the majority of cases, the Growth Points are committed to pursuing a pro-active approach, working closely with the Environment Agency and the relevant water companies, on development and implementation of measures to achieve water conservation and efficiency.

23. Expansion of this programme was first announced in the Housing Green Paper and expressions of interest for additional growth points are now being considered in a cross-government strategic review.

Code for Sustainable Homes

24. The Code for Sustainable Homes[9] was developed to enable a step change in sustainable building practice for new homes. It was prepared by the Government in close consultation with the Building Research Establishment and the Construction Industry Research and Information Association (CIRIA) and through consultation with a Senior Steering Group consisting of Government, industry and NGO representatives.

25. The Code measures the sustainability of a home against design categories, rating the 'whole home' as a complete package. One of the mandatory design categories included in the code is water consumption. The Code is not a statutory requirement in Building Regulations, however all Government funded housing is expected to meet Code Level 3 (105 l/p/d) from 1 April 2008. The water use requirement of Level 1 of the Code (120 l/p/d) will be effectively achieved by the proposed new Buildings Regulations standard of 125 l/p/d which includes an estimation of 5 l/p/d for outside water use.

[7] http://www.communities.gov.uk/publications/housing/homesforfuture
[8] http://www.communities.gov.uk/documents/corporate/pdf/WaterEfficiencyNewBuildings
[9] http://www.planningportal.gov.uk/uploads/code_for_sust_homes.pdf

Planning Policy Statement on climate change

26. The recently published Planning Policy Statement 24 on climate change confirms that there will be situations where it could be appropriate for local planning authorities to expect higher levels of building sustainability than the standards set nationally through Building Regulations. Local requirements should be brought forward through development plan documents and focus on known opportunities. Local planning authorities are expected to demonstrate clearly the local circumstances that warrant and allow such local requirements. These could include, for example, where planned areas of development are located in areas of serious water stress and the envisaged development would be unacceptable without a high standard of water efficiency. Any local requirements should be specified in terms of the achievement of nationally described sustainable buildings standards. In the case of housing, this could be done by expecting proposals to be delivered at a specific level of the Code for Sustainable Homes.

Products

Market Transformation Programme

27. The Market Transformation Programme[10] (MTP) supports Government policy on sustainable products. Product policy is an important aspect of sustainable consumption and production[11], contributing to the UK's Sustainable Development Strategy[12].

28. MTP's aim is to reduce the whole lifecycle impacts of products, through better eco-design. The approach is to communicate and interpret Government policy objectives as a set of specific action plans, looking ahead at least 10 years. MTP also supports policy delivery, in particular, by developing eco-design information (labels) and performance requirements (standards) to encourage product innovation and market competition.

29. For the domestic sector, MTP has for example identified potential water savings of 10% from improving the performance standards of everyday fittings such as taps, baths, showers and WCs.

30. One area where MTP has undertaken extensive work is rainwater harvesting and grey water reuse. Three reports have been published: on recommended water quality standards for rainwater and grey water systems; on the technical and economic feasibility of rainwater and grey water re-use in buildings; and a guide for specifiers. The reports are available from the MTP website.[13]

[10] www.mtprog.com/SelectProductStrategy.aspx?intSelection=7&intSector=6
[11] www.defra.gov.uk/environment/business/scp
[12] www.sustainable-development.gov.uk
[13] http://www.mtprog.com/

Product and service roadmaps

31. Much of the natural resources used, greenhouse gases emitted and waste created can be traced back to the products and services that are bought, used and disposed of by households, businesses and the public sector.

32. Sustainable consumption and production is therefore one of Defra's strategic priorities. As part of this work, in 2007 Defra started to develop ten product and service 'roadmaps' to facilitate a better understanding of both the environmental impacts of a particular product or service and the ways in which these impacts can be mitigated.

