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Flood and Water Management Bill

Impact Assessment - Water Usage (Temporary Control) Measures

Last updated: 27 January 2010

Summary: Intervention & Options

Department /Agency: Department for Environment, Food and Rural Affairs	Title: Impact Assessment of Water Usage (Temporary Control) Measures	
Stage: Report	Version: 15	Date: 27/01/10
Related Publications: Consultation document on proposed changes to powers to restrict non-essential uses of water and Summary of responses to the consultation.		

Available to view or download at:

<http://defra.gov.uk/environment/water/resources/drought/index.htm#consultation>

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What is the problem under consideration? Why is government intervention necessary?

During a drought there is a need to conserve water for the public water supply during the early stages of the drought; to mitigate adverse environmental impacts, to avert or delay the need to use drought order powers and, ultimately, avoiding the use of emergency drought order powers. Enhanced water conservation at an early stage by water companies can avoid or defer the need to place more stringent restrictions on business through Drought Order powers (such as preventing them using water or taking water from the environment). Climate change scenarios' forecast hotter, drier summers and more frequent droughts, and therefore an increased risk of restrictions that have a high cost for the environment and businesses. Government intervention is needed to amend the current drought response framework to allow water companies to better conserve water at an earlier stage without the long administrative process associated with Drought Orders.

What are the policy objectives and the intended effects?

Following the 2007 consultation which set out the proposals for modernisation of the powers, Ministers agreed the need to widen the scope of the existing hosepipe ban powers to provide water companies with a new discretionary use ban power that would enable them to realise more water savings at an earlier stage through constraining demand when water resources are in short supply. The policy objective is to increase the flexibility to reduce demand for water that water companies have under their own powers by providing a wider range of uses that can be banned, rather than to rely on powers conferred upon them through drought orders made by the Secretary of State. The proposed new powers extend the range of restrictions on uses that a water company can impose under their powers with minimal lead-in time and therefore, to conserve more water earlier than is currently possible.

What policy options have been considered? Please justify any preferred option.

1. The current regulatory framework – new uses of water that cannot currently be restricted would be introduced in a new Drought Direction and would be available to water companies through Drought Order powers.
2. Modernisation of water company powers by enabling the Secretary of State to extend, by Order, the range of restrictions or uses water companies could impose under their own powers to enable them to provide a timely response in a drought situation.
3. Modernisation of water companies' powers by extending the list of water uses that can be restricted in times of water shortage.

Option 3 is the preferred Option. In 2007, following public consultation, Ministers agreed the need to modernise the powers available to water companies to restrict water use during a drought, by widening the scope of the existing hosepipe ban powers, to enable the greater conservation of water at an earlier stage of a drought.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects? The costs and benefits and achievement of objectives will be reviewed following a drought of sufficient severity to have justified exercise of the powers and particular focus will be given the the impact on costs and benefits of the uses of water that have been added to the list that water companies may restrict..

Ministerial Sign-off For final proposal/implementation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister:

.....Date:

Summary: Analysis & Evidence

Policy Option: Modernisation of powers.	Description: Expanded range of discretionary water uses which can be restricted or prohibited when supplies are at risk.
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COSTS	ANNUAL COSTS		Description and scale of key monetised costs by 'main affected groups' none
	One-off (Transition)	Yrs	
	£		
	Average Annual Cost (excluding one-off)		
	£		
Total Cost (PV)			£
<p>Other key non-monetised costs by 'main affected groups' It is expected that the main directly affected group would be domestic customers who would be impacted in terms of loss of amenity and inconvenience. A wider range of (largely small) businesses (eg those that service and maintain domestic swimming pools, window cleaners that clean windows of domestic buildings using water fed poles) could be affected, possibly sooner, in a water shortage than under the current regulatory framework of (hosepipe ban + drought order) and may suffer significant impacts including financial loss.</p>			

BENEFITS	ANNUAL BENEFITS		Description and scale of key monetised benefits by 'main affected groups' none.
	One-off	Yrs	
	£		
	Average Annual Benefit (excluding one-off)		
	£		
Total Benefit (PV)			£
<p>Other key non-monetised benefits by 'main affected groups' Water companies would be able to introduce effective demand control measures more quickly and easily than through existing drought orders. Wider powers might avoid or defer the need for further, more restrictive measures that have a greater impact on businesses, by allowing more significant water savings at an earlier stage. The new powers would protect the environment by conserving existing supplies.</p>			

Key Assumptions/Sensitivities/Risks : Greatest impact, in terms of numbers affected would be felt by domestic customers, but where businesses are affected these are likely to be small businesses. A wider range of businesses could be affected by any proposed powers, but water companies can use the discretion contained in the powers to provide concessions/exceptions to minimise hardship.

Price Base Year	Time Period Years	Net Benefit Range (NPV) £	NET BENEFIT (NPV Best estimate) £
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What is the geographic coverage of the policy/option?		England and Wales			
On what date will the policy be implemented?		Royal Assent			
Which organisation(s) will enforce the policy?		Water Companies			
What is the total annual cost of enforcement for these organisations?		£ nil			
Does enforcement comply with Hampton principles?		Yes			
Will implementation go beyond minimum EU requirements?		N/A			
What is the value of the proposed offsetting measure per year?		£ none			
What is the value of changes in greenhouse gas emissions?		£ negligible /+ve			
Will the proposal have a significant impact on competition?		No			
Annual cost (£-£) per organisation (excluding one-off)		Micro n/a	Small n/a	Medium n/a	Large n/a
Are any of these organisations exempt?		No	No	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices)

(Increase - Decrease)

Increase of £

Decrease of £

Net Impact £ nil

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

The Problem to be Addressed

During the 2004-06 drought in south-east England the limited scope of the current hosepipe ban powers¹, which applies only to the watering of private gardens and the washing of private motor cars, gave rise to a good deal of public criticism. The focus of the powers was seen as unfair and unreasonable by water companies' customers, for example, in preventing garden watering with a hosepipe whilst the filling of private swimming pools by hosepipe could continue.

