

Social & Environmental  
Guidance for Water &  
Sewerage Services  
**2010-13**

***SOCIAL & ENVIRONMENTAL  
GUIDANCE FOR WATER AND  
SEWERAGE SERVICES (2010-13)***

***MAY 2010***





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# 1 Introduction

## Summary

- 1.1 The purpose of this document is to provide the Northern Ireland Authority for Utility Regulation (NIAUR) with guidance on the key environmental and social policies the Minister for Regional Development expects it to contribute to in carrying out its role in regulating the water industry.
- 1.2 The Executive has continued to make significant investment in water and sewerage services. This has raised the quality of drinking water and of water in the environment. Our policy is to continue these improvements by delivering on existing commitments. This includes our EU obligations, but also targeting service improvements for customers in critical areas such as flooding from sewers and interruptions to water supply. Our key strategic investment priorities in this Guidance can be summarised as:
- **affordability** – provide affordable cost effective services for customers and taxpayers;
  - **EU compliance** – meet our European legal obligations in relation to drinking water quality, waste water discharges into the environment, and contribute to flood risk management with other Agencies;
  - **service delivery and improvement** – maintain current service levels and work towards improvements that provide customer benefits in areas such as sewer flooding and interruptions to water supply; and
  - **sustainability** - improve our infrastructure to reduce leakage, cut unsatisfactory sewage discharges, lower energy consumption and allow for future growth.

## Layout of Guidance

- 1.3 The contents of the Guidance can be summarised as follows:

**Chapter 2** outlines the key social policy assumptions that we have made in terms of Affordability, Funding, Metering and the Independent Water Review. The Executive has yet to agree the policy in these areas and will consult separately in due course.

**Chapter 3** outlines the main European requirements that will apply to the water and sewerage industry during the period.

**Chapter 4** outlines the results of independent research completed on consumer priorities for service improvements and highlights how this influenced the Guidance.

**Chapter 5** outlines further measures to improve the sustainability of water and sewerage assets and operations.

**Chapter 6** summarises our investment priorities for the water and sewerage industry from 2010-13.

### **Legislative Background**

- 1.4 This Guidance is issued by the Regional Development Minister to NIAUR under Article 7 of the Water and Sewerage Services Order (NI) 2006. NIAUR must have regard to this Guidance when discharging its functions. The legal basis for this Guidance is set out in Annex A.
- 1.5 Section 25 of the Northern Ireland (Miscellaneous Provisions) Act 2006 requires the Department for Regional Development (DRD) in exercising its functions, to, “act in the way it considers best calculated to contribute to the achievement of sustainable development”. Article 6 of the Water and Sewerage Services Order (NI) 2006 also places a duty on DRD and NIAUR to contribute to the achievement of sustainable development.

### **The Price Control Process (PC10)**

- 1.6 This Guidance has been produced to set the strategic priorities for a regulatory process called Price Control 10 (PC10). The purpose of this process is to propose costs, plans, targets and prices for water and sewerage services over the 2010/13 period. While the majority of funding continues to be provided by the Executive final decisions on funding will rest with it.
- 1.7 The Guidance informs NIAUR’s proposals by providing direction on the strategic priorities for the water industry. Northern Ireland Water (NIW) has identified the costs of meeting the objectives in this guidance through its business plan.
- 1.8 Through its final determination, NIAUR has proposed service performance targets for NIW related to planned expenditure and outputs over the 2010/13 period. These targets should be challenging, but achievable and tailored to reflect local service needs including:
  - the social and environmental priorities in this guidance;
  - the costs of efficiently delivering these priorities in a regional context; and
  - the interests of water and sewerage customers.
- 1.9 The Drinking Water Inspectorate (DWI) and the NI Environment Agency (NIEA) regulate drinking water and waste water discharges respectively. The Consumer Council represents the interests of water and sewerage customers. We have worked with DWI, NIEA, the

Consumer Council as well as NIW and NIAUR to establish the investment priorities set out in this Guidance. This Guidance also reflects many of the views and comments received through the public consultation.

- 1.10 More information on PC10 is available on the NIAUR website at <http://ofreg.nics.gov.uk>.
- 1.11 During the 2010/13 period, we expect NIW to plan and develop projects to be delivered early in the next planning period (2013-18). This will enable continuity of project delivery between the two periods.

### **Public Consultation**

- 1.12 On the 3 March 2009, the draft Social & Environmental Guidance was published for public consultation. Notification of the consultation was sent to over 500 stakeholders and interested parties and over 300 copies of the consultation document were issued. The document was also made available on the DRD website.
- 1.13 A total of 29 responses were received from a variety of organisations including local councils, environmental groups and stakeholders including NIAUR, NIW and the Consumer Council. A summary report of the consultation can be found at <http://www.drdni.gov.uk/>.
- 1.14 The Guidance was amended to take account of the public responses received. It was agreed by the Executive on 15 April 2010 and laid before the Assembly on 21 April 2010.

### **Equality Analysis**

- 1.15 An equality analysis is at Annex B.

## Other Regulatory Impacts

1.16 No need to conduct detailed regulatory or strategic environmental<sup>1</sup> assessments was identified for the investment priorities within this Guidance because:

- it sets out investment priorities for NIW with no direct impact on any other businesses;
- investment has been prioritised on environmental need within both rural and urban areas; and
- investment will have beneficial effects on the environment and on public health.

1.17 It should also be noted that some of the future investment priorities set out in this Guidance are mandatory and driven by European legislation. Failure to implement these European requirements could result in infraction and substantial fines for the Executive, leading to reduced investment in public services.

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<sup>1</sup> The Guidance informs NIW's financial business plan and does not require assessment under the Strategic Environmental Assessment Directive (Directive 2001/42/EC).

## **2 Affordability & Funding**

### **Background**

- 2.1 In 2007, the Executive commissioned an independent review to determine the longer term approach for delivering water and sewerage services. The review had two strands. The first strand focused on the cost of water and sewerage services and how these should be funded. The second strand concentrated on the wider aspects of management and governance. Copies of Strand 1 and Strand 2 Reports of the Independent Water Review Panel (IWRP) are available at <http://www.iwrp-ni.org.uk/index.htm>.
- 2.2 In October 2007, the Executive agreed that IWRP's first report provided a basis for the way forward. Ministers gave a commitment to consult on the Executive's response to the IWRP's proposals.
- 2.3 In November 2008 the Executive announced that the proposed introduction of additional household water and sewerage payments in April 2009 would be deferred and has decided to continue to meet these costs in 2010/11. The balance of income required from customers is paid on their behalf through DRD.
- 2.4 Any reference in this Guidance to future financing and regulatory arrangements must be interpreted in light of the Executive's pending decisions. Account should be taken of any further decisions by the Executive on the IWRP's recommendations or on the future funding for water and sewerage services.

### **Funding Policy**

- 2.5 The IWRP proposed that funding arrangements for water and sewerage services should be self financing and that households should make additional contributions. The Executive has yet to conclude its position on this. On the non-domestic side, the IWRP recommended the extension of comprehensive payments for water and sewerage services to the whole sector. The Executive has implemented this recommendation, but extended phasing in arrangements for new charges.

### **Affordability**

- 2.6 Following its meeting on 20 November 2008, the Executive decided that there will be no additional household water and sewerage payments in 2009/10 in light of the current economic situation. The Executive took account of the impact that asking households to pay additional contributions would have and has decided to meet this costs in 2010/11. The IWRP stressed the need not to exacerbate poverty or widen social exclusion. In October 2007, the Executive agreed that any future funding measures should protect the less well off.

## **Metering**

- 2.7 There are contending views on metering and its social and environmental impact. In line with the IWRP's recommendations and the Executive's decisions on the introduction of additional household contributions, no immediate move to universal metering is feasible during this price control period. However, the installation of metering facilities in new buildings remains a legislative requirement. Ministers will consider the needs of particular groups – such as pensioners - who might benefit from metering as part of any decisions on domestic payments. However, any conclusions on metering in this Guidance would be premature before the Executive has decided its overall response to the recommendations of the IWRP. Metering as the preferred methodology for charging in the non-domestic sector will continue.

## **Water Mains Provision for Unconnected Properties**

- 2.8 We recognise the needs of existing households<sup>2</sup> that are not currently served by the mains water network. The Department for Regional Development currently makes an allowance available to help these households meet the costs of a water main extension. This was recently increased to a maximum of £10,000.
- 2.9 Investigation of options aimed at increasing the affordability of water mains provision to existing unconnected properties is underway. NIW is not responsible for private water supplies. Therefore, funding to assist properties not served by a water main (should they require a water main extension) will need to be provided outside the current price control settlement. However, we expect NIW to support any policy initiative agreed by the Executive in this area.
- 2.10 NIW provides a lower Reasonable Cost Allowance in respect of new properties built after 1 January 2000.

## **Executive Funding**

- 2.11 During 2010/13 it is assumed that the majority of funding for water and sewerage services will be provided by the Executive with non-domestic customers contributing the remainder.
- 2.12 Previous versions of the Guidance contained indicative figures of what funding was likely to be available. Working from this Guidance, NIW submitted a detailed business plan (June 2009) including costs and this has been assessed by NIAUR. In its Final Determination (February 2010) NIAUR makes recommendations on operational and capital funding. These recommendations have been taken into account in assessing funding requirements for the next three years. NIW will be expected to match the efficiency targets set-out in the Final

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<sup>2</sup> Existing unconnected properties built before 1 January 2000.

Determination in 2010/11. This will be extremely challenging and well beyond what is being sought in the wider public sector. As the majority of NIW's funding is provided by the Executive and tied to the public expenditure cycle it is not possible to confirm figures for 2011/12 and 2012/13 at this stage. This will be done when the Executive agrees its budget for the years in question. Figures given for 2011/12 and 2012/13 are provisional.

- 2.13 The costs to the Executive's budget will be as set out in the table below. This level of funding is necessary to contribute to the ongoing provision of water and sewerage services, the maintenance of our infrastructure and to invest to meet mandatory EU obligations.

| <b>Proposed Water and Sewerage Funding (£ million)</b> |            |
|--|------------|
| <b>Resource</b>  |            |
| <b>Financial Year</b>                                  |            |
| 2010/11  | 194        |
| 2011/12  | 204        |
| 2012/13  | 198        |
| <b>PC10 Total (Nominal)</b>                            | <b>598</b> |
| <b>Capital</b>   |            |
| <b>Financial Year</b>                                  |            |
| 2010/11  | 206        |
| 2011/12  | 205        |
| 2012/13  | 200        |
| <b>PC10 Total (Nominal)</b>                            | <b>611</b> |

- 2.14 The funding proposals for 2011/12 and 12/13 are provisional and will be subject to Executive budgetary agreement for those years. Capital figures for those years are rounded.

### **Transformation and Efficiency**

- 2.15 The Executive has continued to invest in improving water and sewerage services since the restoration of Devolved Administration. Over the past decade, the emphasis has been on drinking water quality and, more recently, on waste water management. But NIW also needs to invest in technology, planning and information systems if it is to deliver a modern service.
- 2.16 NIW needs to transform and become more efficient if it is to deliver higher standards of customer service. Projects that deliver demonstrable efficiencies will be afforded priority. If projects are to be funded, they must show that they are meeting targets and demonstrating measurable benefits.

- 2.17 Customers will benefit from NIW becoming more efficient. Reducing operational costs will mean lower bills for customers or taxpayers. Reducing capital costs will maximise the outputs delivered for investment.
- 2.18 Priority should be given to improving the accuracy, reliability, security and consistency of information. This includes customer, financial, management, process control and asset data. The Regional Development Committee has highlighted the need for improved data and the management of risks associated with it. This should build on the work already being done by NIW and NIAUR.

## 3 Environmental Obligations

### Environmental Quality Requirements

- 3.1 Major investment in water and sewerage infrastructure over the last decade has resulted in significant improvements in drinking water and the quality of our inland and coastal waters. This Guidance builds on these improvements and introduces further measures to maintain the quality of drinking water and enhance waste water treatment. As waste water treatment continues to improve through investment, priority should now also be given to reducing the risks of pollution from unsatisfactory discharges from sewerage networks. Success in reducing these risks is becoming increasingly important to meeting environmental quality obligations under various European Directives.
- 3.2 DWI and NIEA are responsible for regulating the quality aspects of drinking water and waste water discharges respectively. They monitor and enforce NIW's compliance with environmental requirements set out in domestic and European legislation. Before NIW was established on 1 April 2007 the Water Service, as part of Government, had Crown Immunity and could not be prosecuted. NIW can now be prosecuted and fined for failing to meet these quality requirements. The European Commission can also impose large fines on Government if environmental commitments are not met.
- 3.3 We have worked with both quality regulators and NIW to establish the environmental investment priorities for the period. The following paragraphs outline the main European quality requirements affecting the water and sewerage industry during the period.