33. Evidence indicated that four categories of products and services account for around 80% of environmental impacts and 60% of consumer expenditure[14]. These are food and drink (20-30% of impacts); passenger transport (15-35%); housing, including buildings, construction, and appliances (20-35%); and clothing (5-10%). The products and services selected for road mapping – milk, fish and shellfish, TVs, domestic lighting, commercial motors, plasterboard, windows, WCs, cars, and clothing – come from these four key product groupings and nearly all have a water usage dimension at some point in their life cycle.

Non household water use

Enhanced Capital Allowance scheme for water efficient technologies

34. In 2003, the Government launched the Enhanced Capital Allowance (ECA) scheme for water efficient technologies, modelled on the ECA scheme for energy saving investments to provide accelerated tax relief to businesses investing in designated sustainable water technologies.

35. All businesses that pay UK corporation or income tax, and have sufficient profits for the allowance to be written off against, can claim the allowance when purchasing any of the designated water technologies listed on the ECA website[15]. The site contains details of the technologies, qualifying criteria and the products that meet the criteria.

36. By investing in these technologies, businesses can reduce their water consumption by using water more efficiently and thereby reducing their water bills. The scheme not only provides a financial incentive for businesses to invest in sustainable water technologies, but also encourages innovation for the development of more environmentally beneficial technologies.

[14] 'Environmental impact of products (EIPRO): Analysis of the life cycle environmental impacts related to the final consumption of the EU-25', May 2006 http://ec.europa.eu/environment/ipp/pdf/eipro_report.pdf
[15] www.eca-water.gov.uk

Envirowise

37. The Envirowise programme[16] launched in 1994 has provided practical advice to businesses on different aspects of resource efficiency, including water minimisation, which has directly resulted in savings through reduced water and effluent costs for the industry. Envirowise has also engaged with businesses on specific initiatives. For example, it is collaborating with Severn Trent Water to support its key business customers in assessing their water use and identifying changes that will enable them to use water more efficiently. Envirowise has also managed Defra's Enhanced Capital Allowance scheme to support businesses investing in water efficient technologies.

38. The programme impact assessments for 2004 and 2005 show the programme has helped save businesses £220 million per year in reduced water and effluent costs.

National Industrial Symbiosis Programme

39. The Government's National Industrial Symbiosis Programme[17] (NISP) launched in July 2005 matches operators' waste resources, including water, with the raw material needs of other operators. This helps recover value from resources that would otherwise be wasted, and generates new business opportunities. The programme has estimated that so far over 2.5 million tonnes of mains water have been saved.

Schools

40. Government has set an aim for all schools to become Sustainable Schools by 2020. The Department for Children, Schools and Families (DCSF) launched the Sustainable Schools Framework in 2006, which identifies eight doorways through which schools may choose to initiate or extend their sustainable school activity. One of the doorways is 'energy and water' and the Government recommends that by 2020 all schools are models of energy efficiency, renewable energy use and water management. In respect of water, this can be achieved by installing water efficient equipment, collecting/using rainwater and by monitoring their consumption. This has educational benefits and helps schools save water and money on bills.

41. In April 2007 DCSF set out in an Action Plan what it would do to help schools and local authorities meet the challenge of the Sustainable Schools strategy. This is now a delivery plan underpinning the DCSF Sustainable Development Plan: Brighter Futures – Greener Lives. The Sustainable Schools strategy recognises the importance of award schemes such as Eco-Schools, an international environmental education programme run by the Foundation for Environmental Education that guides schools on their sustainable journey, and part-funded the development of guidance on the sustainable management of water in schools which was published by CIRIA in 2007.

[16] www.envirowise.gov.uk
[17] www.nisp.org.uk

Food Industry Sustainability Strategy

42. The Food Industry Sustainability Strategy (FISS) was published in April 2006 with the aim of improving the food industry's environmental, social and economic performance through encouraging the widespread adoption of best practice by the industry. It also challenges the food industry to reduce its current levels of water demand, at all stages of the supply chain.