In light of the 2004-06 drought and the likely implications of climate change on water supply, Defra Ministers undertook to review the scope of the legislative framework relating to hosepipe bans. **The scope of the current hosepipe ban limits the ability of water companies to realise water savings at an earlier stage through constraining demand, particularly from the domestic sector.**

Climate change scenarios forecast hotter, drier summers and more frequent droughts. Historic information on droughts shows that as well as the recent 2004-06 drought, there have been 4 other major multi-year droughts that have occurred over the last century, occurring in:

1921/22, 1933/34, 1975/76 and 1990/92.

This information suggests that such a multi-year drought would occur once in every 20 years. Such a drought could pan out as follows; dry summer, dry winter and dry, very hot summer affecting all of the country (1975/76 drought). This prolonged shortage of rain would put a severe strain on existing water resources, which would require the implementation of restrictions on water use to conserve water supplies and protect the environment.

Drought planning needs to evolve to meet the challenges of climate change and in particular, more frequent droughts. The challenges are:

- to protect the environment from the adverse effects of drought which can result in low river flows and strained groundwater sources by conserving water resources at times of shortage;
- protect water resources and the environment at times of shortage to enable the water companies to continue to abstract from the environment the water they need to fulfil their statutory duty to supply water for essential health –related domestic uses².
- to remove or delay the use of more stringent demand management controls, particularly drought order powers with the consequent impacts and costs to consumers and business and, ultimately, avoiding the use of emergency drought order powers. Emergency drought orders can authorise water supply to be cut and the use of stand pipes; emergency drought orders are seen by Government to be a wholly unacceptable measure.

In March 2007 Defra and the Welsh Assembly Government issued a public consultation which outlined Government's proposals for modernising the scope of

¹ Existing provisions are in Section 76, Water Industry Act 1991. Powers have not been updated since they were originally enacted in 1945.

² Section 218, Water Industry Act 1991 (as amended): water used for drinking, cooking, washing, central heating or sanitary purposes

the hosepipe ban legislation. The Government's response to the consultation was published in October 2007³ and set out the intention to give water companies greater powers to conserve water in the early stages of a drought through extending those non-essential domestic uses of water that could be restricted. **This Impact Assessment therefore sets out options for, and impacts of, the implementation of that decision.**

All references to the statutory powers of the Secretary of State also apply to the Welsh Ministers. The functions exercisable by the Secretary of State in respect of water undertakers whose areas are wholly or mainly in Wales are exercisable by the Welsh Ministers.

The Government proposals extend the scope of the existing hosepipe ban restrictions considerably and have been broadly welcomed. The consultation and the Government's response are published on the Defra website and can be accessed at: <http://defra.gov.uk/environment/water/resources/drought/index.htm#consultation>

Outline of Options

Option 1 – Baseline – Increased water savings through Drought Order⁴ powers

The existing framework to manage the impact of drought through restricting or banning non-essential uses of water is via hosepipe ban powers (exercised by water companies) and non-essential use drought order powers (exercised by the Secretary of State).

Hosepipe bans enable water companies to restrict or prohibit the watering of private gardens and the washing of private motor vehicles.

Non-essential use drought orders allow water companies to choose a range of uses of water from the current 1991 Drought Direction. The range of uses of water that can be restricted or prohibited under the current regulatory framework is outlined at Annex A.

Under Drought Order powers, water companies are required to make the case to Ministers and if objections are received to the published notice advertising the order, the drought order application is normally considered by an Inspector at a hearing before a decision is made and the drought order granted. Once the Drought Order is granted by Ministers, water companies are given the power to implement the Drought Order, enabling them to ban some or all of the uses of water provided for in the Drought Direction.

The Drought Direction 1991 is amended to meet changing needs, and under this option it is assumed that in a future drought it would be amended to include the new water uses, outlined in the Government's 2007 consultation, that cannot currently be banned under the current regulatory framework

- operating domestic water slides or other recreational equipment and for children's play;

³ Defra and Welsh Assembly Government's consultation on proposed changes to powers to restrict non-essential uses of water, published March 2007. Summary of responses to the consultation, between 23 March and 15 June 2007, on proposed changes to powers to restrict non-essential uses of water, published October 2007.

⁴ All references to Drought Orders are to non-essential use orders made under Section 73, Water Resources Act 1991, unless specified.

- cleaning patios, drives, paths and other hard standings;
- filling domestic hot tubs and similar bathing facilities, whether by hosepipe or by permanent plumbing.

Option 2 - Modernisation of the powers available to water companies by enabling the Secretary of State to extend, by Order, the range of restrictions or uses water companies could impose under their own powers.