### Water Framework Directive

- 3.4 A key long-term driver for environmental improvements is the Water Framework Directive<sup>3</sup> (WFD). This establishes an integrated approach to the protection, improvement and sustainable use of water bodies<sup>4</sup>. The WFD impacts on the management of water quality and water resources, and affects conservation, fisheries, flood defence, planning and environmental monitoring. It introduces ecological objectives that are designed to protect, and where necessary restore the structure and function of aquatic ecosystems.
- 3.5 The WFD also promotes the sustainable use of water resources through the introduction of water pricing. Under Article 9, water and sewerage pricing measures must be in place by 2010. A decision not to introduce pricing policies can only be taken where the purpose and achievement of objectives of the WFD are not compromised. Through pricing, an adequate contribution must be recovered from customers

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<sup>3</sup> Council Directive 2000/60/EC

<sup>4</sup> These include rivers, lakes, transitional waters (estuaries), coastal waters and groundwater.

towards the costs of providing these services taking account of the polluter pays principle. The bulk of non-essential or discriminatory water use occurs in the non-domestic sector, where the rolling out of metering helps incentivise efficient use of water resources. Ministers have not yet agreed proposals for the funding of household water and sewerage services.

- 3.6 The WFD is to be delivered through an integrated framework of River Basin Management Plans (RBMPs) across Europe. These plans will set the framework for future regulatory decisions within each river basin. Programmes of Measures within each plan will deliver improvements. These target pollution pressures, and identify the risk to water bodies with the aim of enabling them to attain good status. The initial RBMP measures must be in place by 2012.
- 3.7 A 6-month public consultation was completed on draft RBMPs during 2009. This informed the final plans which can be viewed at <http://www.ni-environment.gov.uk/wfd>. Following publication of the final RBMPs in December 2009, an ongoing six-year cycle of review, reassessment and revision will commence.
- 3.8 The overall target in the first round of plans is that 64% of our water bodies will achieve good ecological status by 2015. Only 28% of water bodies currently achieve good ecological status. The water and sewerage industry has a key role to play in achieving this ambitious target. The WFD is therefore a key driver in NIW's capital investment programme during the 2010/13 period and beyond. Many of the initial water and sewerage measures were anticipated in the development of the plans. Any further action to achieve WFD objectives will be factored into longer-term capital investment plans beyond 2010/13. These will be decided once NIEA completes additional assessments and reviews the impact and success of the initial measures.

### **Urban Waste Water Treatment Directive**

- 3.9 NIW collects and treats 134 million cubic metres of waste water every year on our behalf. This involves the maintenance and operation of about 1,100<sup>5</sup> waste water treatment works and the maintenance of more than 14,500 km of sewers. The focus of recent sewerage investment has been on meeting the requirements of the Urban Waste Water Treatment Directive (UWWTD)<sup>6</sup>.
- 3.10 The UWWTD is transposed through the Urban Waste Water Treatment Regulations (NI) 2007<sup>7</sup>. Its objective is to protect the environment from sewage pollution through the effective collection, treatment and discharge of waste water. The Directive sets treatment levels based on the size of population (population equivalent) served by the

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<sup>5</sup> Over 800 of these works serve a population equivalent less than 250.

<sup>6</sup> Council Directive 91/271/EEC

<sup>7</sup> The Urban Waste Water Treatment Regulations (NI) 1995 first transposed the UWWTD.

sewerage system and the sensitivity of waters receiving their treated discharges.

- 3.11 The Directive requires the designation of sensitive areas (sensitive water bodies) for water bodies which are:
- freshwater bodies, estuaries and coastal waters which are eutrophic<sup>8</sup> or which may become eutrophic if protective action is not taken; or
  - surface freshwaters intended for the abstraction of drinking water which contain or are likely to contain more than 50 mg/l of nitrates; or
  - areas where further treatment is necessary to comply with other Council Directives such as the Directives on fish waters, on bathing waters, on shellfish waters, on the conservation of wild birds and natural habitats, etc.
- 3.12 Sensitive water designations are reviewed every four years when additional water bodies can be included. New designations could require higher levels of waste water collection and treatment.
- 3.13 Investment to improve compliance includes major projects such as:
- the Belfast Sewers Project (£160M) which reduces river pollution, mitigates the risk of out of sewer flooding and increases sewerage capacity;
  - the Omega Waste Water Treatment Project (£122M) which represents 20% of total waste water treatment and 100% of sewage sludge disposal capacity; and
  - many smaller sewerage upgrades and improvements including investing £5M annually on upgrading small waste water treatment facilities.
- 3.14 Despite this recent investment and NIW's increasing levels of compliance, the UWWTD remains a major driver for investment during the period. Moreover, there is the possibility of further sensitive area designations and new interpretations of the Directive's requirements which could necessitate additional investment.

### **Bathing Water Directive**

- 3.15 The aim of the first Bathing Water Directive (BWD), adopted in 1975 was to protect public health and the environment by keeping coastal and inland bathing waters free from pollution. To ensure good bathing water quality, the Directive includes maximum limits for physico-chemical and microbiological parameters. Water samples are regularly taken by NIEA for analysis throughout the bathing season from June through to mid September.

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<sup>8</sup> Eutrophic describes a body of water whose oxygen content is depleted by organic nutrients.

- 3.16 Bathing water quality can be impacted by discharges from a number of industries. However, recent experience shows that the main issue for bathing water quality today is usually pollution from either waste water or agricultural run-off. Our focus must therefore be on reducing the risk of bathing water pollution from waste water discharges. This can be achieved through appropriate treatment plant and sewerage system upgrades. However, we recognise that sewerage systems cannot be economically designed and constructed to cope with extreme weather conditions such as were experienced in August 2008.
- 3.17 In 2008, Ballyholme was the only one of our 24 identified bathing waters that failed to achieve the mandatory standards of the BWD. This was due to inadequacies in the local sewer network. An upgrade to the local sewerage system to address these issues will be completed in early 2010. Priority should also be given to completing any necessary sewerage or treatment upgrades in Newcastle which failed to meet the mandatory BWD standards in 2007. Any proposed upgrades should satisfy the quality requirements of the revised BWD.
- 3.18 The revised BWD<sup>9</sup> is transposed through The Quality of Bathing Water Regulations (NI) 2008. It includes higher quality standards through four new bathing water classifications:
- excellent – approximately twice as stringent as the previous guideline standard;
  - good – similar to the existing guideline standard;
  - sufficient – more stringent than the existing mandatory standard; and
  - poor – equates to what is normally considered to be non-compliant waters.
- 3.19 The revised Directive requires all identified bathing waters to achieve “sufficient” classification by the end of the bathing season in 2015. Recent investment on improved waste water treatment will help ensure that most of the bathing waters will meet the revised BWD requirements. This includes the completion of a new £47.5M waste water treatment works on the North Antrim Coast<sup>10</sup> in June 2007. Any further sewerage and waste water treatment upgrades necessary for ensuring BWD compliance should be given priority during the period.

### **Shellfish Waters Directive**

- 3.20 The Department of the Environment (DOE) is responsible for designating shellfish waters under the Shellfish Waters Directive (SWD)<sup>11</sup>. The aims of the SWD are to protect and where necessary

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<sup>9</sup> Council Directive 2006/7/EC.

<sup>10</sup> The new facilities treat waste water from Coleraine, Portrush, Castlerock & Portstewart.

<sup>11</sup> Council Directive 2006/113/EC.

improve the quality of waters where shellfish grow. And, ultimately to contribute to the high quality of edible shellfish products. Under the SWD, there is an obligation to review and, if necessary, make new designations. Once designated, shellfish waters must meet the necessary quality standards within 6 years.

- 3.21 As of January 2008, there were 38 classified shellfish beds in our coastal waters. However, shellfish beds that lie outside existing designated shellfish waters are not protected under the SWD. DOE consulted on proposals to make a number of additional shellfish water designations in January 2009. Additional SWD designations, and modifications to existing ones, were made by DOE in June 2009. We now have 10 designated shellfish waters. Details of their locations can be viewed on the DOE website<sup>12</sup>.
- 3.22 An initial analysis of the new designations by DOE indicated that additional sewerage and waste water treatment investment over and above that already undertaken and planned by NIW should not be significant. The target is to achieve Category B shellfish classification within these designations and not the higher quality standards of Category A. We therefore support the new 2009 designations on the basis that no additional investment will be required over and above that already planned.
- 3.23 NIW should however, complete any necessary investigative work during the 2010/13 period to determine longer term investment requirements beyond 2013 (e.g. develop drainage area plans for affected catchments where these are not already in place).

### **Drinking Water Directive**

- 3.24 The objective of the Drinking Water Directive<sup>13</sup> (DWD) is to protect the health of water consumers by ensuring drinking water is wholesome and clean. It sets standards for the most common substances (or parameters) that can be found in drinking water. A total of 48 microbiological and chemical parameters must be monitored and tested regularly. The DWD is transposed into our national legislation through the Water Supply (Water Quality) Regulations (NI) 2007<sup>14</sup>. The Drinking Water Inspectorate monitors and regulates drinking water quality on behalf of the Department for Regional Development.
- 3.25 NIW abstracts, treats and distributes approximately 630 million litres of drinking water every day through a network of over 26,500 km of water mains. Recent investment focussed on improving water treatment facilities and mains networks to achieve the quality requirements of the DWD. The current high levels of drinking water compliance have been achieved through sustained investment on water treatment facilities

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<sup>12</sup> [http://www.doeni.gov.uk/index/protect\\_the\\_environment/water.htm](http://www.doeni.gov.uk/index/protect_the_environment/water.htm).

<sup>13</sup> Council Directive 98/83/EC

<sup>14</sup> SR 2007/147.

and on mains rehabilitation. It is essential that this investment continues to maintain water quality and address authorised departures from the DWD and other statutory obligations.

3.26 We recently amended the 2007 Regulations to:

- transpose the amended raw monitoring requirements introduced by WFD;
- take forward the water safety plan approach recommended by the World Health Organisation by widening the scope of risk assessment;
- facilitate the identification of trends in raw water quality in a timely manner potentially enabling solutions, other than treatment, to be identified and implemented in line with the WFD; and
- introduce additional enforcement powers and offences in respect of water treatment.

### **Floods Directive**

3.27 The Floods Directive<sup>15</sup> entered into force on 26 November 2007. Its aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage, and economic activity. The Directive requires Member States to undertake a preliminary flood risk assessment of all river basins and coastal zones to identify areas at potential significant risk. For areas identified at risk, flood hazard maps are to be prepared along with flood risk management plans which contain appropriate objectives and measures to reduce significant risk in these areas.

3.28 DARD Rivers Agency is the designated authority for the implementation of the Floods Directive which has been transposed through the Water Environment (Floods Directive) Regulations (NI) 2009. However, as owners of key drainage infrastructure, Roads Service and NIW are required to exercise their functions in a manner that secures compliance with the Directive.

3.29 The Directive requires Member States to identify the river basins and associated coastal areas at risk of flooding by 2011, draw up flood risk and flood hazard maps by 2013 and establish flood risk management plans focused on prevention, protection, and preparedness by 2015. The Directive also reinforces the rights of the public to access this information and to have a say in the planning process.

3.30 The development of river basin management plans under the WFD and of flood risk management plans under the Floods Directive are elements of integrated river basin management. Coordination of the plans will create opportunities to manage flood risk on a catchment basis that makes a positive contribution to the water environment.

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<sup>15</sup> Council Directive 2007/60/EC

3.31 During the 2010/13 period, NIW should assist Rivers Agency in completing preliminary flood risk assessments (by Dec 2011) and developing flood hazard maps (by 2013). It will also be important to ensure that any infrastructure improvements completed during the planning period do not compromise the aims of the Floods Directive in the longer term. NIW will also contribute to the development of flood risk management plans (by 2015) which will include policies and proposals to improve surface drainage infrastructure. Implementation of these plans can be factored into NIW's longer-term capital investment plans beyond 2013.

### **Summary of Investment Priorities**

3.32 The investment priorities for environmental quality improvements are included in Priorities 1 & 2 in Chapter 6 and can be summarised as:

- completing initial measures identified in the River Basin Management Plans to achieve the aims of the WFD;
- raising waste water discharge standards to comply with the UWWTD, BWD and SWD;
- complying with the requirements of the Floods Directive on the assessment and management of flood risks;
- maintaining the high levels of drinking water quality that have been achieved in recent years;
- addressing authorised departures from the quality standards of the DWD and other statutory obligations; and
- addressing immediate development pressures by providing increased capacity, particularly at overloaded waste water treatment works.

3.33 We also expect NIW to identify and program any improvements necessary to comply with longer term EU requirements beyond 2013. Priority 5 includes any additional WFD measures identified through monitoring and any further improvements necessary for UWWTD compliance.