43. An industry-led FISS Champions' Group on Water was set up to consider this water reduction challenge. In addition, the Group has considered the issues of data availability, monitoring, key performance indicators, best practice, innovation in water efficiency and how barriers to progress might best be removed. The Group developed recommendations on how the food industry might contribute to reducing its water use in collaboration with Government, best practice organisations and other stakeholders.

44. The Group's full report[18] was published in May 2006, and was followed by a 12-week review exercise with stakeholders on how best to take forward environmental and ethical trading actions arising from the FISS. A progress report[19] was published in July 2007.

45. In response to the FISS challenge of an overall water reduction target of 20% by 2020 against a 2007 baseline, the Food and Drink Federation responded with a partnership initiative to reduce water consumption in line with this target. The Food and Drink Federation will work in partnership with Envirowise who will provide technical advice and report on water consumption.

Farming for the Future

46. Defra set up a new Farming for the Future Programme in spring 2007. The Programme is designed to complement the Government's Sustainable Farming and Food Strategy and is aimed at delivering the behaviour change necessary to realise the vision for the English farming sector that:

- is valued for the quality, safety and environmental and animal welfare standards of the food and other products it makes; in other words, profitable and competitive domestically and internationally;
- works together collaboratively to meet the challenges it faces, and which manages risks;
- embraces its environmental responsibilities – tackling climate change, managing water, air and soil – and sees them as essential to its long term economic success, rather than a threat to it; and
- is, above all, innovative, self reliant, successful, and confident about its future and which expresses that confidence outwardly.

[18] http://www.defra.gov.uk/farm/policy/sustain/fiss/pdf/fiss2006.pdf
[19] http://www.defra.gov.uk/farm/policy/sustain/fiss/pdf/progress-report-2007.pdf

Government estate

Government sustainability targets

47. In June 2006 the Prime Minister and Secretary of State for Environment, Food and Rural Affairs, announced a new set of sustainable operations targets for the Government Estate. These include specific commitments to reduce water consumption on the Government estate:

- by 25% on the office and non-office estate by 2020, relative to 2004/2005 levels, and;
- to an average of 3m^3 per person/year for all new office builds or major office refurbishments.

48. The last report on departmental performance against targets, produced by the independent watchdog the Sustainable Development Commission (SDC), was in March 2007. The report highlighted the need for further progress in some Government departments.

49. In March 2007, the Government presented a package of actions within the Sustainable Procurement Action Plan to deliver the step change needed to ensure that supply chains and public services will be increasingly low carbon, low waste and water efficient, respect biodiversity and deliver our wider sustainable development goals.

Water supply

Water resources management plans

50. On 1 April 2007, water undertakers were placed under a new duty to prepare, maintain and consult on water resources management plans to build upon existing plans that companies had been required to produce following the drought in 1997. Each water company in England will produce a plan that sets out how demands for, and availability of, water are expected to change over the period 2010-2035, taking into account, for example, new growth and climate change.

Demonstration of efficiency on renewal of abstraction licence

51. The Environment Agency has been developing guidance for licence holders to meet the requirement to demonstrate efficient use of water at licence renewal. The Time Limiting Abstraction Consultation document issued in October 2005 outlined its proposal to ask licence holders where there is greatest risk to the environment, to carry out water audits. It is proposed that an audit will be in proportion to the risk posed to the environment and will record details of water use and identify particular actions that licence holders can undertake. In some circumstances less onerous information may be required (e.g. evidence of good housekeeping and maintenance measures as indicators of efficient use of water).

Water industry

52. Water companies have a statutory duty to promote the efficient use of water. All companies offer water efficient devices either free of charge or at a subsidised rate, including cistern displacement devices, water butts, trigger hose attachments, domestic/commercial water audits and in most cases free supply pipe repair/replacement. In addition, all water companies have water saving information on their websites, along with information in bills and literature. These are not covered in detail in this report, but Ofwat reports annually on the level of activity undertaken as part of its regulatory function.