Option 2 would provide a power to enable the Government to add to the range of non essential uses of water that could be prohibited and give water companies greater scope to restrict or prohibit discretionary uses of water at an earlier stage, than through a Drought Order, under their own powers. In broad terms the proposals for modernising the hosepipe ban powers will allow the Government:

- on the basis of further work to identify the costs and benefits , to expand , through an Order, the range of discretionary uses of water which water companies may restrict or prohibit at an early stage during a drought to reflect contemporary water use practice. There are more intensive uses of water, particularly in the domestic sector, than there were decades ago when these powers were introduced. It is these uses of water that any proposed powers expect to capture;
- clarify for water companies and other stakeholders the flexibility available for the exercise of these powers to reduce demand for water. The updated powers will enable water companies to make exceptions to the general prohibitions where they consider that appropriate, enabling them to tailor a proportionate response to the levels of shortage.

The widened powers are referred to in the Impact Assessment as the new discretionary use ban powers.

The widened powers would continue to prohibit:

- washing of private motor vehicles by individuals and businesses;
- watering of private gardens.

Under this option, further work will identify the non essential uses it might be beneficial to control. However, for the purpose of illustration for this impact assessment we have reviewed the range of non essential uses, as outlined in Government's 2007 consultation and response³. The new powers could be used to extend the definition of the watering of gardens, beyond private gardens, to cover parks, lawns, grass verges, landscaped areas and other cultivated green spaces, and gardens that are open to the public for viewing. These can all be restricted under current drought order powers.

In addition, the following uses of water by hosepipe or similar apparatus could be brought into the scope of the new discretionary use ban powers, where further analysis demonstrates that to do so would deliver a net benefit. Under Option 1 these already are, or could be, listed under a Drought Direction and could be restricted under Drought Order powers

- washing privately-owned boats, other vessels and watercraft not used for business or commercial purposes
- cleaning the external surfaces of domestic buildings, including windows

- filling domestic ponds, other than fish ponds
- operating ornamental fountains and cascades
- filling domestic swimming pools & paddling pools, whether by hosepipe or by permanent plumbing.
- operating domestic water slides or other recreational equipment and for children's play
- cleaning patios, drives, paths and other hard standings
- filling domestic hot tubs and similar bathing facilities, whether by hosepipe or by permanent plumbing.

It is the use of water that is restricted; the powers do not differentiate between the "users". Businesses are caught by the restrictions where they provide a service to the domestic sector, such as a business that washes or valets privately owned boats.

Option 3 - Modernisation of the powers available to water companies by extending the range of restrictions or uses water companies could impose under their own powers.

Option 3 has been introduced as a concession following debate at Committee stage and would add, on the face of the Bill, additional non essential uses of water that could be prohibited at times of water shortage. This would give water companies greater scope to restrict or prohibit discretionary uses of water at an earlier stage, than through a Drought Order, under their own powers.

Under this option, the new powers would allow water companies to prohibit:

- a) Watering a garden using a hosepipe,
- b) Watering plants on domestic or other non-commercial premises using a hosepipe,
- c) Cleaning a private motor-vehicle using a hosepipe,
- d) Cleaning a private leisure boat using a hosepipe,
- e) Filling or maintaining a domestic swimming or paddling pool,
- f) Drawing water, using a hosepipe, for domestic recreational use,
- g) Filling or maintaining a domestic pond using a hosepipe,
- h) Filling or maintaining an ornamental fountain,
- i) Cleaning walls or windows of domestic premises using a hosepipe,
- j) Cleaning paths or patios using a hosepipe,
- k) Cleaning other artificial outdoor surfaces using a hosepipe.

The updated powers would also clarify for water companies and other stakeholders the flexibility available for the exercise of these powers to reduce demand for water.

The updated powers will enable water companies to make exceptions to the general prohibitions where they consider that appropriate, enabling them to tailor a proportionate response to the levels of shortage. A further amendment will enable Ministers to remove uses from the list that may be banned should evidence show it were appropriate to do so.

Some identified risks could worsen if the powers were not modernised in this way:

- powers to constrain discretionary uses of water become increasingly inadequate as the anticipated incidence of droughts rises; therefore
- enhanced threat to water companies' ability to fulfil their water supply duties² for fundamental public health purposes; and therefore
- greater likelihood of reliance having to be placed on the use of further drought order powers to restrict or prohibit non-essential uses of water that would impact further on the commercial sector and, ultimately, emergency drought order powers to authorise supply restrictions. Supply restrictions are rightly seen as a wholly unacceptable measure

Evidence is not yet available to demonstrate a positive cost benefit analysis in respect of each use added to the list. Therefore this option introduces a risk that water undertakers could ban uses of water that do not deliver water savings in a cost effective way. However, we expect the risk to be low. Water companies must act reasonably and proportionately in implementing restrictions, and the process for introducing a ban enables customers to draw to their attention any unforeseen impacts and for the water company to consider whether to modify the restrictions. A further amendment to the clause will allow Ministers to remove uses from the list if evidence subsequently shows it is appropriate to do so.

Response to the Consultation exercise

A total of 71 responses were received on the hosepipe bans section of the Floods and Water Management Bill consultation. These comprised: 10 water companies and the industry body, Water UK, 30 Local Authorities (including fire authorities) 11 NGO's, 7 Professional/Trade Associations, the Environment Agency, Natural England, 4 individuals and community groups, The Society of British Water & Wastewater Industries, 3 Academic, Consultants and Research Organisations, 1 from a private company and 1 response from the Insurance Industry.

Respondents were generally supportive of the need to be able to conserve water through these measures and welcomed the further work that would be undertaken in support of specific measures to be included in an Order under the proposed power.

No respondents were able to provide any evidence of the cost of inconvenience of water restrictions, although, at a high level, water companies do consider the cost of restrictions when developing their levels of service.

