

BN DW Shower: Actions to improve shower design and efficiency - Briefing Note relating to Policy scenario objectives in Policy Brief

Version 3.0

This Briefing Note and referenced information is a public consultation document and will be used to inform Government decisions. The information and analysis form part of the Evidence Base created by Defra's Market Transformation Programme.

1 Summary

This Briefing Note sets out the information, rationale, assumptions and methods used within the demand forecasting model for shower water consumption reported in the Policy Brief for showers. Market Transformation Programme (MTP) targets relating to the outputs of the model are then discussed and action plans to reach these targets are formulated.

2 Demand forecasting model

Predictions for domestic water demand are based upon the output of a model consisting of a spreadsheet and embedded macros. The model generates estimates of annual water demand for domestic baths, showers and WCs until 2020. Stock information is used to derive the average water consumption per appliance usage.

The main variables for each appliance are:

- Ownership (stock) - the number of appliances established in UK houses.
- Sales volume - the number of appliances sold annually.
- Replacement factor - the proportion of sales that accounts for the replacement of existing appliances and therefore not adding to ownership. This is based on a product life expectancy.
- Volume per use - the volume of mains water used at each use.
- Frequency of use - expressed as uses per appliance per year.

The equation for annual water demand is as follows:

$$\text{Annual water demand} = \text{ownership} \times \text{frequency of use}_{app} \times \text{volume per use}$$

3 Product types

The main factors affecting the amount of water used per household for showering are the flow rate and length of shower.

Key shower sectors included in the analysis are as in Table 1.

Table 1 Product types included in MTP modelling

Shower type	Sub-sector	2006 Flow rate estimate
Mixer	Gravity	7.88 l/min
	Integrated pump	9.85 l/min
	Separate pump/pressurised	11.82 l/min
	Bath/shower mixer	6 l/min
Electric	7.0-7.9 kW	3.46 l/min
	8.0-8.9 kW	3.96 l/min
	9.0-9.9 kW	4.52 l/min
	10.0 kW+	4.99 l/min

The total number of showering facilities includes showers used for domestic purposes in dwellings and does not include safety showers or showers not intended for use by humans. A shower is defined as the point of discharge of the water (ie the shower-head).

No significant evidence of recycling showers (wherein water once used in the showering process is held in a storage tank and recycled during a portion of the showering process in place of fresh water) was found, so it is assumed that their current impact on the market as a whole is negligible. However, they do exist and may have an impact in the future.

4 Reference scenario

4.1 Key factors influencing the market

- The demand for additional housing, in line with changing demographic factors including a higher proportion of single-person households, will stimulate the new-build sector¹.
- The growth of the new-build sector, with an estimated 4 million homes required over the next 20 years. Plans for around 1.2 million new homes by 2016 in the South East have been announced by the Government and this will influence market growth.
- Housebuilders providing en-suite bathrooms in a wider range of housing, including flats. In addition, the regeneration of urban areas and the overall shortage of available land have increased the number of three-storey homes which usually have at least one bathroom on each floor.
- Housebuilders are generally installing higher specification bathroom products in order to add value.

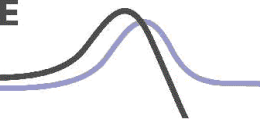
¹ MTP Briefing Note BNXS25: *UK household and population figures 1970 - 2020*, at <http://www.mtprog.com>