Review of leakage reduction targets

53. Leakage reduction targets are set based on the Economic Level of Leakage (ELL), the level at which the cost to water companies, and subsequently to consumers, of further reducing leakage exceeds the cost of producing water from an alternative source. In 2006, Ministers expressed a concern that the approach to setting ELL did not take proper account of all the costs and benefits, including social and environmental ones. In addition, some water companies were making changes to the methodology used to calculate leakage, undermining public confidence in leakage reporting.

54. A joint review led by Ofwat, with Defra, the Environment Agency, the National Assembly for Wales, and CCWater, was set up in 2006, to ensure that the data and methodology to calculate ELL continue to be fit for purpose. The leakage methodology review was divided into three projects, focusing on variation in per capita consumption estimates, environmental and social costs, and alternative approaches to leakage targets setting.

55. The final reports, available on the Ofwat website[20], were published in November 2007. The final outputs provided recommendations on technical improvements to the calculation of per capita consumption estimates and best practice guidance to water companies on how to assess environmental and social costs in their leakage target calculations. Water companies are now expected to update their methodologies to take account of these recommendations.

Water efficiency targets

56. In August 2007 Ofwat published voluntary water efficiency targets for water companies in England and Wales for the years 2008/09 and 2009/10. Since then, as part of its work for the Water Saving Group, Ofwat has developed a more refined methodology with input from all stakeholders. The water efficiency targets build on water companies' existing duty to promote the efficient use of water to their customers.

[20] http://www.ofwat.gov.uk/aptrix/ofwat/publish.nsf/Content/leakage_methodology_review221107

Good practice register

57. In 2006 Ofwat developed a good practice register[21] which provides a checklist of water efficiency options which water companies should consider when planning their water efficiency activities. The register is a live document which will be updated as new information, techniques or experience become available.

[21] http://www.ofwat.gov.uk/aptrix/ofwat/publish.nsf/AttachmentsByTitle/goodpracticeregister_2007.pdf/$FILE/goodpracticeregister_2007.pdf

3. Forward look

1. This report covers the period between 1 April 2004 and 31 March 2008. Where possible, as part of our forward look, we have provided a brief update on any policies or initiatives implemented after March 2008 and before the publication of this document. These of course will be reported in more detail in the next progress report to Parliament.

Government policy

Household behaviour

2. Following publication of its framework on pro-environmental behaviours the Government is developing plans for a series of behaviour change campaigns aimed at helping people to live more sustainably. These will be focussed on the main impact areas of homes, shopping and travel, and on actions which the large majority of people can practically undertake, backed by the unifying 'Act on CO_2' brand. Whilst an immediate focus of the campaigns is expected to be on saving energy in the home and installing insulation, longer term plans include a focus on water saving (and especially heated water) later in the CSR period. Further details will be published in due course, but we would expect to involve major stakeholders with an interest in water and energy saving in the design and implementation of the campaign.

Homes and communities

Water consumption ambition

3. *Future Water* announced an ambition for a reduced per capita consumption of water, through cost effective measures, to an average of 130 l/p/d by 2030, down from the current 150 l/p/d. We hope that developments in new technology and future innovation will improve the cost-effectiveness of these measures over time, and that this can drive consumption down further to an average of 120 l/p/d by 2030.

Water Saving Group

4. The Water Saving Group will continue to progress work in its revised action plan agreed in the November 2007 meeting of the high-level group. Ofwat published its consultation on its proposals for water efficiency targets in June[22] and the final version of Waterwise's Evidence Base project is expected in October.

Metering

5. The previous section outlined the new powers given to water companies to compulsorily meter in areas of serious water stress. There is now a good case for examining the costs and benefits of metering and appropriate tariffs outside areas of serious water stress, in the context of a wider review of charging that will look at issues of efficiency and fairness.