Many respondents (34%) considered the cost of inconvenience to householders to be low or unquantifiable, or offset by the benefit of avoiding the impacts that might

follow if restrictions were not put in place (such as more severe restrictions or impacts on the environment). An additional 25% responded that the cost of inconvenience was “irrelevant” at a time of water shortage.

Whilst it was pointed out that customers value unrestricted supply, the Consumer Council for Water also noted that their research showed customers were not willing to pay more to avoid specific measures such as hosepipe bans and were willing to change behaviour to manage water in a drought.

Many respondents recognised that further work would be needed to understand the cost of inconvenience to customers and to gather evidence to support a cost benefit analysis.

The Preferred Option

Option 3 - the modernisation of the powers available to water companies by extending the range of restrictions or uses water companies could impose under their own powers – is the preferred option.

During the passage of the Bill through Parliament an opposition amendment was tabled to place, on the face of the Bill the uses of water that could be restricted in times of water shortage. The list contained broadly the same uses of water as those that Government identified in its response to the 2007 consultation exercise on modernisation of the hosepipe ban powers and agreed across Government.

In developing this impact assessment we found very little information to support an analysis of the costs and water savings (benefits) of the preferred option. Such information that has been identified relating to the reported costs and water savings of drought orders contains the cumulative impact of water savings from publicity measures and the current hosepipe ban powers. The consultation on the draft Bill sought further evidence on this issue but, whilst there was significant support for the need to conserve water using these measures, consultees were unable to provide evidence of the costs and benefits of the measures.

Adding these uses to the face of the Bill would enable water companies to react more flexibly to the need to conserve water early on in a drought, modernising the powers to recognise changing patterns of water use and addressing issues of perceived inequity for water customers in the existing hosepipe ban powers. Once the powers are used, there will be much richer evidence to support their use.

An order making power (s76(3)) enables the Minister to add to the list of uses using secondary legislation and will be amended to also enable the Minister to delete uses of water from this list should evidence suggest it is appropriate to do so. In addition at s76A(3) the Minister has a power to constrain the scope of the prohibition.

The new powers will be discretionary so that water companies will have the option to restrict or prohibit the water uses in the widened scope of powers, but no obligation to use the powers.

The new widened powers, like the existing hosepipe ban powers, could only be implemented when the water company concerned is satisfied that there is a serious deficiency of water available for distribution, or that one is threatened.

Most of the classes of restriction are available to water companies already through drought orders – this measure is intended to allow water companies to include them in a discretionary use ban and effect changes in demand at an earlier stage.

Costs and Benefits of Preferred Option

Benefits

- **Greater conservation of water**

Current Drought Order powers include domestic water-using activities – which it is proposed, should all be brought forward into the new powers, and commercial water-using activities – most of which are not expected to be brought forward.

The planned water savings from proposed Drought Orders, provided in the 2006 Drought Order application documentation from Sutton & East Surrey Water, Mid Kent Water, Southern Water and Thames Water, range from 1.5% - 7% of water demand. The simple average of the assumed water savings provided by water companies is 4.4%. This is on top of the water savings achieved by a hosepipe ban (all assume that this saves 10% of demand - which is the Environment Agency planning guideline for a period of peak water supply).

The relative contribution of the various classes of a non-essential use Drought Order (figures taken from Thames Water 2006 Drought Order application.)⁵

Water Use	%
Mechanical car wash	33.4
Irrigation sports grounds including race courses	25.6
Pools in complexes	8.9
Auto cistern flushing	4.1
Washing rolling stock	3.8
Swimming pools	3.2
Industrial cleaning buildings	0.1
Cleaning windows	4
Private car washing	0.8
Private pools	3.2
Irrigation lawns	1
Irrigation parks	11.7
Irrigation gardens	0.2
Fountains	negligible
	100%
Approximate % would apply to new powers	17%

The uses of water that are shown in bold in the above table, are those that would be included in the extended range of uses that water companies could ban under their own powers. Using the figures provided in the table, these uses of water represent approximately 17% of the Drought Order's total planned or projected savings.

It is possible that companies are conservative in planning assumptions and that actual water savings achieved are higher than this, e.g. in excess of 4.4% for a full Drought Order. We have

⁵ Percentages from Figure 2-1, p34, Appendix IV, Thames Water Utilities Limited Ordinary Drought Order – London Application, Statement of Reasons, June 2006.

little evidence of actual demand savings as Sutton and East Surrey Water was the only water company to implement its Drought Order powers during the 2004-06 drought, and then not to the full extent possible. The outcome depends on how the customer base responds to the water resource situation and the publicity for the need to conserve water.

The reported evidence of demand savings from water companies during the 2004-06 drought is for cumulative water savings from (publicity + hosepipe ban + drought order).

- **Delay or avoidance of the need for more stringent drought management controls**

The aim of widening the scope of the existing hosepipe ban legislation is to increase water conservation earlier on in a drought, to delay or avert the use of more stringent drought management controls, particularly drought permits and orders.

Drought Permits, handled by the Environment Agency and Environmental Drought Orders, on which decisions are made by the Secretary of State, can alter or suspend restrictions on existing abstractions and authorise new abstractions. These powers allow additional water to be taken from an already 'water stressed' environment, and avoiding these measures helps to conserve water in rivers and groundwater and to reduce the impact that drought can have on the environment.

- **Delay or avoidance of significant costs to domestic customers and businesses**

It is proposed that the domestic restrictions in the Drought Order would be brought forward into the new power; a Drought Order in future would concentrate on the commercial sector.