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- The growth of additional bathroom facilities in existing homes will continue to support growth in the shower market.
- Product development and the increasing range of styles and technical features are likely to encourage greater frequency of replacement.
- A growing proportion of consumers are experienced purchasers who are generally more discerning, often demanding high-quality products and additional features and benefits.
- While household penetration levels are growing, there is still scope for further growth.
- There is a trend towards more powerful showers and shower accessories supported by the availability of larger enclosures designed for use with higher specification showers, shower panels and body jets etc.
- The replacement of the bath with a shower enclosure is increasing, particularly in smaller homes where space is more restricted and en-suite bathrooms are less common.
- The trend towards high-quality products is likely to stimulate the market, with an increasing proportion of consumers trading up to higher specification products, including shower panels.
- The growth of niche sectors, including the market for shower facilities for people with special needs.
- The extensive exposure of shower products through DIY television programmes, lifestyle magazines etc has increased consumer awareness of available styles in addition to overall design co-ordination.
- The mixer/power shower sector has achieved a high level of growth in recent years in line with the demand for more powerful, higher specification products.
- There is a trend towards more powerful electric showers and features designed to improve installation.
- There is recognition of the ease of installation and the flexibility of electric showers in terms of their location in the home and the type of water system.
- Bath/shower mixers remain popular in the new-build sector owing to the installation of en-suite bathrooms which contain a separate shower, in addition to space restrictions in the main bathroom.
- The growth in domestic high-pressure plumbing systems will allow the installation of more mixer showers.

4.2 Key trends influencing the established base, usage and consumption

Frequency of use is likely to be influenced by the following factors:

- Greater acceptance of showering amongst the population generally.
- A shift in the age mix of the population, with older people less likely to shower but a larger proportion of younger people in the population as a whole showering more often².
- Better quality showers may lead to a greater preference for showering, particularly in the winter when traditionally electric showers perform poorly.
- It is estimated that a very high proportion of showers in main bathrooms in homes are installed over baths, probably some 80%. Given that 67% of all households

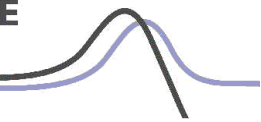
² MTP Report and Model (2006), *Water Appliances Data Acquisition*.

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have a shower, this would suggest that 13.5 million households, or 54% of all households, have a shower installed over a bath.

This amounts to a projected 25% increase in showering in the period 2001-2010 and includes a rise in both the number of showers installed and the number of showers taken.

Water consumption is likely to be influenced by the following factors:

- Growth in sales of more powerful showers.
- Shift to multi-head showers and multi-function shower cubicles (with steam) etc.
- Shift to pressurised water systems.
- Growth of economy-option settings on the shower-head and ergonomic labelling on the use of these settings.
- Growth of certain European products offering economy options, including some that can pause the water flow for 'soaping up'.
- Expansion of the range of haircare and personal washing products.
- Higher showering frequency.
- Lower wastage from digitally controlled showers.

Establishment is likely to be influenced by the following factors:

- Increase in the proportion of houses with a shower.
- Growth in multiple shower ownership.
- Increasing frequency of installation in smaller households and a rise in the proportion of smaller households.

The source of power to heat the water for the showers has not been included in the analysis.

The mix between the thermostatic and manual mixer valve sectors has not been analysed as there is no indication that there is any impact on the flow rate. The actual mix of sales is heavily in favour of thermostatic mixers, and has been for many years. The share taken by manual mixers is probably around 10% of the market, and is estimated at up to 15% of the established base.

Recycling showers remain a very small sector in the UK and no company marketing these products was found as part of this assessment. The current impact is therefore negligible, though there may be some impact in the future. Some reductions in the average consumption of water have been incorporated for electric showers and mixer showers to allow for some increases in efficiency of water use through advances in design. These reductions have not been applied to the pumped shower sector, as it seems sensible to assume that these products are bought for the extra flow rate and therefore the consumption rate is more likely to go up than down.

Pressure balancing products have been grouped with the products intended for use in pressurised systems. Their water consumption is highly dependent upon the water pressure and heating system and so an overall output for this product range has been assumed. Pressure balancing products are mainly used in households with a combination boiler, which account for a very significant share of the heating

market (at around 50%), and therefore they will have a reasonable base of establishment in households. However, the use of standard thermostatic mixer showers in this environment is also possible. Nevertheless, the share taken by standard pressure balancing showers is estimated at 20% of the mixer sector, or around 7% overall.