[22] http://www.ofwat.gov.uk/aptrix/ofwat/publish.nsf/AttachmentsByTitle/pap_con_watefftar200608.pdf/$FILE/pap_con_watefftar200608.pdf

6. We are currently commissioning an independent review to provide further advice on metering and charging, as announced in our strategy *Future Water*. The review will advise on how metering and charging should progress beyond the application that water companies may wish to make in their seriously water stressed areas, including as part of their water resources management plans, as well as looking at charging more generally. The review will look in particular at social, economic and environmental concerns.

New buildings

7. Government will amend the Building Regulations to include a requirement for a minimum standard of water efficiency in new homes, in the form of a calculated whole building performance standard set at 125 l/p/d. This will ensure that all new homes have fittings with a good standard of water efficiency, while retaining flexibility in the way overall performance is achieved.

8. New requirements on water efficiency will be introduced into Building Regulations at the same time as changes to improve the safety of hot water systems and to update the supporting technical guidance. CLG launched a consultation in May 2008 setting out proposed changes to the requirements of Part G (Hygiene) of the Building Regulations[23]. New technical guidance will be available from October 2008 and the new requirements will come into force in April 2009.

9. In addition, since April 2008 all social housing funded through the Housing Corporation has had to be built to level 3 (105 l/p/d) of the Code for Sustainable Homes. Government implemented mandatory ratings against the Code for Sustainable for Homes for all new build homes from 1st May 2008.

Existing homes

10. Defra, CLG, the Environment Agency and others are working to identify measures that could be introduced to achieve substantial improvements in the water efficiency of existing homes. We are reviewing evidence to identify the most effective measures, overcome barriers to their adoption, and assess the costs and benefits of implementation programmes, as well as learning lessons from programmes to improve the energy efficiency of the existing housing stock.

Green Homes Service

11. In April 2008 the Energy Saving Trust launched the new Green Homes Service to help people move towards a more sustainable lifestyle. This service will be rolled out via a network of advice centres throughout the country, providing advice on water efficiency as well as energy efficiency, micro generation, waste reduction, recycling and greener travel options.[24]

[23] http://www.communities.gov.uk/documents/planningandbuilding/pdf/partgconsultation.pdf
[24] http://www.energysavingtrust.org.uk/help_and_support/green_homes_service

Eco-towns

12. Government has announced that high standards of environmental sustainability will be demonstrated in response to climate change through the development of up to ten eco-towns of between 5,000 and 20,000 homes. In April 2008 CLG announced for further consultation[25] a shortlist of 15 locations with potential to go forward as eco-towns. The consultation document sets out the high standards that will be expected for managing water and water efficiency in eco-towns.

13. Following this consultation and a second stage of consultation over the summer, CLG expect to publish the final shortlist of locations with potential to be an eco-town towards the end of the year. Individual schemes will then need to come forward with planning applications.

14. As part of the work on the practical implementation of the eco-town criteria, CLG are working with the Town & Country Planning Association, and as part of this have produced with the Environment Agency a water cycle worksheet[26] which makes recommendations about how eco-towns can be exemplars in sustainable water management.

Thames Gateway

15. A report was produced by the Environment Agency, CLG and Defra and launched at the Thames Gateway Forum in November 2007, setting out the feasibility of achieving water neutrality in the Thames Gateway. This would mean the total water used after new development would be equal or less than the total water use in the Gateway before the development. The outcome of the study was published in November 2007 with a commitment to further work to explore how moving towards a water neutral Thames Gateway could be made a reality, including the development of a costed delivery plan.

Other exemplar developments

16. In addition to the work on the Thames Gateway and Eco-towns we are committed to developing further exemplar projects. The 9,500-home new town development at Northstowe in Cambridgeshire will be planned as an exemplar development of sustainability to include best practice in waste and water management. Northstowe is seeking to achieve between 33% and 50% reductions in mains water use by inclusion of water efficiency best practice and rainwater harvesting systems.