## **4 Service Improvements**

### **EU Driven Service Improvements**

4.1 Existing water and sewerage service levels will continue to be improved through EU quality driven projects associated with drinking water and water in the environment. Through the water and sewerage investment programme outlined in Chapter 3, we expect customers to benefit from:

- reduced pollution through improvements to sewerage facilities;
- improved ecological quality of our inland and coastal waters - providing benefits for aquaculture, fish, wildlife, and recreational use;
- higher bathing water quality standards - direct benefits for customers and for tourism;
- a reduced risk of sewer flooding through quality improvements to the sewerage network;
- clean, safe, wholesome drinking water, meeting the quality standards of the DWD;
- further safeguards to drinking water quality through the introduction of wider catchment risk assessments and new raw water monitoring programmes;
- a reduction in the number of unplanned interruptions to supply through investment on water mains rehabilitation; and
- continuing improvements in pressure and leakage reduction through the water mains rehabilitation programme.

4.2 However, we recognise the importance of including further measured improvements to service levels that will provide noticeable customer benefits. The rest of this Chapter provides an initial overview of the results of independent consumer research and highlights how this has influenced the proposed investment priorities listed in Chapter 6.

### **Independent Consumer Research**

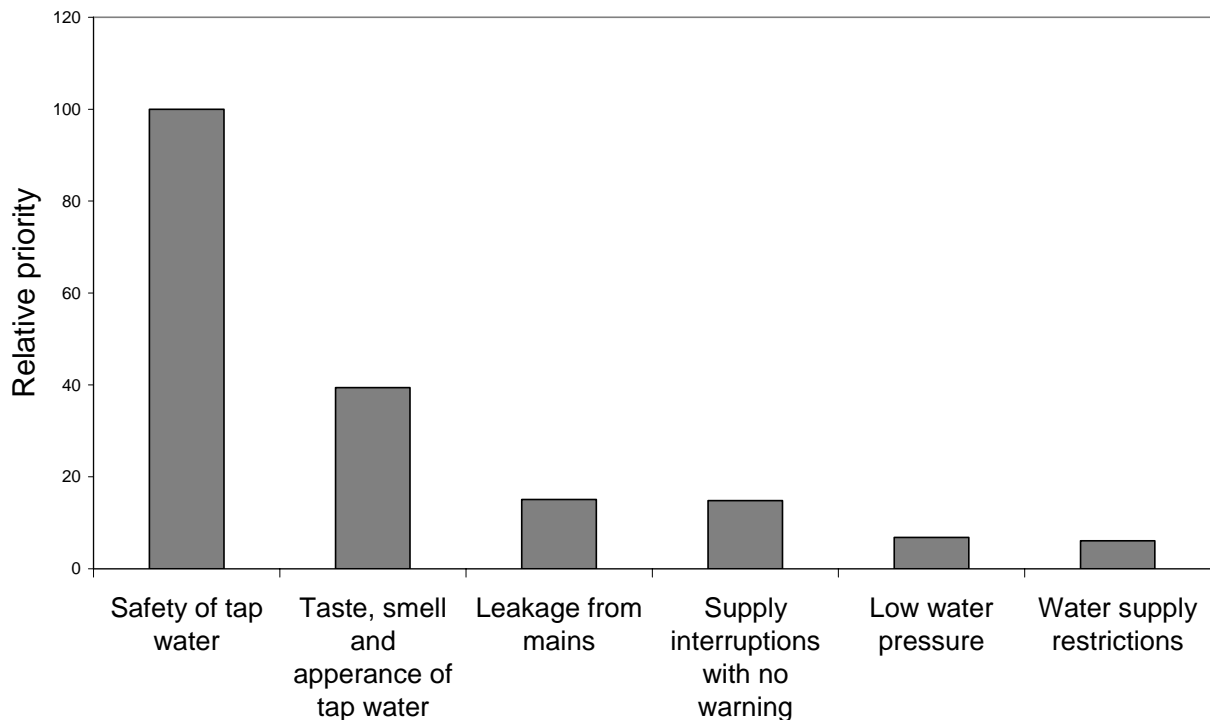
4.3 In Autumn 2008, NIW asked the Consumer Council to carry out independent research to find out what consumers want from their water and sewerage services. The research project was undertaken during 2008 and involved:

- group discussions;
- telephone interviews with non-domestic customers; and
- a survey of 1000 households.

A copy of the 'Tapping into Consumers' Views Report' is available on the Consumer Council's website, <http://www.consumercouncil.org.uk/>.

4.4 Consumers were given information about the different services NIW provides. They were asked to rank the services in the order they felt were the most important to the least important for maintaining and improving water and sewerage services. The survey results are categorised into water, sewerage, environmental and customer service. The graphical illustrations show the relative priorities of individual service factors within each category.

### Water Supply Service Factors

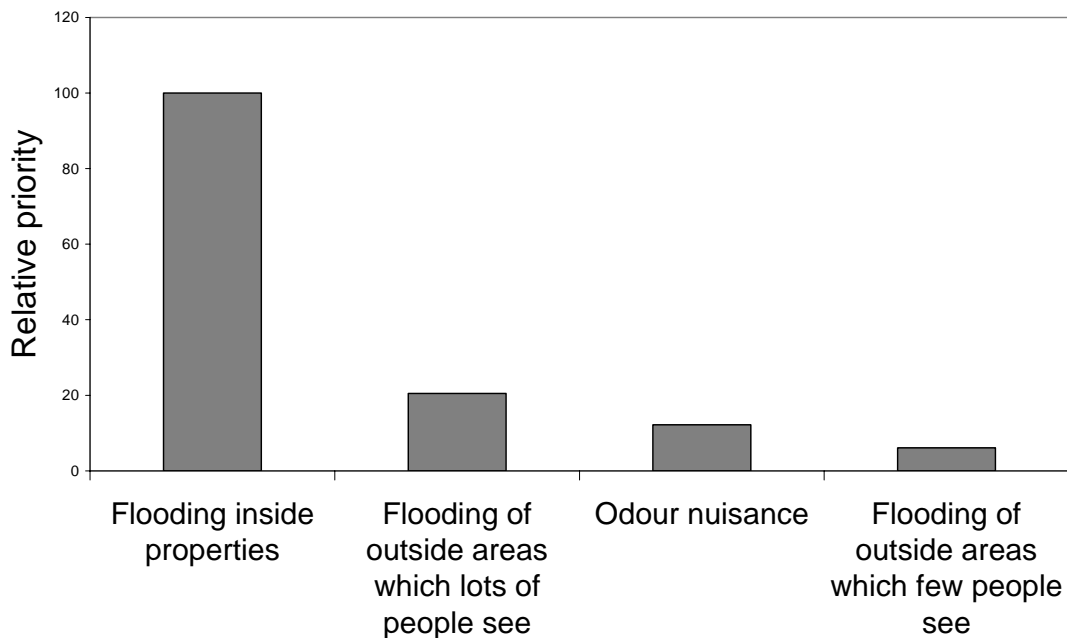


4.5 An overwhelming majority stated that safety and the taste, smell and appearance of drinking water are their main preferences. The Drinking Water Directive already commits us to ensuring high standards in these areas. Investing in infrastructure to maintain high standards of drinking water quality and address areas where DWI has authorised NIW to temporarily depart from standards is therefore included in Priority 1.

4.6 Consumers' third preference was leakage. This is included in Priority 3. There are environmental and economic benefits from reducing leakage. However, in a pressurised water system with over 26,500 km of mains, there is inevitably an optimum level of leakage. This is where it is no longer cost effective to invest in further reductions and is called the Economic Level of Leakage (ELL). We expect current levels of leakage investment to continue during the period with the focus of achieving and maintaining the Economic Level of Leakage.

- 4.7 Also in Priority 3 is low pressure, consumers' fifth preference. We expect improvements in pressure to continue through the ongoing investment in water infrastructure, and in particular the mains rehabilitation programme. Improvements during the period are to be monitored by maintaining a register of properties at risk of receiving low pressure (DG2 Register). We would expect to see a reduction in the number of properties at risk over the period.
- 4.8 Consumers consider interruptions to the supply of drinking water with no warning as their fourth preference. These are usually caused by burst or damaged water mains. These take time to fix and can involve expensive road excavations along with traffic management restrictions. We therefore recognise the need to reduce the number and frequency of these interruptions and include this as a Priority 2 along with limiting restrictions to supply (identified by customers as their sixth preference).

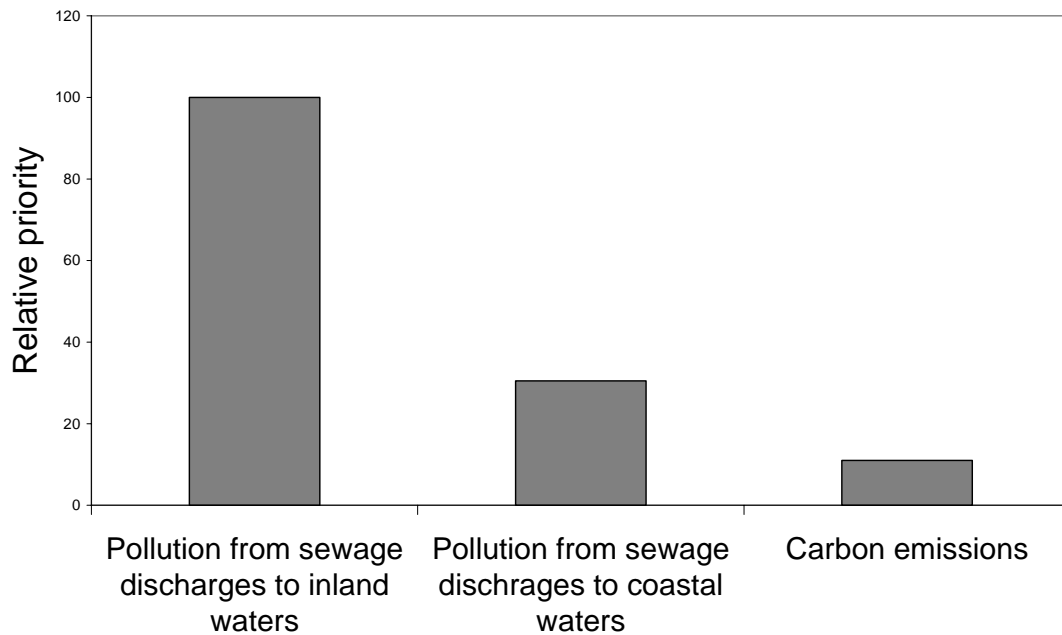
### Sewerage Service Factors



- 4.9 Preventing flooding inside properties, that is, flooding from sewers which occurs inside a property, was consumers' overwhelming preference. This is understandable given the damage and distress caused by such flooding. In Priority 2, we include specific measures to reduce the risk of internal flooding events. NIW will maintain a register of properties at risk from internal sewer flooding (DG5 Register). We expect NIW to maximise returns for DG5 investment during the period in terms of the number of properties to be removed from the register.
- 4.10 Priority 2 also includes proposals to improve the management of the sewerage system in general. These improvements along with the proposals for internal sewer flooding will reduce the extent of external sewer flooding (second and fourth preferences by consumers).

4.11 Odour nuisance was consumers' third preference. Sewage odours are often attributed to sewer flooding or spills, both of which will be reduced by improvements to the sewerage network. We expect NIW to continue effective management of sewage odours during its waste water treatment operations and to deal with existing issues on a prioritised basis in consultation with NIEA and Environmental Health Officers.

### Environmental Service Factors

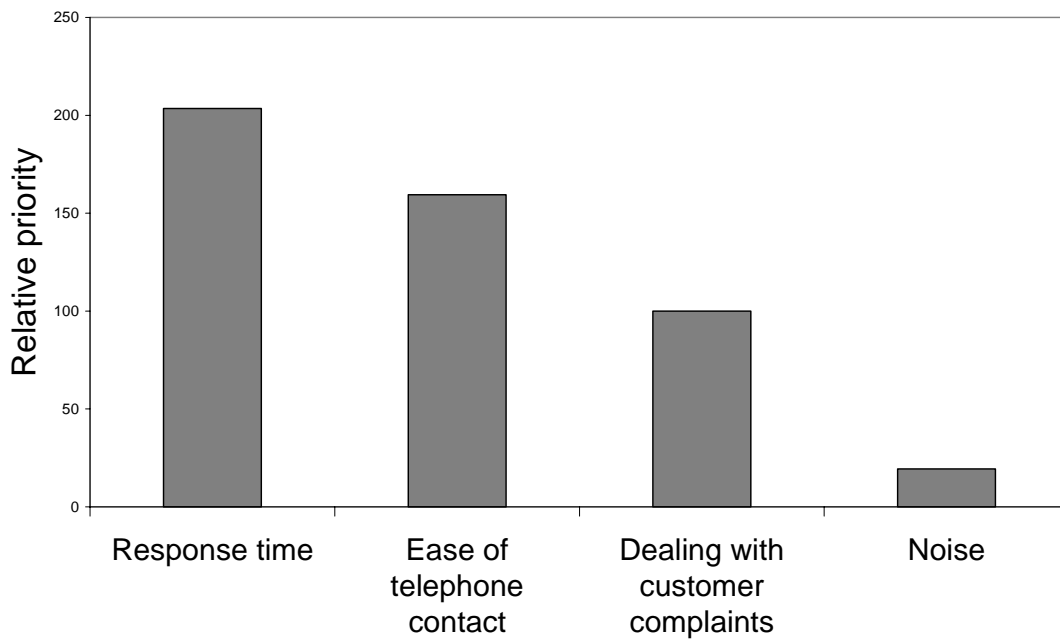


4.12 Preventing sewage pollution to inland waters (rivers and lakes) and coastal waters were the top two environmental preferences for consumers. The UWWTD and other legal instruments require such pollution to be minimised. Fines can be imposed not only directly on NIW through enforcement action, but also on our Government if these commitments are not met. We therefore recognise the importance of reducing sewage pollution and include a number of measures in Priority 1 to improve the quality of sewerage discharges in line with European requirements.