Features in the shower-head such as economy settings have an impact on the rate of flow of water at output. A large proportion of shower-heads are sold with alternative economy settings but no data have been found which indicate whether consumers use these settings, or whether they simply use the most popular and powerful spray setting.

4.3 Establishment

The ownership of showers is expected to rise from 40% to 50% for mixer showers, and from 38% to 42% for electric showers. The ratio of mixer showers to electric showers, in terms of installed stock, is expected to remain constant over the next 25 years³.

The volume of new sales of showers is expected to rise from approximately 2 million in 2007 to over 2.5 million by 2020. Total stock of all showers in 2007 is estimated to be over 20 million installed, responsible for consumption of almost 350,000 million litres over the year.

The lifespan of electric showers is estimated at 10 years, and the lifespan of mixer showers at 12 years.

The mix of products (% of sales) in any given year to 2020 is given in Table 2 for mixer showers and Table 3 for electric showers.

Table 2 Product mix of mixer showers under the Reference scenario (% of sales)

	Ref				
	Mixer	Mixer with Integral Pump	Separate Pump	Mixer - Pressurised	Bath/Shower Mixer
2008	42.6	18.2	10.4	20.6	8.3
2009	43.2	17.6	10.4	20.6	8.3
2010	43.7	17.0	10.5	20.6	8.3
2011	44.2	16.4	10.5	20.6	8.3
2012	44.7	15.9	10.6	20.6	8.3
2013	44.9	15.5	10.6	20.8	8.3
2014	45.0	15.2	10.6	21.0	8.3
2015	45.0	14.9	10.6	21.2	8.3
2016	45.1	14.6	10.6	21.4	8.3
2017	45.2	14.3	10.6	21.6	8.3
2018	45.3	14.1	10.6	21.8	8.3
2019	45.3	13.8	10.6	22.0	8.3
2020	45.4	13.5	10.6	22.2	8.3

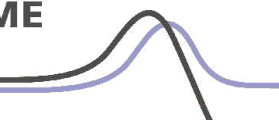
³ MTP Report and Model (2006), *Water Appliances Data Acquisition*.

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Table 3 Product mix of electric showers under the Reference scenario (% of sales)

	Ref			
	7.0-7.9 kW	8.0-8.9 kW	9.0-9.9 kW	10.0+ kW
2008	2	25	37	36
2009	2	24	37	37
2010	1	23	37	39
2011	1	22	37	40
2012	0	21	37	42
2013	0	20	38	42
2014	0	20	38	42
2015	0	20	38	42
2016	0	20	38	42
2017	0	20	38	42
2018	0	20	38	42
2019	0	20	38	42
2020	0	20	38	42

4.4 Consumption

Water consumption per shower varies according to the type of shower.

The volume of water consumed per shower event is dependent on the flow rate of the shower and the duration of the shower. The duration of showering is expected to rise under the Reference scenario from 5.2 minutes in 2007 to 5.5 minutes by 2020⁴. Flow rates vary with shower type, an example of the differences between types is given in Table 1. The average volume per use of installed showers in 2007 was 6.8 litres per minute. This is broken down into an average flow rate for mixer showers of 9.26 litres per minute and a flow rate of 4.31 litres per minute for electric showers.

4.5 Frequency of use

Frequency of use data have been sourced primarily from surveys carried out by the water utilities.

Frequency of use per household per year is expected to rise from 183 uses of electric showers in 2007 to 193 uses in 2020. Mixer shower use is expected to rise from 191 uses per household per year in 2007 to 230 uses by 2020. In total, therefore, shower frequency of use is expected to rise from 1.02 uses per household per day in 2007 to 1.15 by 2020. This reflects the shift expected from bathing to showering as the main form of personal bathing.

5 Policy scenario (P1)

The impacts of all policies⁵ in the Policy Action Plan have been assessed with respect to the ownership, frequency of use and volume per use of the following shower installation types: <8 kW electric, 8-9 kW electric, 9-10 kW electric, >10 kW

⁴ MTP Report and Model (2006), *Water Appliances Data Acquisition*.