[25] http://www.communities.gov.uk/publications/housing/ecotownsgreenerfuture
[26] http://www.tcpa.org.uk/ecotowns/20080325_ET_WS_Water.pdf

17. The new buildings and developments required for the Olympic Games will provide an excellent opportunity to showcase sustainable design. The recently published Legacy Action Plan[27] for the 2012 Games confirms that permanent venues in the Olympic Park are being designed to use 40% less potable water than current industry standards. The target for the athletes village, which will be converted into homes after 2012, is to reduce water consumption by 20% compared to the London average. Further reductions are being pursued to meet Level 4 of the Code for Sustainable Homes. This will be achieved through the installation of water saving technologies, including low-flush toilets, flow restrictor taps, low flow showers and leak detection systems.

Products

Review of Water Supply (Fittings) Regulations 1999

18. To improve the water efficiency of products, Defra will review the Water Supply (Water Fittings) Regulations 1999 later this year. The review will also consider enforcement issues, advances in technical standards and water conservation, and the case for setting new performance standards for key water fittings.

Product and service roadmaps

19. Defra are currently developing a WC roadmap, which will look at the water consumed by the current stock of WCs and ways in which water consumption can be reduced. The roadmap will also consider the impacts of the materials used and ultimately disposed of in the manufacturing and replacement of parts during its life cycle. Defra has commissioned research to provide an evidence base on the range of environmental impacts of the WC across the life cycle of the product and potential interventions to improve environmental performance. This is due to be published this summer and will inform the future work of the roadmap.

Product information and labelling

20. Government will continue to work with the European Commission and other Member States on standards and labelling proposals, including establishing minimum water efficiency standards for products such as dishwashers and washing machines, via the Framework Directive for the Eco-design for Energy Using Products[28]. Defra will encourage the Commission to do the same for other water using products under its wider proposals for eco-design requirements under the Integrated Product Policy Framework. Defra will also explore how to work with retailers and whole supply chains to encourage the purchase of such products.

[27] http://www.culture.gov.uk/images/publications/2012LegacyActionPlan.pdf
[28] http://ec.europa.eu/enterprise/eco_design/index_en.htm

Non household water use

21. As part of the Water Saving Group, Defra are undertaking a review of the measures currently in place to promote water efficiency in the industrial and commercial sector. The review will consider what further actions might be necessary and appropriate and will be complete later in 2008. CLG has commissioned work to explore the scope for developing water efficiency performance standards for non domestic buildings and services (this excludes water for industrial purposes). The outputs from this work, alongside other evidence, will be considered in the following months in order to propose a way forward.

Enhanced Capital Allowance scheme for water efficient technologies

22. There are currently 1549 products included in the scheme. During the last couple of years the number of accepted products has increased fourfold, offering businesses even more choice of equipment and suppliers. Later this year additional efficient wastewater recovery and reuse technologies will be added to the Water Technology List.

Sustainable Construction Strategy

23. Following the Review of Sustainable Construction in 2006, a consultation on the draft Sustainable Construction Strategy[29] was launched in July 2007 and a consultation response published in February 2008. The strategy is a joint Government and construction industry initiative which:

- sets out the key Government and industry commitments and targets relevant to sustainable construction;
- demonstrates joint commitment by Government and industry to a step change in performance on sustainability over the years ahead;
- will be monitored and refreshed as the industry develops.

24. The Sustainable Construction Strategy's development has been coordinated by BERR, however construction activity cuts across governmental boundaries. In recognition of this, the strategy was co-authored by several other departments, including CLG, Defra, the Office of Government Commerce and the Department for Culture, Media and Sport. Industry input was channelled through the Strategic Forum for Construction and the consultation process which included over 25 workshops from across the country. The final strategy[30] was published in June 2008.

25. As part of the strategy, SummitSkills, industry, CLG and Defra will take forward work on the development of codes and standards for the training of plumbers on the installation of water efficiency systems and on the development of training programmes for Facilities Managers and plumbers on the need for, and operation of water efficient buildings.