In a severe drought, sufficient water may be conserved to avert or reduce the duration of an emergency drought order, which brings a very heavy cost for commercial and domestic customers.

- **Delay or avoidance of additional administrative costs of the Drought Order process**

Water companies would defer or avoid costs and time implications of applying for drought orders, preparing evidence and attending hearings. Government and the Environment Agency would save time and costs associated with processing the applications, preparing for and attending hearings and reaching a Ministerial decision on the application. The requirement of the new power is that a notice is published and that there will be a short period when representations may be received. There is no requirement for a hearing. There will be an approximate 1 month lead in time to implementation, whereas the approximate lead in time from when a Drought Order is submitted by the water company to implementation is 2-3 months.

- **Perception of fairness**

During the 2004-06 drought, the public criticised the scope of the current hosepipe ban, as the powers were seen as unfair and unreasonable by water companies' customers, for example, in preventing them from garden watering with a hosepipe whilst the filling of private swimming pools could continue.

The public may perceive a wider range of prohibited uses to be a more equitable sharing of the burden, when water resources are in short supply.

- **Enhanced signals for water conservation**

Water companies reported that during the 2004-06 drought that demand was suppressed beyond those areas with restrictions in place and above the levels anticipated where restrictions were in place.

This is attributable to the combined effects of water use restrictions and publicity by the water companies for the need to conserve water. The timely implementation of a discretionary use ban, which could restrict a wider range of uses, may send even greater signals than the hosepipe ban today, on the need to conserve water at an earlier stage, thus increasing the credibility of the message to water companies' customers for the need to conserve water.

Costs

• Welfare costs of a discretionary use ban on domestic customers

Under the Preferred Option it is expected that companies will impose some or all of the new (mostly domestic) restrictions early on in a drought (the new powers do not require lengthy application procedures and evidence, as a Drought Order does today), in order that more water can be conserved earlier on.

The new discretionary use ban power is expected to apply predominantly to the domestic sector where direct costs will arise from inconvenience or loss of amenity of their possessions⁶.

In the main, the new powers would therefore transfer a cost of water use restrictions from commercial users currently covered in the Drought Order powers, to domestic users who will be captured under the new powers, in greater numbers and for more activities than are affected by hosepipe bans today. Enjoyment of water-using equipment may be delayed for the duration of a ban.

The extended restrictions would also impose indirect costs on the domestic sector (e.g. from loss of enjoyment of public green spaces and gardens open to the public, if they are not able to be watered).

• Costs of a discretionary use ban on businesses

(i) Direct costs

Where the power is not limited to the domestic sector, it will also impact on the commercial and the public sectors e.g. the watering of public sector gardens. The mix of non essential uses that has been considered would directly impact some businesses, and would bring forward and could extend the duration of restrictions that they face, compared with the hosepipe ban and Drought Order system today. Businesses that may be affected include:

- businesses that wash, valet, maintain and repair privately owned, non-commercial boats and other water craft (e.g. boat etc owners, boatyard/marina businesses – repair, refit, valet firms).
- firms who use hosepipes and jet washers to clean all kinds of hard standings and patios (not only domestic buildings) and the external surfaces of domestic buildings.
- those who build, maintain and service domestic swimming pools, hot tubs and paddling pools.
- window cleaners who clean the windows of domestic buildings using water-fed poles.
- Those whose businesses are maintenance of gardens, verges, parks, etc.

(ii) Indirect costs

The extended restrictions would impose indirect costs on businesses that lose custom due to restrictions on domestic activities. Examples of businesses that may face indirect costs from the new powers include:

- those who produce and sell ornamental fountains (e.g. manufacturers, garden centres)
- those who manufacturer and sell domestic water slides (e.g. manufacturers, outdoor toy retailers)
- those who manufacture and sell ponds for the domestic market
- those who provide and sell domestic swimming pools, hot tubs, paddling pools and those that sell chemicals and other accessories for these.

Although there would be costs which fall on individual businesses and sectors, at the level of the economy these impacts will be largely redistributive – every pound lost to the affected

⁶ For metered customers there will an offsetting saving on water bills because water is not used, but this is not reflected in the model

businesses is likely to be a pound gained by other businesses – so the net cost to business affected is assumed to be zero.

- **Administrative Costs**

There will be some new costs for water companies from the Preferred Option: the costs for advertising discretionary use bans will increase slightly. There will be a new legislative requirement (with no significant cost implication) for water companies to advertise their discretionary use bans on their websites, in addition to the newspaper notices, which they are currently required to give. Water companies will also be required to give notice when the restrictions are lifted and if the scope of the restrictions is to be altered during the course of the drought.

The administrative procedure will require a representation period when water companies will need to consider any representations received in response to the published notices. There will be costs to the water company to do this in terms of staff time. In practice, we envisage water companies electing to provide exceptions and also concessions to affected groups, publicising these exceptions/concessions in the notices, as a way to reduce the burden. The increase in staff time would be offset by the referred or avoided need for drought orders and the associated administrative effort of that process, particularly that associated with hearings. Therefore no additional net costs to water companies are calculated for the new powers.

The Preferred Option does not impose any new administrative burden on businesses (“recurring costs of administrative activities that businesses are required to conduct in order to comply with the information obligations that are imposed through central government regulation”⁷).

- **Quantification**

There is limited quantitative information on the impact of water use restrictions on different types of customers and businesses, and on their mitigation actions and substitutions. A number of sources of information have been considered.

a) Past consultation responses

In the March 2007 Government Consultation³ on the proposed changes to powers to restrict non-essential uses of water, consultees were asked to quantify the likely future impact for businesses of the proposed widened scope for water use restrictions. This was a difficult question to answer in the absence of agreed scenarios covering the timing, duration, and geographic extent of a future drought.