⁵ Note, it is assumed that any policy implemented by Government to cover England and Wales will be similarly implemented by the appropriate bodies in Scotland and Northern Ireland. MTP modelling covers UK water consumption.

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electric, gravity-fed mixer, mixer with integrated pump, mixer with separate pump and pressurised systems, and bath/shower mixer.

5.1 General assumptions

It is assumed that there are no additional changes in overall ownership levels of showers over and above any trends already being seen under the Reference scenario. It is also assumed that there are no further changes to the volume per use of appliances in any given efficiency class, although it is possible that efficient shower-heads might be retrofitted to an existing shower which affects the volume used.

5.2 Frequency of use

The frequency of use of showers is expected to increase marginally across all shower products in line with the policy of the water industry to promote water-efficient showering in favour of using a bath. The rate of increase is expected to decline from 2014 onwards as the policy impact wears off and those receptive to the campaign message reduce in number. By 2020 it is expected that the average frequency of use of showers will be 1.21 uses per household per day under the P1 scenario.

5.3 Volume per use

It is assumed that efficient shower-heads will be installed on high flow rate showers due to initiatives by water companies. In addition, some new homes might have efficient shower-heads installed in order to meet the requirements of the revised Building Regulations from 2009 onwards. Between 2011 and 2014 efficient shower-heads are phased in on all new sales of showers destined to be installed on pressurised water systems and for showers with integrated pumps, owing to the impacts of Policy affecting the efficiency of appliances installed in all buildings. By 2020 under the P1 scenario it is assumed that 3.2 million efficient shower-heads that deliver a maximum 8 litres per minute flow will be installed across the UK.

5.4 Sales mix of new products

The sales mix of new mixer showers is given in Table 4, and the sales mix of new electric showers is given in Table 5.

Table 4 Sales mix of new mixer showers sold under the P1 scenario (% of sales)

	P1				
	Mixer	Mixer with Integral	Mixer - Separate	Mixer - Pressurised	Bath/Shower Mixer
2007	42.0	18.9	10.3	20.6	8.3
2008	44.3	18.0	10.0	20.8	7.0
2009	45.0	17.0	10.0	21.0	7.0
2010	46.5	16.0	10.0	21.0	6.5
2011	47.5	15.0	10.0	21.0	6.5
2012	48.5	14.5	10.0	21.0	6.0
2013	48.8	14.0	10.0	21.3	6.0
2014	50.5	12.0	10.0	21.5	6.0
2015	51.8	10.5	10.0	21.8	6.0
2016	52.0	10.0	10.0	22.0	6.0
2017	52.3	9.5	10.0	22.3	6.0
2018	52.5	9.0	10.0	22.5	6.0
2019	52.8	8.5	10.0	22.8	6.0
2020	53.0	8.0	10.0	23.0	6.0

Table 5 Sales mix of new electric showers sold under the P1 scenario (% of sales)

	P1			
	7.0-7.9 kW	8.0-8.9 kW	9.0-9.9 kW	10.0+ kW
2007	3.0	25.0	38.0	34.0
2008	2.0	25.0	37.0	36.0
2009	2.0	24.0	38.0	36.0
2010	1.0	23.0	41.0	35.0
2011	1.0	25.0	39.0	35.0
2012	0.0	25.0	40.0	35.0
2013	0.0	27.0	38.0	35.0
2014	0.0	28.0	38.0	34.0
2015	0.0	29.0	37.0	34.0
2016	0.0	30.0	36.0	34.0
2017	0.0	30.0	37.0	33.0
2018	0.0	32.0	35.0	33.0
2019	0.0	34.0	33.0	33.0
2020	0.0	35.0	32.0	33.0

The sales mix of both mixer and electric showers is expected to change between 2008 and 2020 due in the main to the influence of policies affecting new-build properties. The proportion of bath/shower mixers drops as it is thought new properties are less likely to include bath/shower mixers in addition to a standard mixer shower. This is because removing them will be a 'quick win' in order to meet the requirements of the revised Building Regulations.