4.13 Combined sewerage systems which collect both waste water and rainwater can become overloaded during periods of particularly heavy rain. This increases the risk of sewer flooding or overloading of treatment works. These risks are managed through emergency overflows which discharge into inland and coastal waters to alleviate hydraulic pressure on the sewerage system. We recognise the need to effectively monitor and control these discharges to prevent pollution. In Priority 2, we therefore expect to see a continued reduction on the number of pollution incidents through efficient and effective monitoring and control of the sewerage infrastructure.

4.14 NIW’s role in reducing carbon emissions (ranked third by consumers) is reflected in Priority 6. This identifies measures for contributing to sustainability and tackling climate change. As our largest single consumer of electricity, NIW can make a valuable contribution to reducing carbon emissions. We therefore expect NIW to increase its use of green energy, deploy more sustainable technologies, and deliver energy efficiency improvements over the period. In addition, for the next price control period, carbon costs will be included in the assessment for all significant capital projects.

**Customer Service Quality and Effectiveness**



4.15 Consumers rank NIW’s ability to respond and fix problems as their main preference, followed by ease of telephone contact. Dealing with customer’s written complaints within 10 working days was ranked third. We recognise the importance of supporting service delivery with efficient and effective customer services. Good customer service depends on having good information readily available. This can be about the state of the asset, its location or the availability of staff to respond to an event. This should be delivered through NIW’s transformation programme. In Priority 2 we highlight our expectation for continued customer service improvements during the period.

4.16 Noise was not considered a main priority for consumers.

## 5 Delivering Sustainable Services

- 5.1 This Chapter outlines the contribution we expect NIAUR and NIW to make to improve the sustainability of water and sewerage assets and operations over the period. Most of the proposed investment measures are included in Priority 6, however sustainability is a common theme throughout all the investment priorities in Chapter 6.

### Sustainable Development

- 5.2 Respecting the limits of the planet's environment, including its resources and biodiversity, is one of the key principles of sustainability and it encourages everyone to live, work and enjoy their leisure time in an environmentally sustainable way. NIW has an important part to play in promoting sustainability but many bodies, including individuals, need to be involved if we are to achieve wider sustainability goals.
- 5.3 In its Strand 2 Report, the Independent Water Review Panel (IWRP) recognised the importance of sustainability within the water industry and recommended that all future policies should consider six guiding principles. These are:
- Living Within Environmental Limits;
  - Ensuring a Strong, Healthy and Just Society;
  - Achieving a Sustainable Economy;
  - Promoting Good Governance;
  - Using Sound Science Responsibly; and
  - Promoting Opportunity & Innovation.
- 5.4 The water industry should also contribute towards the achievement of the Executive's Sustainable Development Strategy<sup>16</sup> during the period. The future regulation, planning and delivery of water and sewerage services have a major role to play in contributing to sustainable development through:
- improving resource efficiency;
  - protecting and enhancing the fresh water and marine environment; and
  - reduce greenhouse gas emissions through energy efficiency and the use of renewable energy.
- 5.5 In targeting the service improvements identified in Chapter 4, there will be benefits for sustainability, in terms of resource efficiency. Reducing

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<sup>16</sup> The Executive's draft SDS was consulted upon in October 2009. The proposed strategy is available on the OFMDFM website at <http://www.ofmdfmi.gov.uk/economic-policy-sustainable-development>.

leakage and implementing the Water Supply (Water Fittings) Regulations (NI) 2009 will contribute to improved water efficiency and conservation.

- 5.6 By investing to meet the requirements of UWWTD and the other key environmental quality obligations outlined in Chapter 3, we expect to see an improvement in the quality of our inland and coastal waters. This will contribute to the WFD's goal of achieving good ecological status for waters. Improved ecological quality of our waters will provide long term benefits for aquaculture, fish, wildlife, recreational use and will reduce the energy costs of drinking water treatment.
- 5.7 If we are to build for the future, any proposed infrastructure and operational upgrades must be sustainable and not leave a legacy of high energy / operating cost plant. This includes planning for growth, improving energy efficiency and adopting any new innovative systems or practices that can improve the sustainability of water and sewerage assets including Sustainable Drainage Systems (SuDS) and renewable energy deployment.

### **Building for the Future**

- 5.8 Water is a precious resource, essential for life. Changes in population and household formation, urban development, and lifestyles will put increased pressure on our water resources and urban drainage. Climate change will also have an impact on the industry. In the future we are expected to experience rising temperatures, wetter winters, drier summers, more intense rainfall events and greater climate variability. Without action there are expected to be discrepancies between water demand and availability, more widespread water stress, more water quality problems in the natural environment and increased flood events from rivers and urban drainage systems. Long term planning through water resource management is needed to achieve this.
- 5.9 During the period, any proposed water or sewerage upgrades should include sufficient capacity for planned development and growth. To achieve this, future capital investment programmes must be integrated with land-use planning through close cooperation with Planning Service. The Regional Development Strategy<sup>17</sup> (RDS) and local development plans should also inform drainage area plans and water resource management plans.

### **Improving Energy Efficiency**

- 5.10 As part of a climate change and energy package announced in 2008, the EU set Europe-wide targets for 20% reduction in energy use, a 20% share for renewables in the energy mix, and a 20% reduction in

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<sup>17</sup> The RDS provides the spatial planning context for housing, transport, air and water quality, energy and waste strategies, and for infrastructure providers and public service promoters.

greenhouse gas emissions by 2020. Government targets<sup>18</sup> are to reduce greenhouse gas emissions by 26% before 2020 and by 80% before 2050 (against a 1990 baseline). DETI consulted on a draft Strategic Energy Framework<sup>19</sup> in July 2009 which includes targets for increasing the use of renewable electricity here. DOE's Carbon Reduction Commitment<sup>20</sup> scheme should also provide incentives for improving energy efficiency in the water sector during the period.

- 5.11 The water sector therefore faces challenging targets to improve energy efficiency. As our largest single consumer of electricity, NIW can make a valuable contribution towards achieving these targets. NIW should give priority to developing a monitoring system to provide effective management information on its energy usage and set targets for improving energy efficiency over the period. However, this will be hugely challenging and will demand a more sustainable approach to target setting by both the economic and environmental regulators.
- 5.12 The introduction of carbon costs in the planning of all significant projects from 2013 onwards will require traditional high energy water and waste water solutions to be reassessed to see if more sustainable and innovative technologies can be employed. However, there is a potential conflict between the ever increasing waste water treatment standards required to protect the environment and the power, chemicals and costs required to achieve these. In its consultation response, the Regional Development Committee has identified this as an issue to be investigated.
- 5.13 NIW and NIAUR should therefore work with NIEA to explore the opportunities for adopting a more sustainable, holistic, catchment-based approach to waste water collection and treatment. Adopting more sustainable approaches now will help mitigate against a legacy of high operating cost plant both financially and in carbon terms.

### **Sustainable Catchment Management**

- 5.14 The introduction of a risk based approach to water supply<sup>21</sup> through raw water monitoring will enable potential quality issues to be resolved at source through sustainable catchment management based solutions rather than traditional high energy treatment. Preventing substances entering our natural water system is often a more cost-effective and energy efficient way of tackling water quality issues. This is the concept behind sustainable catchment management.

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<sup>18</sup> Climate Change Act 2008.

<sup>19</sup> The SEF is available on the DETI website at [http://www.detini.gov.uk/draft\\_strategic\\_energy\\_framework\\_2009-2.pdf](http://www.detini.gov.uk/draft_strategic_energy_framework_2009-2.pdf).

<sup>20</sup> Details of the CRC scheme are available on the DOE website at <http://www.environment-agency.gov.uk/business/topics/pollution/111597.aspx>.

<sup>21</sup> Through the Water Supply (Water Quality) (Amendment) Regulations (NI) 2009

- 5.15 The Sustainable Catchment Management Plan<sup>22</sup> (SCaMP) in northern England is an example of how such solutions can deliver real benefits for both the environment and for water quality. Through SCaMP, 20,000 hectares of designated land was brought into favourable condition, delivering both huge benefits for biodiversity and helping to protect and improve the quality of raw water for public supply.
- 5.16 During the 2010/13 period, NIW, DWI and NIAUR should explore the opportunities of adopting a more sustainable approach to drinking water treatment through innovative catchment management solutions such as SCaMP.

### **Sustainable Surface Drainage**

- 5.17 Climate change and new housing development are likely to continue to place greater pressure on drainage networks, increasing the risk of surface water and sewer flooding. The increased instances of heavy flooding over the last few years further highlight the need for effective, efficient and sustainable drainage infrastructure.
- 5.18 One of the key goals within the Executive's Investment Strategy is "sustainable flood risk management to meet the social, environmental and economic needs of the region." It would require enormous sums of money to totally eliminate the risk of flooding. Any investment needs to be carefully prioritised to achieve maximum benefit and should include adopting any new innovative systems and technologies that can improve the sustainability of the drainage infrastructure. NIW is therefore expected to investigate options for adopting a more sustainable approach to surface water drainage through the use of SuDS.
- 5.19 Responsibility for flood risk management falls to the Department of Agriculture's Rivers Agency. However, implementation of the EU Floods Directive on the assessment and management of flood risks requires an integrated approach by all authorities involved in surface water management. NIW therefore has a major role to play in future flood risk management and should factor this into future drainage area planning in addition to EU environmental quality drivers. In addition, NIW should continue to work in partnership with Rivers Agency and Roads Service to respond effectively to flooding events.
- 5.20 NIW should also ensure co-operation with Rivers Agency in the development and delivery of appropriate regulation of reservoir safety.

### **Water Efficiency & Conservation**

- 5.21 There is a commonly held view that as we have so much rain, there is no necessity to conserve water. This ignores the fact that it takes a lot of electricity and chemicals to produce high quality drinking water, a

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<sup>22</sup> United Utilities developed SCaMP in association with the RSPB.

large quantity of which we flush down the toilet. If we reduce the amount of water we consume; our carbon footprint from the use of electricity will be smaller; we will cause less damage through the use of chemicals and we will abstract less water. There will also be economic benefits through reduced energy and chemical costs.

- 5.22 During the period, water efficiency and conservation should be improved through the roll-out of metering to the non-domestic sector, reducing water leakage, promotional/ education campaigns and implementation of the new Water Supply (Water Fittings) Regulations (NI) 2009.

### **Metering**

- 5.23 The bulk of non-essential or discriminatory water use occurs in the non-domestic sector. The rolling out of metering in that sector will incentivise the efficient use of water resources in line with Article 9 of the WFD on the recovery of costs for water services.

### **Water Leakage**

- 5.24 We expect NIW to continue to deliver improvements in leakage during the period. The current focus of achieving and maintaining the Economic Level of Leakage should continue. However, a Sustainable Economic Level of Leakage which includes carbon costs should be developed and used to determine future capital investment needs beyond 2013.

### **Promoting Water Efficiency**

- 5.25 The Water and Sewerage Services (NI) Order 2006 places a duty on NIW to promote the efficient use of water by customers. NIAUR has responsibility for enforcing this duty. During the period, NIW should continue to promote water conservation by:
- (i) attending major public exhibitions, hosting events at its Silent Valley Education Centre and organising educational visits to schools and communities;
  - (ii) using its Waterbus, (a double-decker mobile classroom) to teach pupils about issues such as water efficiency;
  - (iii) publishing education leaflets for customers on water topics such as using water wisely; and
  - (iv) running campaigns designed to increase awareness of the need for water conservation and more environmentally friendly lifestyle choices and behaviours.

### **New Water Fittings Regulations**

- 5.26 The new Water Supply (Water Fittings) Regulations (NI) 2009 set out minimum performance standards for water using apparatus (toilets, dish washers and washing machines, etc) by reducing permissible

water usage volumes. The Regulations aim to reduce the risk of contamination and reduce wastage of water supplied by NIW through the use of specified water fittings and methods of installation.