A number of organisations representing businesses which might be affected pointed out the contributions to the economy collectively generated by the numerous individual businesses in their fields. Industries included horticulture, gardening, aquaculture, window cleaning, boating, landscaping, turf growing, swimming pools and allied trades, and car washing. These are mostly small or micro businesses.

The Association of Professional Window Cleaners noted that most window cleaning companies forecast a 40% reduction in turnover during water restrictions. Individuals and companies invest as much as £20-30k for a single operative mobile water-fed pole system and over 70% of this is financed through leasing arrangements. Window cleaners would face direct costs and the potential implications of the use of the new powers could be financial hardship and possible bankruptcy, depending on the parameters of the drought and resulting restrictions.

The British Swimming Pool Federation noted that many of their members have contractual arrangements for the service and maintenance of pools which can provide significant regular income and supports the regular employment of staff in this highly seasonal business. A typical

⁷ Page 10 of July 2006 final report Administrative Burdens Measurement Exercise, found at <http://intranet/regulation-division/whatdo/measure-admin-burden/documents/ABMEFinalReport.pdf>

company may have over 100 contracts worth around £2k each, as well as the income from the sale of chemicals and other consumables. If all contracts were cancelled entirely for a year, that could deprive a company of up to £250k income, with staff being laid off. The consultation response specified that a ban on the filling of hot tubs would affect the market for the duration of the ban. There are probably some 600 or more companies involved in the hot tub market.

It was noted that wider restrictions could have significant direct costs on businesses that support the recreational boating sector, in particular the facilities that offer lift out and wash off for vessels.

The Horticultural Trades Association noted that sales fell by 10-30% in the ornamental horticulture and garden industry manufacturing sectors, as an indirect cost of hosepipe bans. Those facing the highest losses were those with less varied product ranges, but even large garden centres faced losses of around 10%.

Water companies themselves faced loss of income from metered customers and incurred costs from additional investments associated with drought management, and from the advertising and promotion of hosepipe bans.

The evidence provided in the consultation responses was not sufficient to construct a bottom up cost of typical application of the new restrictions, applied to a typical future drought.

b) 2004-2006 evidence

Limited evidence of costs came out of the 2004-06 drought. It was reported that business costs increased in the landscape industry from the need to purchase grey water and the labour intensive use of watering cans. A number of golf courses were said to be significantly impacted by additional business costs, including loss of revenue. This information has not been sufficient to construct a bottom up cost of typical application of the new restrictions applied to a typical future drought.

c) Willingness To Pay as indicator of cost

- The Thames Water Drought Order application documents (June 2006) provide valuable insight into the economic effects of drought restrictions. The Statement of Reasons quotes figures from willingness to pay (WTP) research and choice modelling analysis undertaken in 2006 by NERA, across representative business and home populations for London. On average a London household would pay £1.90 to avoid one expected day of hosepipe ban and Drought Order (DO), compared with £53.30 to avoid one expected day of Emergency Drought Order (EDO) restrictions including stand pipes and rotas of supply cuts. This indicated a cost to all London households of a day of hosepipe ban and DO of £4.3m, and a cost of a day of EDO of £119.7m.
- On average, a London business would pay £47.90 to avoid one expected day of hosepipe ban and non-essential use order, compared with £845.40 to avoid one expected day of EDO restrictions. This indicated a cost to all London business of a day of non essential use DO of £18.4m, and a cost of a day of EDO of £325.5m.
- In total the cost to London of a day of EDO was indicated to be £455.2m. Given the existence of the hosepipe ban at the time, implementing the DO was assessed as imposing a cost on London of around £20m per day, and a benefit worth around £450m a day, for avoiding a day of EDO.

These figures illustrate the severe economic cost to society of a day of an Emergency DO, and imply a high value for measures that can result in reduced use of an EDO, such as the proposed new powers under the Preferred Option.

Further Research Undertaken During the Consultation Period

During the Consultation period, we undertook further research with 2 water companies that had applied for, or implemented, a drought order, to better understand the estimated savings from restrictions on non essential uses; and with a research company that had worked on behalf of a water company, considering costs and benefits in terms of customer willingness to pay to avoid restrictions (as a proxy to the cost to customers of those restrictions). We also revisited the work done for the 2007 consultation and the responses to that, and the UKWIR report on Drought and Demand.

This further work confirmed our approach to modelling costs and benefits of the hosepipe ban restrictions. It also confirmed that very little evidence exists to support a full cost benefit analysis of proposed measures. In part this is due to a lack of quantitative information on actual savings arising from specific measures. The water management process has a cumulative approach from publicity measures, through hosepipe bans based on current powers and followed by drought orders such that it is impossible to accurately disentangle the water savings associated with individual prohibitions. It is also difficult to identify typical values for some of the key assumptions, since the duration, area, household and business mix affected by a hosepipe ban or drought order vary in each case. This contributes to the difficulty of conclusively demonstrating the outcome (be it net positive or negative) that an extended hosepipe ban can be expected to deliver. Key findings from the research are that:

- The water savings benefits from the additional activities for the hosepipe ban proposed in the 2007 consultation are mainly presentational, especially those directly affecting householders' water use, e.g. for paddling pools. They contribute to a consistent message on water usage, tidying up the legislation, providing greater clarity and making the restrictions more equitable. This may lead to greater overall household compliance.
- Including the additional non essential uses within water company non essential use bans may save very little additional water –sufficient to delay a drought order by just 1-2 days, based on simple modelling using reasonable assumptions.
- Depending on the assumptions used, particularly around costs to households, modelling can imply a policy outcome that ranges from a small positive impact through to a negative impact, even before losses to businesses directly impacted by the restrictions are included. Where such businesses are affected (e.g. window cleaners) there could be a significant loss to them for very little water saving overall.
- It may be possible to obtain further useful evidence on water savings from the restriction of specific activities, and on the costs to households and businesses affected, by observing the planning and implementation of future non essential use restrictions, or from future surveys on willingness to pay to avoid restrictions and the costs they impose.