The proportion of mixer showers installed on pressurised systems is expected to rise as it is unlikely that the type of hot water system will be influenced by the revised Building Regulations. Standard mixer showers are expected to increase in popularity to the detriment of mixer showers with integral pumps, as these will be more difficult to design into new homes under the new requirements of the Building Regulations. In addition, from approximately 2011 onwards the impact of any water efficiency

policy on existing buildings is likely to be seen, and similarly this would affect sales of integrated pump mixers.

6 Earliest Best Practice (EBP) scenario

Promotional activities surrounding water-efficient shower-heads are more aggressively followed under the EBP scenario than under the Policy scenario. A 20% take-up of 8 litres/minute water-efficient shower-heads is assumed through retrofitting in each year from 2008. In line with the policy to implement a maximum permissible flow rate through showers by regulation in 2013, it is assumed that all new sales of showers from this date for use in pumped systems include a water-efficient shower-head. By 2020 it is expected that under the EBP scenario there would be over 4 million efficient shower-heads installed and in use, delivering a maximum flow rate of 8 litres/minute.

In addition, a more rapid shift to more efficient showers is expected due to the revised Building Regulations and the Code for Sustainable Homes. The sales mix of new showers installed under the EBP scenario is given in Table 6 and Table 7.

Table 6 Sales mix of new mixer showers sold under the EBP scenario (% of sales)

	EBP				
	Mixer	Mixer with Integral Pump	Mixer - Separate Pump	Mixer - Pressurised	Bath/Shower Mixer
2008	44.2	18.0	10.1	20.8	7.0
2009	45.0	17.0	10.0	21.0	7.0
2010	47.0	16.0	9.5	21.0	6.5
2011	48.5	15.0	9.0	21.0	6.5
2012	49.8	14.5	8.8	21.0	6.0
2013	50.3	14.0	8.5	21.3	6.0
2014	52.3	12.0	8.3	21.5	6.0
2015	53.8	10.5	8.0	21.8	6.0
2016	54.3	10.0	7.8	22.0	6.0
2017	54.8	9.5	7.5	22.3	6.0
2018	55.3	9.0	7.3	22.5	6.0
2019	55.8	8.5	7.0	22.8	6.0
2020	56.3	8.0	6.8	23.0	6.0

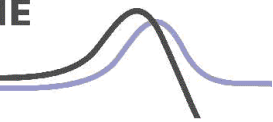


Table 7 Sales mix of new electric showers sold under the EBP scenario (% of sales)

	EBP			
	7.0-7.9 kW	8.0-8.9 kW	9.0-9.9 kW	10.0+ kW
2008	3.5	0.0	100.0	0.0
2009	3.5	0.0	100.0	0.0
2010	3.5	0.0	100.0	0.0
2011	3.5	0.0	68.5	28.0
2012	3.5	24.0	56.5	16.0
2013	3.5	28.0	58.5	10.0
2014	3.5	30.0	61.5	5.0
2015	3.5	35.0	58.5	3.0
2016	3.5	45.0	49.5	2.0
2017	3.5	68.0	27.5	1.0
2018	3.5	88.0	8.5	0.0
2019	3.5	89.0	7.5	0.0
2020	3.5	90.0	10.0	0.0

7 Market transformation targets

7.1 Market transformation target 1

Increase the sale of water-efficient showers to achieve significant market penetration.

Policies: Water Product Information Scheme; common test methodologies; minimum standards; incentives; emerging technologies.