## **Water Resource Management**

5.27 NIW's existing Water Resource Strategy will cover the 2010/13 period. However, during the period, NIW should complete Water Resource Management Plans (WRMPs) to identify the long-term water resource management and security of supply investment needs. The WRMPs will set out how demand for water is balanced against the supply over the next 25-year period and should include:

- demand forecast - how much water NIW will need in the future, considering factors such as climate change, population growth and regional development (RDS);
- supply forecast - how much water is available for use now and how this may change in the future, considering the impacts of climate change and potential sustainability reductions;
- assessment of the options to manage demand, including metering customers' supplies, helping customers to be more efficient in their use of water and reducing leakage; and
- assessment of the options to obtain more water from new water resource schemes.

5.28 In completing WRMPs, NIW must comply with the requirements<sup>23</sup> of the Strategic Environmental Assessment Directive<sup>24</sup>.

## **Resilience & Protection of Infrastructure**

5.29 Consideration of the risks and impacts of floods on water and sewerage infrastructure and the greater incidence of more extreme weather conditions that climate change is likely to bring, should also extend to resilience of the water industry. NIW is expected to consider the vulnerability of its services to these hazards and other risks and assess the resilience of its water and sewerage assets and systems to inform future investment requirements.

5.30 The Department for Environment Food and Rural Affairs (DEFRA) is responsible for implementing Government policy for the water industry in England and Wales. DEFRA issues advice to water and sewerage companies on security measures and procedures which should be adopted to ensure the protection of nationally important infrastructure. The advice has been adopted by the devolved administration and water industry in Scotland.

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<sup>23</sup> Strategic Environmental Assessment is a process to ensure that significant environmental effects arising from policies, plans and programmes are identified, assessed, mitigated, communicated to decision-makers, monitored and that opportunities for public involvement are provided.

<sup>24</sup> Council Directive 2001/42/EC.

5.31 We recognise that NIW already undertakes many of the requirements of the advice as best practice and would expect this to continue over the period. Significant investment would be required to meet all these requirements and funding would be needed outside the price control settlement. However, we expect NIW to upgrade and maintain any protection measures at identified critical sites.

### **Septic Tanks**

5.32 We will continue to work with DOE and NIEA to develop and implement any approach that could contribute to addressing the problems caused by the proliferation of private septic tanks. This can cause problems in inland waters where large numbers of septic tanks discharging in the same vicinity can have a detrimental impact on water quality.

5.33 NIW is not responsible for private septic tanks (though it provides an emptying service). But we expect NIW and NIAUR to contribute to any policy development in this area, recognising that funding for any implementation will have to be allocated outside this price control settlement.

## 6 Key Investment Priorities for 2010-13

### Overview

- 6.1 In its Investment Strategy, the Executive has identified “a high quality water and waste water infrastructure for the region, capable of meeting EU requirements” as a key environmental goal. A major consideration in achieving this goal is affordability for customers and for the taxpayer. Not everything can be fixed at once and it would not be good use of investment to try to do so.
- 6.2 The Independent Water Review Panel (IWRP) recognises this and cautions against making the substantial investment required to effect marginal improvements in drinking water quality which are already above 99% compliant. We also recognise that in a pressurised water system there will always be a certain level<sup>25</sup> of leakage. Similarly, trying to build water and sewerage infrastructure now to accommodate all potential long term development or to cope with any weather event would not be sensible use of finite resources. Removing all risk of flooding is not feasible.
- 6.3 Capital investment in the region of £600 million is expected be made during the 2010/13 period. This will provide continuing major improvements in our water and sewerage infrastructure to meet the Executive’s goal.
- 6.4 Meeting EU legislative requirements is mandatory. Fines can be imposed not only on NIW through prosecution, but also on our Government if these requirements are not met. Implementing the measures to secure compliance will also improve the quality of services for customers.
- 6.5 Independent consumer research has informed the proposals for further service quality improvements in areas such as the quality and safety of drinking water and sewer flooding. Wider programmes such as water mains rehabilitation will also provide benefits for customers in terms of reduced unplanned supply interruptions, improvements in pressure and reduced leakage.
- 6.6 We recognise the need to identify and plan for any infrastructure improvements to comply with EU requirements beyond 2013. Further improvements associated with the WFD need to be considered. Water and sewerage services need to be sustainable if we are to build for the future. This includes planning for growth, improving energy efficiency and adopting any new innovative systems or practices that can improve the sustainability of water and sewerage assets.

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<sup>25</sup> This is the Economic Level of Leakage (ELL), where it is no longer cost effective to invest in further leakage reductions.

6.7 The strategic priorities for the 2010/13 investment period can be summarised as:

- **affordability** – provide affordable cost effective services for customers;
- **EU compliance** – meet our European legal obligations in relation to drinking water quality, waste water discharges into the environment, and contribute to flood risk management with other Agencies;
- **service delivery and improvement** – maintain current service levels and work towards improvements that provide customer benefits in areas such as sewer flooding and interruptions to water supply; and
- **sustainability** - improve our infrastructure to reduce leakage, cut unsatisfactory sewerage discharges, lower energy consumption and allow for future growth.

6.8 Our investment priorities which are founded on these four key principles, were developed in conjunction with key stakeholders through the price control process<sup>26</sup> and informed through public consultation. These have been broken down into six levels of priority. It is difficult to draw a clear distinction between them because of dependencies and overlap. For instance, all the priorities contribute towards sustainability, whether it is through meeting the mandatory European quality requirements of the Water Framework Directive (Priority 1) or reducing water mains leakage (Priority 3). The Priorities are summarised in the following paragraphs.

### **EU Environmental Quality Obligations (Priority 1)**

6.9 Future investment should continue to focus on water and sewerage treatment facilities and on the sewerage and drainage networks. We recognise that NIW may be faced with a higher length of water mains and sewer per household in comparison to other companies, and that this may mean higher maintenance and replacement costs. Where funding does not permit the progressing of all quality or growth related projects identified during the period, we expect any deferred projects to be addressed in the next price control period. Our priorities during the period are:

|    |  |
|----|--|
| 1A | <i>Complete treatment and capacity upgrades at waste water treatment works necessary for ensuring compliance (with UWWTD, BWD, SWD) and addressing immediate development pressures. This includes providing appropriate treatment at small waste water treatment works<sup>27</sup>.</i> |
| 1B | <i>Implement those drainage area plans identified (by NIEA) as the highest priority and develop programmes to address specific sewerage issues such as internal sewer flooding, unsatisfactory discharges and spills from sewer overflows.</i>   |

<sup>26</sup> The environmental quality regulators (NIEA & DWI), the Consumer Council, the utility regulator (NIAUR) and the water company (NIW).

<sup>27</sup> Small works are defined as those which serve a population equivalent of less than 250 people. There are around 800 such works.

|    |   |
|----|---|
| 1C | <i>Implement site specific WFD sewerage measures associated with the River Basin Management Plans. These may include reducing the number of sewerage spills or providing enhanced treatment in certain catchments.</i>              |
| 1D | <i>Complete water infrastructure and treatment upgrades necessary to address authorised departures and other statutory obligations from the Water Supply (Water Quality) Regulations (NI) 2007 as amended by SR2009/246.</i>        |
| 1E | <i>Complete water infrastructure and treatment upgrades necessary to sustain current<sup>28</sup> overall drinking water quality standards in line with the recommendations<sup>29</sup> of the Independent Water Review Panel.</i> |
| 1F | <i>Introduce wider catchment risk assessments and new raw water monitoring programmes in line with the proposed Water Supply (Water Quality) Regulations (NI) 2007 as amended by SR2009/246.</i>                                    |
| 1G | <i>Contribute to the completion of Preliminary Flood Risk Assessments (by Dec 2011), Flood Risk &amp; Hazard Maps (by Dec 2013) and Flood Risk Management Plans (by Dec 2015) in line with the Floods Directive.</i>                |

## **Improving Service Levels (Priority 2)**

6.10 Independent customer research has informed the proposed service quality improvements below. We recognise that these must be supported by high quality customer services and founded on accurate, reliable and consistent information. This includes customer, financial, management and asset information.

|    |  |
|----|--|
| 2A | <i>Continue improvements in customer service quality and effectiveness through the development of better data and information systems.</i>   |
| 2B | <i>Improve the accuracy, reliability, security, and consistency of information - customer, financial, management, and asset information.</i>   |
| 2C | <i>Adopt any new technology or systems that provide tangible benefits in terms of improving service performance or reducing operational costs, whilst ensuring the resilience and security of essential control and monitoring networks.</i> |

6.11 Our main priority for water is to provide consistent high standards of quality and service for all customers. We expect improvements in security of supply and unplanned interruptions to continue and a safety plan approach to be adopted to further safeguard water quality. The proposed priorities for water service level improvements can be summarised as:

<sup>28</sup> Current drinking water quality standards taken as the Mean Zonal Compliance (MZC) and Operational Performance Indicator (OPI(TIM) achieved in 2009 (i.e. MZC > 99.7% and OPI(TIM) > 99.1%).

<sup>29</sup> Given the high level of drinking water compliance already achieved and the substantial investment required to effect further marginal improvements, the IWRP recommends that the Executive should consider the cost effectiveness of increasingly exacting drinking water compliance targets.

|    |   |
|----|---|
| 2D | <i>Implement the Water Supply (Water Fittings) Regulations (NI) 2009 to prevent the waste and contamination of public water supplies and protect against the use of defective water fittings.</i>                                 |
| 2E | <i>Complete the risk assessments required to inform Water Safety Plans (WSPs) for public water supply systems during the period in line with the Water Supply (Water Quality) Regulations (NI) 2007 as amended by SR2009/246.</i> |
| 2F | <i>Reduce regional variations in drinking water quality and improve security of supply through the decommissioning of abstraction points susceptible to contamination and installing additional water mains as necessary.</i>     |
| 2G | <i>Continue to reduce the number of properties that experience unplanned and unwarned interruptions to drinking water supply in excess of 6/12/24 hrs (DG3 Register).</i>   |

6.12 Recent sewerage investment has focussed on upgrading and improving waste water treatment processes to comply with UWWTD standards. Improvements in this area need to continue as identified in Priority 1. We also expect NIW to invest in improving the quality of the sewerage networks to comply with the collection system requirements of UWWTD and to target key customer priorities including unsatisfactory discharges and flooding from overloaded sewers. This will include collecting accurate and reliable information on sewerage infrastructure and completing investigative work to inform drainage area plan development.

6.13 NIW should also collect accurate data on sewer flooding and maintain a register of properties at risk for monitoring purposes. The proposed sewerage service quality improvements are:

|    |   |
|----|---|
| 2H | <i>Collect accurate and reliable information on sewerage infrastructure<sup>30</sup> to inform the development of a future programme of drainage area plan work for the 2010/13 period and beyond.</i>  |
| 2I | <i>Develop a priority <u>long-term</u> drainage area plan programme (in conjunction with NIEA) for the price control period and beyond, focussed on addressing EU environmental quality drivers and reducing the risk of surface flooding.<sup>31</sup></i> |
| 2J | <i>Following completion of urgent drainage area plan (DAP) work identified in Priority 1, commence long-term DAP programme.</i>   |
| 2K | <i>Develop and maintain a register of properties at risk from internal sewer flooding (DG5 Register).</i>   |
| 2L | <i>Implement a programme of projects to reduce the number of properties on the DG5 Register over the 2010/13 period and beyond.</i>   |
| 2M | <i>Reduce the number of pollution incidents through efficient and effective monitoring and control of the water and sewerage assets.</i>  |

<sup>30</sup> This will include information on unsatisfactory intermittent discharges, external sewer flooding and other capacity related issues.

<sup>31</sup> Taking account of future development plans and the effects of climate change.