Impact on small firms

The impact of the changes that have been considered fall primarily on the domestic customer. However, where commercial enterprises are affected (see Costs of a discretionary use ban on business in the Costs section) it is small and micro firms that predominantly would be impacted. Water companies will have flexibility to apply exceptions to some of the potential provisions where they believe that is appropriate to avoid unnecessary hardship

The water industry led voluntary Code of Practice sets out some key principles, specifically to ensure that the implementation of water use restrictions is proportionate, consistent and that the process is transparent. The new procedure for putting in place restrictions which provides for stakeholders to make representations that must be considered prior to the implementation of restrictions will introduce an important element of procedural fairness and ensure that the need to conserve water is balanced against the need of water company customers.

Whilst some businesses will be affected by the discretionary use bans at an earlier stage; by transferring the costs of water restrictions on to domestic customers and delaying or preventing the need for further restrictions through Drought Orders, the impact on the commercial sector is reduced.

Competition Assessment

Application of the competition filter indicates that a simple competition assessment is appropriate in this case as little or no effect on competition is likely as a result of the proposals.

The modernised powers would have the potential to impact occasionally on some parts of the commercial sector. The businesses newly affected would be those operating in the areas outlined in Preferred Option - Costs above.

Enforcement

Water companies are not being given any powers beyond those they already have to enforce compliance with water use restrictions in force. The right to bring a prosecution for an offence is not restricted to water companies. Neither does the modernisation of the scope of these powers alter in any way the sanctions available to the courts in respect of offences.

Water companies could incur increased costs associated with the numbers of prosecutions that arise, but the extent will depend on each company's own policy on enforcement.

Legal Aid

There will be no impact on Legal Aid.

Sustainable Development

There will be no impact in this area.

Carbon Assessment

There will be no impact in this area.

Other Environment

No other environmental impacts are evident. The preferred option is designed in part to avoid environmental impacts.

Health Impact Assessment

We do not believe that there are any health impact implications. The proposed powers are designed in part to help avoid any possibility of water supply interruptions. The maintenance of domestic water supplies is fundamental to public health considerations.

Race, Disability, Gender and Other Equality

We do not believe that there will be any impacts in these areas.

Human Rights

We believe the new proposed powers, combined when necessary in a staged approach with drought order powers invoking the Drought Direction, comprise a proportionate means to achieve the legitimate aim of protecting public water supplies when there is a threatened or actual serious deficiency of water available for distribution by water companies, and that they are therefore justified. These proposed measures will enable water companies to strike a fair balance between protecting public water supplies in these extreme circumstances, and the requirement to protect individuals' fundamental rights.

Rural Proofing

Rural communities will stand to be at no disadvantage in comparison with any other communal areas.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	<i>Results in Evidence Base?</i>	<i>Results annexed?</i>
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	Yes	No
Sustainable Development	Yes	No
Carbon Assessment	Yes	No
Other Environment	Yes	No
Health Impact Assessment	Yes	No
Race Equality	Yes	No
Disability Equality	Yes	No
Gender Equality	Yes	No
Human Rights	Yes	No
Rural Proofing	Yes	No

Annex A

Current Regulatory Framework

Water companies' statutory domestic supply duty is to provide a supply of water sufficient for domestic purposes which are specified as drinking, washing, cooking, central heating or sanitary purposes. Whilst water companies aim to meet all domestic demands in normal circumstances, their infrastructure systems are not designed to cope with unlimited demand for unlimited purposes.

Water companies cannot make plans to supply their customers without considering the use of restrictions on water use (see Water Resources Management Plans below). The cost to a water company of having water supply infrastructure capable of withstanding prolonged drought, without recourse to hosepipe/sprinkler bans, would have to be met through customers' bills. In addition, there is an environmental cost attached to the development of a new infrastructure and to increased abstraction levels in areas of water shortage.

Water Resources Management Plans.

In 2007, it became a statutory requirement for water companies to prepare and maintain water resources management plans. These plans look ahead 25 years and include projections of current and future demands for water, and describe how the companies will meet this demand, in order to meet their water supply obligations.

In line with the 'twin track' approach to water resources planning, each plan will include the consideration of the need for any new water supply options (e.g. reservoirs), in parallel to assessing proposed demand side measures (including more efficient use of water and

leakage control). New resources should be developed only where the scope for managing demand is clearly insufficient or unjustified in terms of cost.

For the first time, last summer, the water resources management plans were subject to public consultation. This has provided water company customers with the opportunity to comment on water company plans to balance demand measures with supply options, and on their proposed level of service, including their predicted frequency of restriction under hosepipe bans or other drought restrictions

Drought Plans

The incidence of drought is forecast to increase with the effects of climate change, but it does not necessarily follow that water use restrictions should be a more frequent occurrence. Water resource and drought planning are dynamic and will evolve to meet the challenges of factors such as changing lifestyles and climate change. The changes proposed here is a part of this ongoing planning process.