7.1.1 Action Plan

1. Agree test methods for flow rate and spray pattern as proposed in Briefing Note BNWAT06 (MTP/Defra, shower manufacturers).
2. Define water-efficient shower performance criteria in terms of flow rate and spray pattern under different supply pressure scenarios (MTP, shower manufacturers).
3. Review and undertake research on the force of showers (MTP/Defra).
4. Develop a test methodology for force of spray. Reference Briefing Note BNWAT06 (MTP/Defra, shower manufacturers).
5. Define performance criteria in terms of force of spray under different supply pressure scenarios (MTP, shower manufacturers).
6. Propose and agree a reduction in the threshold at which pumped showers require consent from the water undertaker (MTP/Defra, water undertakers).
7. Propose and implement, when required, future revisions to the Water Supply (Water Fittings) Regulations⁶, reducing permissible minimum flow rates (MTP/Defra).
8. Propose and agree minimum standards for inclusion in specifications made by social landlords during tendering for social housing (MTP, DCLG, Local Authorities).
9. Develop a Water Product Information Scheme to provide better point of sale information including performance targets (MTP/Defra).
10. Encourage manufacturers to research, develop and produce water-efficient showers (BMA, MTP).
11. Propose and agree guidance for developers and specifiers indicating the opportunities presented by low flow volume showers in achieving the levels set out in the Code for Sustainable Homes (MTP, NHBC, DCLG).
12. Encourage stakeholders to promote new shower technologies to consumers and specifiers (MTP, retailers, suppliers).

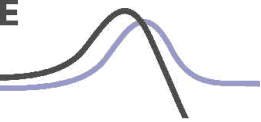
⁶ www.opsi.gov.uk/si/si1999/19991148.htm

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13. Explore options for developing economic incentives for water-efficient showers (MTP).

7.1.2 Issues

1. If multiple head showers are used, a 10 litres/minute limit per head may not be effective at reducing consumption. How should multiple head showers be addressed?
2. Unlike electrical appliances which operate at known voltages, power consumption and frequencies, water is supplied at various pressures and maximum flow rates. Hence, performance to a set specification is not easy to guarantee at the point of use.
3. Are reduced flow showers meeting the consumer demand for performance?
4. Do users spend longer in low-flow showers?

7.2 Market transformation target 2

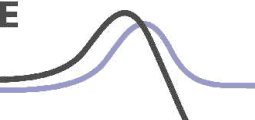
Increase the sale of showers with user selectable water-efficient settings.

Some shower-heads have different flow distribution settings which allow the user to select a flow pattern. A flow rate can be selected which will result in water savings. This target would need to be combined with consumer awareness of the benefits of using settings which offer greater water savings.

Policies: Water Product Information Scheme; common test methodologies; incentives; emerging technologies.

7.2.1 Action Plan (potential action owner)

1. Agree test methods for flow rate and spray pattern as proposed in Briefing Note BNWAT06 (MTP/Defra, shower manufacturers).
2. Define water-efficient shower performance criteria in terms of flow rate and spray pattern under different supply pressure scenarios (MTP, shower manufacturers).
3. Review and undertake research on the force of showers (MTP/Defra).
4. Develop a test methodology for force of spray. Reference Briefing Note BNWAT06 (MTP/Defra, shower manufacturers).
5. Define performance criteria in terms of force of spray under different supply pressure scenarios (MTP, shower manufacturers).
6. Encourage manufacturers of showers and shower-heads to research, develop and produce products with water efficiency settings. The production of innovative, water-efficient showers may allow UK manufacturers access to new markets (BMA, MTP).
7. Refine the stock model for showers to take account of user selectable water-efficient settings (MTP, BMA).



7.2.2 Issues

1. Although some showers have 'water efficiency' settings, it is apparent that there is no accepted definition or standard for this. The shower-head pattern and the flow rate are the two main factors, but other issues such as temperature and skin pressure need to be taken into account. Therefore, performance tests need to be defined.
2. Some showers will only operate within a narrow pressure range; hence performance tests will be required for various pressures and flow rates.
3. Currently, water-efficient showers are available but are not promoted heavily in the UK.
4. To ensure that consumers have sufficient information to purchase water-efficient appliances, the performance of showers needs to be labelled.

7.3 Market transformation target 3

Reduce shower water consumption by promoting regular maintenance.