6.14 It is important that NIW continue to work in partnership with other agencies to coordinate works and mitigate their impact. With the introduction of trenchless technology, the number of road excavations for water mains and sewerage work has reduced and the quality of the road reinstatements has improved. We expect these improvements to continue and that NIW fulfils its legal obligations for Street Works under The Street Works (NI) Order 1995. NIW's priority during the period should be to:

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|----|--|
| 2N | <i>Fulfil the streetworks notification requirements and continue to improve the quality of road reinstatements in line with Roads Service targets (90% pass rate).</i> |
|----|--|

6.15 Assuring the physical and operational resilience of the water treatment and supply infrastructure from flooding hazards and other risks is necessary to reduce the likelihood of major supply interruptions or contamination. During the period, we expect NIW to:

|    |  |
|----|--|
| 2O | <i>Upgrade and maintain any protection measures at identified <u>critical</u> sites and assess the resilience of its wider water and sewerage asset base and systems to inform future investment requirements.</i> |
|----|--|

### **Water Leakage and Pressure (Priority 3)**

6.16 We expect the current focus of achieving and maintaining the Economic Level of Leakage to continue during the period. Improvements in water pressure should also continue through the water mains rehabilitation programme. The proposed service level improvements can be summarised as:

|    |   |
|----|---|
| 3A | <i>Continue to focus on leakage detection and reduction with the aim of achieving and maintaining the Economic Level of Leakage<sup>32</sup>.</i>                             |
| 3B | <i>Target areas of low pressure through the mains rehabilitation programme to ensure all customers benefit from at least the minimum levels of supply.</i>                    |
| 3C | <i>Maintain a register of properties at risk of receiving low pressure (DG2 Register) and agree the number of properties to be removed from the register over the period.</i> |

### **Surface Flooding (Priority 4)**

6.17 The increased instances of heavy flooding over the last few years highlight the need for sustainable drainage infrastructure and effective future flood management. Responsibility for flood risk management falls to the Department of Agriculture's Rivers Agency. However, as the owner of key drainage infrastructure, NIW has a major role to play in reducing flood risk both now and in the future. The proposed priorities for surface flooding can be summarised as:

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<sup>32</sup> This is the level of leakage where it is no longer cost effective to invest in further leakage reductions.

|    |  |
|----|--|
| 4A | <i>Assist Rivers Agency in a review to clarify controls and responsibilities for the management of surface water drainage (required under the Government Response to the flood management policy review “Living with Rivers and the Sea.”)</i> |
| 4B | <i>Continue to address ongoing surface flooding problems attributed to the NIW sewerage network.</i>   |
| 4C | <i>Ensure effective co-operation in the management of flood risk with other Government Agencies to provide a comprehensive service with a minimum of duplication of effort.</i>  |
| 4D | <i>Put the necessary resources in place to provide an effective emergency response during flooding incidents, in partnership with the other relevant agencies.</i>   |
| 4E | <i>Ensure co-operation with Rivers Agency on the regulation of reservoir safety.</i>   |

### **Longer-term EU Requirements (Priority 5)**

6.18 We expect NIW to identify and program any improvements necessary to comply with longer term EU requirements beyond 2013. These are detailed below and include any additional WFD measures identified through monitoring and any further improvements necessary for UWWTD compliance.

|    |  |
|----|--|
| 5A | <i>Identify and program any further waste water treatment, collection or capacity upgrades necessary for ensuring future compliance with UWWTD, revised BWD &amp; SWD including continued improvements of small treatment works.</i> |
| 5B | <i>Take account of the potential impact of emerging EU policies<sup>33</sup> and developments during the period (e.g. UWWTD requirements for collection systems and CSOs).</i>   |
| 5C | <i>Put in place effective arrangements to monitor future compliance with UWWTD and discharge consents<sup>34</sup>.</i>  |
| 5D | <i>Address any further RBMP water and sewerage measures identified through WFD monitoring.</i>   |
| 5E | <i>Address flood risk management in water and sewerage measures identified through implementation of the EU Floods Directive.</i>  |

### **Sustainability & Climate Change (Priority 6)**

6.19 If we are to build for the future, any proposed infrastructure and operational upgrades should take into account sustainable solutions. This includes planning for growth, improving energy efficiency and adopting any new innovative systems or practices that can improve the sustainability of water and sewerage assets. Sustainability is a

<sup>33</sup> Such as the requirements of the Marine Strategy Framework Directive (2008/56/EC).

<sup>34</sup> Discharge consents are issued by NIEA under the Water (NI) Order 1999.

common theme of all the investment proposals in this Guidance. However, the following further priorities have been identified:

|    |   |
|----|---|
| 6A | <i>Ensure that planned<sup>35</sup> development and growth is factored into any proposed water or sewerage upgrades during the period.</i>  |
| 6B | <i>Improve resource efficiency by:</i> <ul style="list-style-type: none"> <li>- <i>Setting targets and developing and implementing action plans to deliver operational/energy efficiencies;</i></li> <li>- <i>Planning infrastructure development that balances the requirements of future development, the needs of people, and protection of the environment – both pollution prevention and mitigation of climate change; and</i></li> <li>- <i>Developing a Sustainable Economic Level of Leakage to include carbon costs and determine future capital investment needs for achievement from 2013 onwards.</i></li> </ul> |
| 6C | <i>Agree appropriate targets to plan and deliver a contribution to the Programme for Government greenhouse gas emissions reduction target (e.g. through increased use of green energy).</i>   |
| 6D | <i>Promote the recycling and reuse of sewage sludge in an environmentally friendly manner where this is economically viable - for example through sustainable application to forestry and agriculture.</i>  |
| 6E | <i>NIW should continue to invest in education campaigns to promote efficient water usage (water bus).</i>   |
| 6F | <i>Investigate the options for adopting Sustainable Drainage Systems (SuDS) to help reduce pressure on the sewerage systems during periods of heavy rain.</i>   |
| 6G | <i>Establish an appropriately indexed carbon cost to be included in the assessment of all significant capital projects from 2013 onwards.</i>   |
| 6H | <i>Commence and complete work on Water Resource Management Plans (WRMPs) to identify the long-term water resource management and security of supply investment needs (2013 onwards).</i>  |
| 6I | <i>NIW and NIAUR should explore the opportunities with NIEA for adopting a more sustainable, holistic, catchment-based approach to waste water collection and treatment.</i>  |
| 6J | <i>During the period, NIW, DWI and NIAUR should explore the opportunities of adopting a more sustainable approach to drinking water treatment through innovative catchment management solutions such as SCaMP.</i>  |
| 6K | <i>In carrying out its functions and managing its estate, NIW should take account of protected areas<sup>36</sup>, the need to enhance biodiversity<sup>37</sup> and also explore opportunities for greater provision of amenities for interest groups where appropriate.</i>   |

<sup>35</sup> The RDS along with individual Development Plans should inform future growth predictions.

<sup>36</sup> Protected Areas – detailed in Glossary.

<sup>37</sup> In line with the objectives of the NI Biodiversity Strategy.

## Glossary

|  |   |
|--|---|
| Authorised Drinking Water Departure    | An authorisation issued by the Drinking Water Inspectorate enabling NIW to depart from the drinking water quality standards set out in the Drinking Water Directive for a set period of time.           |
| Category A/B Shellfish Classifications | Shellfish Classifications provide a measure of shellfish quality harvested from certain beds. Classifications are determined by the Foods Standards Agency.   |
| Consumer Council                       | The Consumer Council for Northern Ireland. CCNI represents the interests of water and sewerage customers to NIW and Government.   |
| Combined Sewer Overflow (CSO)          | Combined Sewer Overflows are overflows used in combined sewerage system to discharge storm waste water directly into surface waters to relieve hydraulic pressure in the system under storm conditions. |
| Combined Sewer                         | A sewerage system that collects both waste water and rain water.  |
| DEFRA                                  | Department for Environment Food and Rural Affairs. National Government Department, based in London.   |
| The Department                         | The Department for Regional Development   |
| DETI                                   | The Department of Enterprise, Trade and Investment  |
| Discharge Consent                      | All discharges to the water environment are regulated and controlled by NIEA through Discharge Consents.  |
| Discharge Standard                     | A standard issued by NIEA to allow the discharge of sewage/waste water into a water body, such as a river. The standard will include conditions, to minimise the effects on the receiving water.        |
| DOE                                    | The Department of the Environment. Regional Government Department, based in Belfast.  |
| Drainage Area Plan (DAP)               | A list of necessary sewerage improvements within a catchment area determined by a Drainage Area Study. The DAP normally takes the form of a prioritised list of unsatisfactory intermittent discharges. |

|                                   |  |
|-----------------------------------|--|
| Drainage Area Study (DAS)         | A comprehensive study of an entire drainage catchment which uses a vast amount of asset and performance data on the condition, performance and future capabilities of the sewers in a given area.  |
| Drinking Water Inspectorate       | The Drinking Water Inspectorate monitors and regulates public drinking water supplies on behalf of the Department for Regional Development. It monitors and regulates private water supplies on behalf of the Department of the Environment.   |
| Economic Level of Leakage (ELL)   | The level at which it would cost more to reduce water leaking from pipes than pump more water into them.   |
| EQIA                              | Equality Impact Assessment. A detailed assessment of a Government policy on equality grounds.  |
| Eutrophic                         | A body of water whose oxygen content is depleted by organic nutrients.   |
| European Union                    | The European Union (EU) is an economic and political union of 27 member states, located primarily in Europe. It was established by the Treaty of Maastricht on 1 November 1993 upon the foundations of the pre-existing European Economic Community.   |
| European Commission               | The European Commission (formally the Commission of the European Communities) is the executive branch of the European Union. The body is responsible for proposing legislation, implementing decisions, upholding the Union's treaties and the general day-to-day running of the Union.  |
| European Directive                | European Directives are laws which apply in European Union countries. Examples include: the Drinking Water Directive; the Urban Waste water Treatment Directive; the Water Framework Directive and others.   |
| Flood Risk Management Plan (FRMP) | Under the EU Floods Directive, Flood Risk Management Plans must be prepared at a river basin district level or a set of Plans co-ordinated at river basin district. The plans must include policies for managing flood risk in the long term taking account of the possible effects of climate change. DARD Rivers Agency is the designated authority for the implementation of the Directive. |

|  |   |
|--|---|
| Independent Flood Management Policy Review | The Independent Flood Management Policy Review (completed in March 2007) sets out a flexible policy framework for the delivery of flood risk management for the next ten years and beyond. The Government produced its response to the Review ('Living with Rivers and Sea') in September 2008. |
| Investment Strategy for Northern Ireland   | The Investment Strategy for Northern Ireland sets out the Executive's priorities for investment in infrastructure (for example new roads, hospitals or sewers) for the years 2008 to 2011.  |
| Independent Review                         | The Independent Review of Water and Sewerage Services commissioned by the Executive in 2007 to determine the longer term approach for delivering water and sewerage services.   |
| Mean Zonal Compliance (MZC)                | This is the figure used to compare the quality of drinking water from one region to another. It is represented as a percentage figure. MZC in 2007 was 99.30%.  |
| The Minister                               | The Minister for Regional Development   |
| NIAUR                                      | The Northern Ireland Authority for Utility Regulation   |
| NIEA                                       | The Northern Ireland Environment Agency   |
| NIW  | Northern Ireland Water  |
| Omega Waste Water Treatment Project        | The Omega PPP Project involves the design, construction (or upgrading), operation and maintenance of existing works and associated infrastructure at wastewater treatment and sludge disposal sites.  |
| PC10                                       | Price Control 2010-2013. PC10 is the process by which NIAUR determines what NIW should deliver during the period by agreeing the Strategic Business Plan (SBP) for the Company. The SBP will be based on the priorities set out in this Guidance.   |
| Planning Service                           | The Planning Service is part of DOE and is responsible for developing and implementing Government planning policies and development plans.  |

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| Population Equivalent (PE)             | PE is a measure of the amount of sewage treated by a waste water treatment works.  |
| Protected Areas                        | This includes: Areas of Special Scientific Interest (ASSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Nature Reserves, Marine Nature Reserves (MNRs), Ramsar Sites, Natura 2000 Sites, Areas of Outstanding Natural Beauty (AONBs) & World Heritage Sites. |
| Raw Water                              | Water abstracted for drinking water purpose before treatment.  |
| RBMP                                   | A River Basin Management Plan contains a range of measures aimed at protecting, improving and sustaining the use of the water environment, from source to sea.   |
| Regional Development Strategy (RDS)    | The RDS sets out the Executive's broad plans for the future development and planning up to 2025.   |
| Regional Development Committee         | The Regional Development Committee is made up of 11 Members of the Assembly. The Committee advises and monitors the work of the Minister for Regional Development and the Department.  |
| RIA                                    | Regulatory Impact Assessment. A RIA is an assessment of the impact of a policy in terms of its costs, benefits and risks.  |
| Rivers Agency                          | The Rivers Agency is an agency of the Department for Agriculture and Rural Development. The Rivers Agency is responsible for managing the risk of flooding from rivers and the sea.  |
| SBP                                    | A Strategic Business Plan (SBP) sets out the overall goals and policies/programmes that an organisation will pursue over a particular time period. NIW's current SBP covers the period 2007 to 2010. Under PC10, see above, NIW will produce a new SBP for the period 2010-2013.         |
| Sustainable Development Strategy (SDS) | The SDS sets out how the Government intends to achieve a balance between its economic, social and environmental goals.   |

|                                     |  |
|-------------------------------------|--|
| Section 75                          | Section 75 of the Northern Ireland Act 1998. This law requires the Government to have due regard to the need to promote equality of opportunity. Government policies must be reviewed, in a process known as 'screening'. If this screening identifies a potential equality issue then an EQIA (see above) must also be completed.                 |
| Sewerage system/<br>infrastructure  | A system of pipes and ducting which collects and transports sewage.  |
| Sustainable Drainage System (SuDS)  | A drainage system that controls the quantity and quality of run-off waters by providing storage in tanks or ponds. This delays or prevents discharge to streams or rivers until there is capacity to accommodate it.   |
| Water Resource Management Plan      | A water resources plan shows how a water company intends to maintain the balance between supply and demand for water over the next 25 years.   |
| Waste Water Treatment Works (WWTWs) | The treatment plant or site where sewage/waste water is received, treated and discharged.  |
| Water Safety Plan                   | A Water Safety Plan (WSP) is the most effective way of ensuring that a water supply is safe for human consumption and that it meets the health based standards and other regulatory requirements. It is based on a comprehensive risk assessment and risk management approach to all the steps in a water supply chain from catchment to consumer. |
| Water Service                       | The Water and Sewerage Services Order (Northern Ireland) 2006 set up “undertakers” to deliver water and sewerage services. NIW has been appointed as the undertaker. Before then Water Service, which was a part of the Department for Regional Development, ran the water and sewerage industry.  |
| Water Treatment Works (WTWs)        | The treatment plant or site where raw water is treated to provide safe and wholesome drinking water for public supply.   |

## **Annex A – Legal Basis**

### **The Water and Sewerage Services (Northern Ireland) Order 2006**

#### **Article 7 - Guidance on Social and Environmental matters**

7.(1) The Department may from time to time issue guidance about the making by the Authority in the exercise of its water and sewerage functions of a contribution towards the attainment of any social or environmental policies set out or referred to in the guidance.