[29] http://www.berr.gov.uk/consultations/page40642.html
[30] http://www.berr.gov.uk/files/file46535.pdf

Guidance for healthcare facilities

26. Later in 2008 the Department of Health will be producing new best practice guidance on water management and water efficiency for the healthcare sector. Its principal remit will be to encourage the efficient management of water and to promote the economic and environmental benefits of doing so.

Farming for the Future

27. In April 2008, Defra established a small team to lead a new project on agriculture's role in adapting to climate change. Its work will include building a better understanding of the key impacts of climate change on the sector, both positive (opportunities) and negative (risks), and how the sector needs to adapt in order to remain environmentally and economically sustainable. The project will also consider how agriculture can contribute to managing and minimising the broader impacts of climate change on land, ecosystems, biodiversity and society as a whole, for example by conserving and creating habitats to allow wildlife species to respond positively to climate change, by contributing to flood management measures, or managing water supplies.

Government estate

28. Government is committed to improving the sustainability of its buildings – the new Defra offices in York and Alnwick are integrating rainwater harvesting systems to use in flushing urinals and toilets, as well as installing water efficient fittings. Government will continue to review the Sustainable Procurement Action Plan to ensure that supply chains and public services will be increasingly low carbon, low waste and water efficient, respect biodiversity and deliver our wider sustainable development goals.

Government procurement

29. Defra will promote water efficiency in central Government procurement. The EU Green Public Procurement toolkit is currently being evaluated with a view to using its specifications in future central Government procurement. The 'Buy Sustainable – Quick Wins' were updated in June 2008. The quick wins are specifically designed for procurers and are a set of sustainable specifications for a range of commonly purchased products. The updated version now includes a wider range of water efficient products that are recommended as best practice specifications.

Water supply

Water resources management plans

30. Companies are currently consulting on their draft water resources management plans, which will be finalised in 2009. The plans are the mechanism by which the water companies can translate policy changes discussed above into revisions to predictions of future demand. The plans are reviewed annually and prepared quinquenially, allowing them to be refined to account for new policy on water conservation matters.

31. Ministers have powers to direct changes to water resources management plans. Directions might be used, for example, where plans have too little emphasis on managing demand rather than increasing supply.

Demonstration of efficiency on renewal of abstraction license

32. In general the responses to the Time Limiting Abstraction Consultation document issued in October 2005 by the Environment Agency supported the use of audits to demonstrate efficient use of water. Work has since been ongoing to develop the principles on which these audits will be based and specific guidance for license holders is being prepared for release later in 2008.

National Policy Statement on Water

33. Ministers will also be able to set out their views on the level of demand management and proposed resources development in the National Policy Statement for Water, under powers contained in the Planning Bill introduced into Parliament in 2007.

Guidance on the new water conservation duties of the Water Act 2003

Section 82 – requirements on relevant undertakers

34. This is a new duty which requires the Secretary of State, Ofwat and water undertakers to further water conservation when considering proposals relating to their functions. It adds to water undertakers duties to maintain an efficient water supply and to promote the efficient use of water.

35. The requirement of this duty has been highlighted in the draft Social and Environmental Guidance to Ofwat that was issued for consultation in February 2008. The Government's response to this consultation was issued in June 2008[31]. Defra will be working with stakeholders to produce non-statutory guidance, which will highlight examples of best practice in established areas to encourage better performance. Defra aims to publish the Section 82 Guidance in 2008.

Section 83 – water conservation by public authorities

36. This duty requires all public authorities to take into account the desirability of conserving water supplied to premises. It applies to both actual use and where the functions of the public authority may have an impact on water use. It is intended to ensure that water conservation is considered in development of policies/activities.

37. Defra will be working with stakeholders to produce non-statutory guidance to public authorities. The guidance will aim to outline the range of existing programmes (such as the Framework for Sustainable Development on the Government Estate, Key Performance Indicators for Local Authorities on water use), highlight best practice

[31] http://www.defra.gov.uk/environment/water/industry/review/pdf/ofwat-socenv-guidance-0806.pdf

examples within different premises (e.g. schools, hospitals) and aim to explain how water conservation could be taken into account within their functions (e.g. planning, procurement). Defra aims to publish the Section 83 guidance in 2008.