Policies: Promotional activities and awareness.

7.3.1 Action Plan (potential action owner)

1. From discussions with relevant bodies, devise appropriate guidance on how users and professionals may maintain showers (BMA, Institute of Plumbing and Heating Engineering (IPHE), Royal Society for the Prevention of Accidents (RoSPA), MTP).
2. Disseminate the information through appropriate media to the target audiences. For example, inform the public, facilities managers etc, that regular, simple maintenance of showers will save water (Defra, Water UK, BMA, MTP).

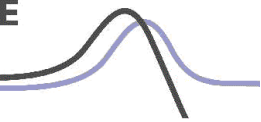
7.3.2 Issues

1. How can a lack of maintenance of showers be easily detected in a house without a water meter? Water savings can only be measured in buildings with a water meter that can resolve small flows of water. Similarly, in large buildings with high capacity meters, can leakage flows be detected?
2. Is a typical householder capable of maintaining a shower? What is involved?
3. Does the saving in water justify the cost of implementing such a programme, or is the money spent an investment in attitude changing?

7.4 Market transformation target 4

Ten per cent of existing shower stock to have a retrofit low-flow shower-head or flow restrictor by 2009.

Policies: Water Product Information Scheme; common test methodologies; incentives; best practice; emerging technologies.



7.4.1 Action Plan (potential action owner)

1. Agree test methods for flow rate and spray pattern as proposed in Briefing Note BNWAT06 (MTP/Defra, manufacturers).
2. Define water-efficient shower performance criteria in terms of flow rate for flow restrictors.
3. Define water-efficient shower performance criteria in terms of flow rate and spray pattern for low-flow shower-heads (MTP, shower manufacturers).
4. Review and undertake research on the force of showers (MTP/Defra).
5. Develop a test methodology for force of spray. Reference Briefing Note BNWAT06 (MTP/Defra, shower manufacturers).
6. Define performance criteria in terms of force of spray for low-flow shower-heads (MTP, shower manufacturers).
7. Research and report on the effectiveness of retrofitting low-flow shower-heads or flow restrictors on water consumption and performance of showers.
8. Encourage manufacturers to research, develop and produce retrofit low-flow shower-heads and/or flow restrictors (BMA, MTP).
9. Encourage manufacturers to provide ergonomic labelling on shower-heads (MTP).
10. Encourage stakeholders to promote the retrofitting of showers with low-flow shower-heads or flow restrictors to consumers and specifiers (MTP/Defra/ Envirowise/manufacturers).

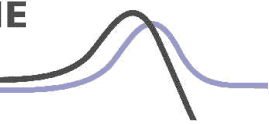
7.4.2 Issues

1. With the majority of dwellings in the UK supplied by low-pressure systems, flow restrictors may only be applicable in those few situations where excessive flows or pressures are found.
2. Difficulty in designing retrofit products for different shower designs. Can the consumer fit them properly?
3. Flow restrictors may reduce the shower performance below an acceptable level.
4. How will the promotional campaign be funded? Potential sources of funding could be Government agencies, charities or manufacturers.

7.5 Market transformation target 5

One per cent of showers sold to be recycling showers by 2015.

Policies: emerging technologies.



7.5.1 Action Plan

1. Examine the research on recycling showers to establish potential performance and water savings.
2. Review the potential for the introduction of this technology in the UK.

7.5.2 Issues

1. Is the technology available, is it effective, is it acceptable to the public, are there any health and safety issues, and is there a market demand?

Related MTP information

- Briefing Note BNWAT06: Showers - water efficiency performance tests.
- Briefing Note BNWATSH01: Consumer views about showers - summary report.

Changes from version 2.2

Updated to reflect 2007-2008 modelling.

Consultation and further information

Stakeholders are encouraged to review this document and provide suggestions that may improve the quality of information provided, email info@mtprog.com quoting the document reference, or call the MTP enquiry line on +44 (0) 845 600 8951.

For further information on related issues visit www.mtprog.com