(2) In formulating guidance, the Department shall, where practicable, have regard to the costs and benefits which may be expected to result from the guidance.

(3) The Authority shall, in exercising and performing the functions mentioned in Article 6(1) (subject to Article 6(6)), have regard to any guidance issued under this Article.

(4) Before issuing guidance under this Article the Department shall consult

(a) the Authority (NIAUR);

(b) the Council (Consumer Council);

(c) relevant undertakers (NIW);

(d) DOE; and

(e) such other persons, if any, as the Department considers it appropriate to consult in relation to the guidance.

(5) A draft of any guidance proposed to be issued by the Department under this Article shall be laid before the Assembly.

(6) Guidance shall not be issued by the Department under this Article until after the statutory period beginning with the day on which the draft is laid before the Assembly.

(7) If, before the end of that period, the Assembly resolves that the guidance should not be issued, the Department shall not issue it.

(8) The Department shall arrange for any guidance issued by it under this Article to be published in such manner as it considers appropriate.

***EQUALITY ANALYSIS OF  
PRINCIPAL SOCIAL &  
ENVIRONMENTAL GUIDANCE FOR  
WATER AND SEWERAGE SERVICES  
(2010-13)***

WATER POLICY DIVISION



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# 1 INTRODUCTION

## Overview of Guidance

- 1.1 The purpose of the Social & Environmental Guidance is to provide the Northern Ireland Authority for Utility Regulation (NIAUR) with guidance on the key environmental and social policies the Regional Development Minister expects it to contribute to in carrying out its role as the independent economic regulator of the water industry.
- 1.2 This Guidance is part of a wider process called Price Control 10 (PC10). The purpose of this process is to determine strategic priorities, costs, plans, targets, prices and customers' views for water and sewerage services over the 2010/13 period. The Guidance will inform NIAUR's wider price control process by providing direction on the strategic priorities for the water industry. Northern Ireland Water (NIW) will identify the costs of meeting the objectives in this guidance through a business plan. In this plan, NIW will demonstrate how it will deliver to agreed targets within its revenue limit. Through its final determination, NIAUR will determine service performance targets for NIW related to planned expenditure and outputs over the 2010/13 period.
- 1.3 Significant investment in water and sewerage services over recent years has raised the quality of drinking water and of water in the environment. The policy in the Guidance is to continue these improvements by delivering on existing commitments. This includes EU obligations, but also targeting service improvements for customers in critical areas such as flooding from sewers and interruptions to water supply.

## Public Consultation

- 1.4 On the 3 March 2009, the draft Social & Environmental Guidance was published for a 10 week public consultation. Notification of the consultation was sent to over 500 stakeholders and interested parties and over 300 copies of the consultation document were issued. The document was also made available on the DRD website.
- 1.5 A total of 29 responses were received from a variety of organisations including local councils, environmental groups and PC10 stakeholders including NIAUR, NIW and the Consumer Council. The Guidance has been amended to take account of the public responses received.
- 1.6 No equality issues were raised in either the responses to the public consultation or from Executive Ministers and stakeholders prior to consultation.

## **Equality Screening**

- 1.5 There may be equality implications for some Section 75 groups from some of the social policy assumptions that have been made in the Principal Guidance in terms of affordability, funding and the Independent Water Review. However, the Executive has yet to agree the policy in these areas and will consult separately in due course. The Department will consider the impact on equality of opportunity separately as part of the Executive Consultation on these areas.
- 1.6 The need for an Equality Impact Assessment on remaining investment policies and priorities in the draft Guidance was screened out at the consultation stage on the basis that all NIW's customers would benefit from service improvements and reduced impacts on the environment.
- 1.7 This paper analyses the potential equality implications of the investment policies and priorities set out in the Principal Guidance in light of the amendments made to reflect the consultation responses.

## 2 EQUALITY ANALYSIS

- 2.1 Section 75 of the Northern Ireland Act 1998 places a statutory requirement on the Department for Regional Development in carrying out its functions, to have due regard to the need to promote equality of opportunity:
- between persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation;
  - between men and women generally;
  - between persons with a disability and persons without; and
  - between persons with dependants and persons without.
- 2.2 In addition, without prejudice to its obligations above, the Department must also have regard to the desirability of promoting good relations between persons of different religious belief, political opinion or racial group.
- 2.3 The Disability Discrimination (NI) Order also places a duty on public authorities to have due regard when carrying out their functions to the need to promote positive attitudes towards disabled people and the need to encourage participation by disabled people in public life.

### Strategic Priorities

- 2.4 The key strategic investment priorities in the Guidance can be summarised as:
- Affordability** – provide affordable cost effective water and sewerage services for customers;
- EU compliance** – meet European legal obligations in relation to drinking water quality, waste water discharges into the environment, and contribute to flood risk management with other Agencies;
- Service delivery and improvement** – maintain current water and sewerage service levels and work towards improvements that provide customer benefits in areas such as sewer flooding and interruptions to water supply; and
- Sustainability** - improve infrastructure to reduce leakage, cut unsatisfactory sewerage discharges, lower energy consumption and allow for future growth.
- 2.5 No equality implications for any of the Section 75 Groups arising from these four overarching principles have been identified. Affordability is about providing cost effective services for all. And, any policy decisions made by the Executive in relation to additional household payments or the Independent Water Review will be the subject of a separate public consultation and equality assessment. The other three strategic priorities focus on achieving uniform levels of environmental

compliance and service quality across the region. Failure to comply with EU requirements could result in costly fines which could have detrimental effects on the provision of public services.

2.6 The investment priorities in Chapter 6 of the Guidance are founded on these four key principles. The six priorities were developed in conjunction with key stakeholders through the price control process<sup>38</sup> and informed by independent consumer research. The investment priorities are:

- *EU Environmental Quality Obligations (Priority 1)*
- *Improving Service Levels (Priority 2)*
- *Water Leakage & Pressure (Priority 3)*
- *Surface Flooding (Priority 4)*
- *Longer-term EU Requirements (Priority 5)*
- *Sustainability & Climate Change (Priority 6)*

2.7 It is not possible to draw clear demarcations between the priorities because of dependencies and overlap. For instance, all the priorities contribute towards sustainability whether through meeting the mandatory European quality requirements of the Water Framework Directive (Priority 1) or reducing water mains leakage (Priority 3). Chapter 3 examines the equality implications of the investment priorities in more detail

### **Independent Consumer Research**

2.8 In Autumn 2008, NIW asked the Consumer Council to carry out independent research to find out what consumers want from their water and sewerage services. The research project was undertaken during 2008 and involved:

- group discussions;
- telephone interviews with non-domestic customers; and
- a survey of 1000 households.

2.9 The target for interview within each household was the person who is normally responsible for paying utility bills or their partner. Clustered random sampling with pre-selected addresses was used. In conducting the sampling, the number of interviews that would be

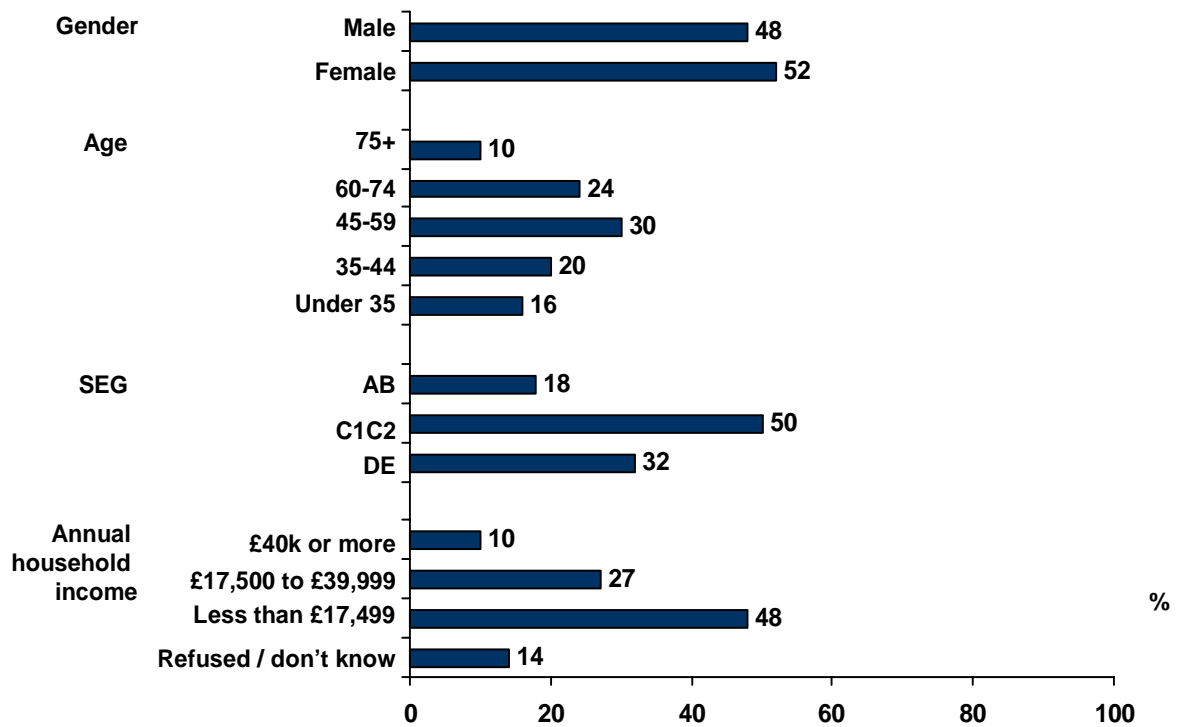
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<sup>38</sup> The environmental quality regulators (NIEA & DWI), the Consumer Council, the utility regulator (NIAUR) and the water company (NIW).

required in each District Council area was carefully identified to ensure that the survey was representative of the spread of population.

2.10 Based on this information, wards within each District Council were randomly selected in which the interviewing would take place; the number of wards selected in each Council area was proportional to the number of interviews required. A total of 84 wards were selected. Within each ward, addresses were randomly selected that would be approached for interviewing. An over-selection of addresses (based on a 60 per cent response rate) was made to allow for vacant premises, no response and refusals. Interviewers called at each address on up to five occasions in order to secure the interview.

### Demographics of head of household or their spouse



Base 1000: all respondents

2.11 The results of this extensive consumer research provided balanced consumer views on their priorities for service improvements. These were used to inform the final Investment Priorities in Chapter 6 of the Guidance. A copy of the 'Tapping into Consumers' Views Report' is available on the Consumer Council's website, <http://www.consumercouncil.org.uk/>.

### 3 INVESTMENT PRIORITIES

3.1 This chapter examines each of the six investment priorities in more detail to identify any potential equality implications for any of the Section 75 Groups.