European Commission's Communication on water scarcity and droughts

38. In July 2007, the European Commission published a Communication on Water Scarcity and Droughts[32]. This presents an initial range of policy options to address the issues of water scarcity (as a long term issue) and drought (as an intermittent event) throughout the European Union. Both issues have affected, and will continue to affect, most Member States. It aims to start a debate on how to adapt to these issues in the context of climate change.

39. The Communication concludes that no specific legislation is needed on the subject of water scarcity and droughts, but identifies a range of further measures to encourage demand management. It identifies seven broad policy areas where actions may be considered:

- Putting the right price tag on water;
- Allocating water and water-related funding more efficiently;
- Improving drought risk management;
- Considering additional water supply infrastructure;
- Fostering water efficient technologies and practices;
- Fostering the emergence of a water-saving culture in Europe and;
- Improve knowledge and data collection.

40. Defra and the devolved administrations broadly support the Communication's aims, and agree with the Commission that there is no need for further EU legislation to deal with either water scarcity or droughts. The water company drought and water resources planning regimes in England and Wales mean we are well placed to take forward any national actions or requirements under the Communication.

Water industry

Water service companies

41. As announced in *Future Water* we are currently exploring the scope for water companies to extend their focus from being providers of basic water services to becoming water service companies – providers of water efficiency goods and services. This follows the concept of energy service companies, which provide customers with a combination of energy saving advice and equipment, renewable generation, planned maintenance, fuel and finance as well as electricity and gas. The Cave Review[33] is also considering this issue in the context of competition and innovation in water markets.

[32] http://ec.europa.eu/environment/water/quantity/scarcity_en.htm
[33] http://www.defra.gov.uk/environment/water/industry/cavereview/index.htm

Review of leakage methodology

42. The leakage methodology review identified a frontier approach as the most promising alternative to targets set solely on the economic level of leakage. Ofwat, together with the Environment Agency, commissioned WRc in December 2007 to carry out work to investigate this approach to target setting, which could drive efficiency in leakage management. Ofwat will publish the final report later this year.

Water efficiency targets for 2010-15

43. Ofwat and the Environment Agency have been working with other WSG members and a small group of water company representatives to develop proposals for water efficiency targets, which will take effect in the period covered by the Periodic Review 2009. Ofwat launched a consultation on these proposals in June 2008[34], with a final decision on targets for the next periodic review (2010/11 – 2014/15) due in autumn 2008.

44. With a refined proposal in place, Ofwat now intends to compare companies' water efficiency performance in 2007/08 and 2008/09 with the new proposals, and to implement the new targets on a trial basis in 2009/10. This will replace the voluntary targets set out last year.

45. Government will consider whether some form of water efficiency obligation on the water industry is required in light of the experience of Ofwat's targets.

Revenue corrected price mechanism

46. Ofwat have also announced the introduction a new price control mechanism which will correct for any water company revenue over-or under-recovery at each price review. Ofwat will use the mechanism for the first time at the 2014 Periodic Review for the years between 2010 and 2015. The mechanism will remove both the current scope for companies to outperform or under perform on revenue and the disincentive for companies to promote water efficiency to measured customers.

Printed in the UK by The Stationery Office Limited
on behalf of the Controller of Her Majesty's Stationery Office
ID5843032 07/08

Printed on Paper containing 75% recycled fibre content minimum.

[34] http://www.ofwat.gov.uk/aptrix/ofwat/publish.nsf/AttachmentsByTitle/pap_con_watefftar200608.pdf/$FILE/pap_con_watefftar200608.pdf

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17 Smith Square
London SW1P 3JR

www.defra.gov.uk

PB13136

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ISBN 978-0-10-295611-5
9 780102 956115