All water companies in England and Wales have statutory drought plans which set out how each company will continue to meet its duties to supply adequate quantities of water during drought periods with as little recourse as possible to drought orders and drought permits.

The plans list the measures which a water company will deploy during the various stages of a drought to manage supplies and demand. The plans show what should be done, when and in which circumstances. Plans for the use of hosepipe/sprinkler bans as a measure to restrict demand during a drought should be included in a company's drought plan, and is considered to be a sensible means of constraining demand for water at an early stage of a drought, and to avoid/defer recourse to drought orders and drought permits.

In the levels of service which they offer customers, no water company plans water use restrictions through hosepipe bans any more frequently than once in 10 years. The majority of water companies plan for such measures at much less frequent intervals.

Framework for managing droughts

It is not always apparent in the early stages that a drought is affecting an area of the country. Neither is it apparent how long a drought may continue or how severe it will become. The regulatory framework provides water companies with a range of actions that can be taken to address water shortages and protect the water resources needed to meet statutory supply duties. In the first stages, water companies would usually take non-statutory action such as publicity campaigns. Thereafter, the restrictions on water use outlined below may be implemented to put in place increasingly stringent controls on water. These are listed in the sequence that they would be implemented, as the severity of a drought increased.

Hosepipe Bans

Currently, hosepipe bans apply only to the watering of private gardens and the washing of private motor cars (as defined). The scope of the powers has not changed since they were first introduced in the Water Act 1945.

The powers under which water companies may impose hosepipe bans are in section 76 of the Water Industry Act 1991. Before imposing a ban the company concerned has to be of the opinion that a serious deficiency of water available for distribution exists or is threatened. The powers could be used if a shortage of water is available due to supply failure in an emergency situation, as well as in a drought, but in practice the powers are mainly used in a drought.

The company must give advance notice of the restriction or prohibition in two or more local newspapers, but does not need to seek the approval of the Environment Agency or Secretary of State. Consequently, the lead in time for implementation of a hosepipe ban is short, approximately 2 weeks, allowing for the time needed for the publishing of the notices.

Hosepipe bans may last for as long as the company considers necessary and may apply to the whole or any part of its area.

The powers to restrict water use apply only to mains water supplied by the water company concerned. The powers do not extend to other sources of water, such as grey water or rainwater re-use.

Drought Orders and Drought Permits

In a worsening drought, water companies may have to take additional steps by applying to the Environment Agency for a drought permit or to the Secretary of State for Environment, Food and Rural Affairs/National Assembly for Wales for a drought order. Drought orders and permits provide a temporary mechanism for managing water resources limited by exceptional shortage of rain.

Drought Permits are handled by the Environment Agency. Drought orders can be made by the Secretary of State/National Assembly for Wales under Section 73 of the Water Resources Act 1991 (as amended by the Environment Act 1995) on the application of a water company.

Drought permits can enable water companies to take water from new sources, or to alter or suspend restrictions on existing abstractions. Drought orders can go further than drought permits and deal with discharges of water, abstractions and discharges by people other than the water company affected, and supply, filtration and treatment obligations.

A non-essential use drought order can also authorise water companies to prohibit or limit the use of water for any of the non-essential purposes specified in the Drought Direction 1991.

The approximate lead in time from when the drought order is received by the water company to implementation is 2-3 months.

Drought orders and permits can last up to 6 months and can be extended to last up to a year.

The Drought Direction 1991 – lists the non-essential uses of water that can be banned under a drought order.

The Drought Direction 1991, made by the then Secretaries of State for the Environment and Wales, lists the non-essential uses of water that can be restricted or prohibited under a drought order. A company can apply to restrict any or all of the uses listed there.

Changes will be made to the Drought Direction 1991 alongside the proposed new legislation to widen the scope of the hosepipe ban powers. The new discretionary use ban power will apply primarily, but not exclusively, to domestic customers and drought order powers will extend water use constraints more widely within commercial and public sectors.

A drought order can currently ban the watering, by hosepipe or similar apparatus of:

- (a) (i) gardens (other than market gardens), including lawns, verges and other landscaped areas;
- (ii) allotments;
- (iii) parks; or
- (iv) any natural or artificial surfaces used for sport or recreation,

- whether publicly or privately owned;
- (b) the filling (whether wholly or partially) of privately owned swimming pools, other than:-
 - (i) pools designed to be used in the course of a programme of medical treatment;
 - (ii) the filling of pools where necessary in the course of their construction;
 - (c) the filling (whether wholly or partially) of ornamental ponds other than fish ponds;
 - (d) the operation of mechanical vehicle washers, whether automatic or not;
 - (e) the washing of road vehicles, boats, railway rolling stock or aircraft for any reason other than safety or hygiene;
 - (f) the cleaning of the exterior of buildings, other than windows;
 - (g) the cleaning of windows by hosepipe, sprinkler or other similar apparatus
 - (h) the cleaning of industrial premises or plant for any reason other than safety or hygiene;
 - (i) the operation of ornamental fountains or cascades, including those where water is recycled;
 - (j) the operation, in relation to any building or other premises, of any cistern which flushes automatically, during any period when those premises are wholly or substantially unoccupied.

Emergency Drought Orders

Emergency drought orders can go further still and can give the water company complete discretion on the uses of water which may be prohibited or limited, and also to supply water by means of stand-pipes or water tanks. Emergency drought orders are seen as a wholly unacceptable measure. No such measures have been made for over 30 years.