#### Priority 1: EU Environmental Quality Obligations

3.2 Implementing measures to secure compliance will deliver clear environmental benefits and improvements in services for customers. However, meeting EU legislative requirements is mandatory. Fines can be imposed not only on NIW through prosecution, but also on our Government if these requirements are not met. Such fines would not only impact on future water and sewerage funding levels but also on those of other essential public services such as Health and Education. There are therefore much wider benefits to society by ensuring compliance.

|    | Investment Priority  | Equality Implications  |
|----|--|--|
| 1A | Complete treatment and capacity upgrades at waste water treatment works necessary for ensuring compliance (with UWWTD, BWD, SWD) and addressing immediate development pressures. This includes providing appropriate treatment at small waste water treatment works. | Investment on waste water treatment and sewerage upgrades associated with Priorities 1A, 1B & 1C will be distributed on an environmental needs basis.  |
| 1B | Implement those drainage area plans identified (by NIEA) as the highest priority and develop programmes to address specific sewerage issues such as internal sewer flooding, unsatisfactory discharges and spills from sewer overflows.                              | This will benefit all society through: cleaner inland and coastal waters; economic development & growth; and avoiding large infraction fines from EU which would impact funding of essential public services.                    |
| 1C | Implement site specific WFD sewerage measures associated with the River Basin Management Plans. These may include reducing the number of sewerage spills or providing enhanced treatment in certain catchments.  |  |
| 1D | Complete water infrastructure and treatment upgrades necessary to address authorised departures and other statutory obligations from the Water Supply (Water Quality) Regulations (NI) 2007.   | Investment on water treatment and distribution infrastructure and systems associated with Priorities 1D, 1E & 1F will be distributed on a water quality needs basis to ensure all consumers receive high quality drinking water. |
| 1E | Complete water infrastructure and treatment upgrades necessary to sustain current overall drinking water quality standards in line with the recommendations of the Independent Water Review Panel.   |  |
| 1F | Introduce wider catchment risk assessments and new raw water monitoring programmes in line with the proposed Water Supply (Water Quality) (Amendment) Regulations (NI) 2009.   |  |

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|----|---|--|
| 1G | Contribute to the completion of Preliminary Flood Risk Assessments (by Dec 2011), Flood Risk & Hazard Maps (by Dec 2013) and Flood Risk Management Plans (by Dec 2015) in line with the Floods Directive. | Flood Risk Management Plans will ensure longer term drainage investment (beyond 2015) will be distributed on a flood risk basis. The impact of the Plans on equality of opportunity will be considered separately as part of their development.<br><u>No differential impact on any of the Section 75 Groups is envisaged.</u> |
|----|---|--|

## Priority 2: Improving Service Levels

3.3 Independent consumer research has informed the proposals for further service quality improvements in areas such as the quality and safety of drinking water and sewer flooding. The focus of investment in this area will be on ensuring everyone receives high standards of service quality.

|    | Investment Priority   | Equality Implications   |
|----|---|---|
| 2A | Continue improvements in customer service quality and effectiveness through the development of better data and information systems.   | Investing to improve customer service and performance through better management of data and information and employing new technology and systems will provide an improved service for all customers.  |
| 2B | Improve the accuracy, reliability, security, and consistency of information - customer, financial, management, and asset information.   |   |
| 2C | Adopt any new technology or systems that provide tangible benefits in terms of improving service performance or reducing operational costs, whilst ensuring the resilience and security of essential control and monitoring networks. | <u>No differential impact on any of the Section 75 Groups is envisaged.</u>   |
| 2D | Implement the proposed Water Supply (Water Fittings) Regulations (NI) 2009 to prevent the waste and contamination of public water supplies and protect against the use of defective water fittings.                                   | Investment on water treatment and distribution infrastructure and monitoring systems associated with Priorities 2D, 2E, 2F & 2G will safeguard drinking water quality and ensure all consumers receive consistent high quality drinking water.<br><br><u>No differential impact on any of the Section 75 Groups is envisaged.</u> |
| 2E | Complete the risk assessments required to inform Water Safety Plans (WSPs) for public water supply systems during the period in line with the proposed amendments to the Water Supply (Water Quality) Regulations (NI) 2007.          |   |
| 2F | Reduce regional variations in drinking water quality and improve security of supply through the decommissioning of abstraction points susceptible to contamination and installing additional water mains.                             |   |
| 2G | Continue to reduce the number of properties that experience unplanned and unwarned interruptions to drinking water supply in excess of 6/12/24 hrs.   |   |
| 2H | Collect accurate and reliable information on sewerage infrastructure to inform the development of a future programme of drainage area plan work for the 2010/13 period and beyond.  | Completion of drainage area plans will inform development of a long list of sewerage work. Future sewerage work will be prioritised according to  |

|    |   |  |
|----|---|--|
| 2I | Develop a priority <u>long-term</u> drainage area plan programme (in conjunction with NIEA) for the 2010/13 period and beyond, focussed on addressing EU environmental quality drivers and reducing the risk of surface flooding. | environmental and customer needs to maximise the benefits for the investment made.<br>This will benefit all society through: cleaner inland and coastal waters; economic development & growth; and avoiding large infraction fines from EU which would impact funding of essential public services.  |
| 2J | Following completion of urgent drainage area plan (DAP) work identified in Priority 1, commence long-term DAP programme.  | <u>No differential impact on any of the Section 75 Groups is envisaged.</u>  |
| 2K | Develop and maintain a register of properties at risk from internal sewer flooding (DG5 Register).  | Development of a DG5 Register will enable a long-term list of sewerage work to be planned and prioritised according to flood risk. This will maximise the benefits (In terms of properties removed from the register) for the investment being made.   |
| 2L | Implement a programme of projects to reduce the number of properties on the DG5 Register over the 2010/13 period and beyond.  | <u>No differential impact on any of the Section 75 Groups is envisaged.</u>  |
| 2M | Reduce the number of pollution incidents through efficient and effective monitoring and control of the water and sewerage assets.   | Investing to reduce pollution incidents through effective monitoring and control of sewerage assets will benefit all society through cleaner inland and coastal and avoid large infraction fines which would impact funding of essential public services.  |
| 2N | Fulfil the streetworks notification requirements and continue to improve the quality of road reinstatements in line with Roads Service targets (90% pass rate).   | Improving the quality of road reinstatements will benefit all road users, so <u>no differential impact on any of the Section 75 Groups is envisaged.</u>   |
| 2O | Upgrade and maintain any protection measures identified as <u>critical</u> to the supply and safety of water and assess the resilience of its most <u>critical</u> assets and systems to inform future investment requirements.   | Assuring the physical and operational resilience of the water treatment and supply infrastructure from flooding hazards and other risks will reduce the likelihood of major supply interruptions or contamination. This will be to the benefit of all customers, so <u>no differential impact on any of the Section 75 Groups is envisaged</u> |

### Priority 3: Water Leakage and Pressure

3.4 Independent consumer research has also informed the proposals for further service quality improvements in the areas of leakage and pressure.

|    | Investment Priority   | Equality Implications  |
|----|---|--|
| 3A | Continue to focus on leakage detection and reduction with the aim of achieving and maintaining the Economic Level of Leakage, where it is no longer cost effective to invest in further leakage reductions. | Reducing water leakage has clear environmental, economic and customer benefits. Less water needing to be abstracted, treated, and supplied will reduce operational costs for the taxpayer/customer. <u>No differential impact on any of the Section 75 Groups is envisaged.</u>                                  |
| 3B | Target areas of low pressure through the mains rehabilitation programme to ensure all customers benefit from at least the minimum levels of supply.   | Development of the DG2 Register will enable a long-term list of pressure related work to be planned and prioritised. This will maximise the benefits (number of properties removed from the register) for the investment being made. <u>No differential impact on any of the Section 75 Groups is envisaged.</u> |
| 3C | Maintain a register of properties at risk of receiving low pressure (DG2 Register) and agree the number of properties to be removed from the register over the period.                                      |  |

### Priority 4: Surface Flooding

3.5 Independent consumer research has also informed the proposals for further service quality improvements in the areas of leakage and pressure.

|    | Investment Priority   | Equality Implications  |
|----|---|--|
| 4A | Assist Rivers Agency in a review to clarify controls and responsibilities for the management of surface water drainage (required under the Government Response to the flood management policy review “Living with Rivers and the Sea”.) | Investing in Priorities 4A – 4E will help reduce the risk of surface flooding and ensure an effective emergency response during flooding incidents.<br><br>Any flood related investment will focus on those parts of the network most vulnerable to flooding.<br><br><u>No differential impact on any of the Section 75 Groups is envisaged.</u> |
| 4B | Continue to address ongoing surface flooding problems attributed to the NIW sewerage network.   |  |
| 4C | Ensure effective co-operation in the management of flood risk with other Government Agencies to provide a comprehensive service with a minimum of duplication of effort.  |  |
| 4D | Put the necessary resources in place to provide an effective emergency response during flooding incidents, in partnership with the other agencies.  |  |
| 4E | Ensure co-operation with Rivers Agency in the development and delivery of appropriate regulation of reservoir safety in NI  |  |

## Priority 5: Longer-term EU Requirements

3.6 Independent consumer research has also informed the proposals for further service quality improvements in the areas of leakage and pressure.

|    | Investment Priority   | Equality Implications  |
|----|---|--|
| 5A | Identify and program any further waste water treatment, collection or capacity upgrades necessary for ensuring future compliance with UWWTD, revised BWD & SWD including continued improvements of small treatment works. | Investment on waste water treatment and sewerage upgrades associated with Priorities 1A, 1B & 1C will be distributed on an environmental needs basis.<br><br>This will benefit all society through: cleaner inland and coastal waters; economic development & growth; reduced flooding risk; and avoiding large infraction fines from EU which would impact funding of essential public services.<br><br><u>No differential impact on any of the Section 75 Groups is envisaged.</u> |
| 5B | Take account of the potential impact of emerging EU policies and developments during the period (e.g. UWWTD requirements for collection systems and CSOs).  |  |
| 5C | Put in place effective arrangements to monitor future compliance with UWWTD and discharge consents.   |  |
| 5D | Address any further RBMP water and sewerage measures identified through WFD monitoring.   |  |
| 5E | Address flood risk management in water and sewerage measures identified through implementation of the EU Floods Directive.  |  |

## Priority 6: Sustainability & Climate Change

3.7 Independent consumer research has informed the proposals for further service quality improvements in the areas of leakage and pressure.

|    | Investment Priority   | Equality Implications   |
|----|---|---|
| 6A | Ensure that planned development and growth is factored into any proposed water or sewerage upgrades during the period.  | Ensuring proposed upgrades can cater for future growth will facilitate economic development. This will benefits all sections of our society. <u>No differential impact on any of the Section 75 Groups is envisaged.</u>  |
| 6B | Improve resource efficiency by: <ul style="list-style-type: none"> <li>- Setting targets and developing and implementing action plans to deliver operational/energy efficiencies,</li> <li>- Planning infrastructure development that balances the requirements of future development, the needs of people, and protection of the environment – both pollution prevention and mitigation of climate change, and</li> <li>- Developing a Sustainable Economic Level of Leakage to include carbon costs and determine future capital investment needs for achievement from 2013 onwards.</li> </ul> | Investing to improve resource efficiency will reduce carbon costs and operating costs.<br><br>These measures will provide wider sustainability benefits for all sections of society and will reduce future NIW energy costs for the taxpayer/customer.<br><br><u>No differential impact on any of the Section 75 Groups is envisaged.</u> |

|    |   |  |
|----|---|--|
| 6C | Agree appropriate targets to plan and deliver a contribution to the Programme for Government greenhouse gas emissions reduction target (e.g. through increased use of green energy).                                    | Reducing greenhouse gas emissions through energy efficiency, water conservation and the use of renewable energy sources will provide sustainability benefits for all sections of society and will reduce future NIW energy costs for the taxpayer/customer.<br><u>No differential impact on any of the Section 75 Groups is envisaged.</u> |
| 6D | Promote the recycling and reuse of sewage sludge in an environmentally friendly manner where this is economically viable - for example through sustainable application to forestry and agriculture.                     |  |
| 6E | NIW should continue to invest in education campaigns to promote efficient water usage.  |  |
| 6G | Establish an appropriately indexed carbon cost to be included in the assessment of all significant capital projects from 2013 onwards.  |  |
| 6H | Commence and complete work on Water Resource Management Plans (WRMPs) to identify the long-term water resource management and security of supply investment needs (2013 onwards).                                       | Water Resource Management Plans will help identify the long-term water resource management and security of supply investment needs. Improving security of supply will benefit all water customers, so <u>no differential impact on any of the Section 75 Groups is envisaged.</u>  |
| 6F | Investigate the options for adopting Sustainable Drainage Systems to help reduce pressure on the sewerage systems during periods of heavy rain.   | Investing in more sustainable technologies for water and waste water treatment will reduce carbon costs and operating costs.   |
| 6I | NIW and NIAUR should explore the opportunities with NIEA for adopting a more sustainable, holistic, catchment-based approach to waste water collection and treatment.   | These measures will provide wider sustainability benefits for all of society and will reduce future NIW energy costs for the taxpayer/customer.  |
| 6J | During the period, NIW, DWI and NIAUR should explore the opportunities of adopting a more sustainable approach to drinking water treatment through innovative catchment management solutions such as SCaMP.             | <u>No differential impact on any of the Section 75 Groups is envisaged.</u>  |
| 6K | In carrying out its functions and managing its estate, NIW should take account of protected areas, the need to enhance biodiversity and also consider the provision of amenities for interest groups where appropriate. |  |

## Conclusion

3.8 In summary, there is no evidence to suggest that any of the investment priorities will provide a differential impact to any of the Section 75 Groupings. The priorities focus on improving the environment, achieving uniform levels of service and compliance across the north, improving energy and resource efficiency, and improving the sustainability of water and sewerage assets and operations. All sections of society will benefit from these improvements.